NEBRASKA DEPARTMENT OF EDUCATION

TO: Roger Breed, Ed.D.
Commissioner of Education

FROM: Freida Lange, Administrator
Accreditation and School Improvement

SUBJECT: Approve revisions to Rule 10 (92 NAC 10), "Regulations and Procedures for the Accreditation of Schools"

Proposed Board Action:

It is recommended that the State Board of Education (SBOE) approve the revisions to Rule 10 (92 NAC 10), "Regulations and Procedures for the Accreditation of Schools"

Background Information:

Rule 10 (Regulations and Procedures for the Accreditation of Schools) establishes the baseline that all public schools must meet for legal operation. This draft contains proposed changes, additions, and revisions needed because of new statutes, changing demographics and student needs. On April 18, 2012 a public hearing was conducted for Rule 10 and a summary of the proceedings is attached.

The areas of focus are:
- Alignment of rule with statutory requirements for legal operation of accredited school systems
- Curriculum and Standards (the instructional program requirements K-12)
- Elementary athletics and middle grade athletic contests
- Alignment of assessment, accountability, and reporting requirements with current statute
- School Improvement
- School Environment

Estimated Cost:

$1000.00 for costs associated with the Public Hearing and for print copies for distribution upon approval of the revised rule.

Supporting Documentation Included:

Hearing Testimony
Rule 10 Summary
Rule 10 Hearing Draft

For Additional Information on this item:

Contact Freida Lange, 402-471-2444 or freida.lange@nebraska.gov

Roger D. Breed, Ed.D., Commissioner
Scott Swisher, Ed.D., Deputy Commissioner

NEBRASKA DEPARTMENT OF EDUCATION

301 Centennial Mall South
PO Box 94987
Lincoln, NE 68509-4987

Tel: (402) 471-2295
Fax: (402) 471-0117
Web: www.education.ne.gov

TO: State Board of Education

FROM: Scott Summers, Legal Counsel III
Commissioner's Appointed Staff Person to conduct a rule-making hearing on Wednesday, April 18, 2012, commencing at 10:00 a.m. (Central Time) on revisions to Title 92, Nebraska Administrative Code, Chapter 10 (Rule 10), *Regulations and Procedures for the Accreditation of Schools*

DATE: April 18, 2012

RE: Summary of Hearing on Proposed Revisions to 92 NAC 10

On March 9, 2012, the State Board of Education authorized the Commissioner to adopt a hearing draft, set a hearing date and location as well as designate a staff person to conduct a rule-making hearing on the adoption of proposed revisions to 92 NAC 10. By a memorandum dated March 21, 2012, the Commissioner appointed me to conduct a rule-making hearing on April 18, 2012, commencing at 10:00 a.m. (CT). After the proper legal notice was published, the hearing was held at the *Nebraska Department of Education, State Board Meeting Room, 301 Centennial Mall South, 6th floor, Lincoln, NE. Pursuant to State Board of Education Policy B9, what follows is a written summary of the hearing testimony.*

An audio recording of the hearing is available if any members of the Board wish to hear it.

Scott Summers, Legal Counsel III and the hearing official, called the hearing to order, read into the record the name of the newspaper in which legal notice of the hearing was published and the date the notice appeared, and outlined the procedures for the hearing.

Mr. Summers introduced NDE staff member, **Freida Lange, Administrator, Accreditation and School Improvement. Ms. Lange** introduced and explained the proposed revisions to Rule 10. Ms. Lange's written testimony is attached.

Mr. Jeremy Murphy, Associate Director for Education Issues – Nebraska Catholic Conference, testified in opposition to proposed section 011.01F, for the reasons described in the attached written testimony from the NCC.

Ms. Debra Velder, Associate Director of the Nebraska School Activities Association, testified in support of the proposed revisions to Rule 10, specifically the new provisions in sections 004.02C and 004.03C regarding middle school student participation in inter-school athletic contests. Ms.

To lead and support the preparation of all Nebraskans for learning, earning, and living.

Velder's testimony is attached.

In addition, the Department received written testimony from the following in advance of the hearing (attached): **Ms. Lana Sides, Superintendent – Banner County School District; Mr. Bruce Parish, Principal & Athletic Director – Hyannis Area Schools; Mr. Jay Sears, Program Director – Nebraska State Education Association.** These submissions were all in support of the proposed revisions to Rule 10.

No other written or oral testimony was received.

Attachments

STATE BOARD OF EDUCATION RULE-MAKING HEARING

Title 92, Nebraska Administrative Code, Chapter 10

Regulations and Procedures for the Accreditation of Schools

Wednesday, April 18, 2012, commencing at 10:00 a.m. (Central Time)

Nebraska Department of Education, State Board Meeting Room, 301 Centennial Mall South, 6th floor, Lincoln, NE

PLEASE SIGN IN

NAME	ADDRESS	ORGANIZATION REPRESENTED (if any)
Jeremy Murphy	NCC	NE Cath Conference
Debra Velder	NSAA	

Opening Comments
Proposed Revisions for RULE 10 (92 NAC 10) Public Hearing
April 18, 2012

Presented by: Freida Lange, Administrator of Accreditation and School Improvement

Rule 10 (92 NAC 10) contains the rules and regulations that must be met by all accredited school systems. The last revisions to Rule 10 occurred two years ago, May 10, 2010. Since that date the Nebraska Legislature has passed several legislative bills that affect the Rule, and the State Board of Education has requested that issues of equity between Rule 10 and Rule 14, (which contains the rules and regulations for approved nonpublic schools), be resolved in the area of middle grade athletics. Therefore, the focus for today's hearing is on alignment and equity – alignment between statutes and rule, and equity between Rule 10 and Rule 14, specifically in the area of middle grade athletics.

The primary changes to Rule 10 are found in the following sections of the Rule.

- **003.08** – Requires administrators to submit student data, personnel information, and curriculum and course information by specified dates.
- **004.01B** – Outlines the schedule by which districts must adopt the new academic standards.
- **004.02B** and **004.02B1** – Aligns the kindergarten entrance age and assessment requirements with Nebraska Statute §79-214.
- **004.02C** and **004.03C** – Addresses elementary and middle grade athletics and establishes equity between Rule 10 and Rule 14 in these respective sections.
    - 004.02C – Allows school systems, if local policy is in place, to let sixth grade students participate with 7th and 8th grade students in competitive events if the combined 7th and 8th grade population of boys, or girls, falls below 12 students.
    - 004.03C – Details the number and types of athletic events that can be held annually within the middle grades
- **004.04C4** – Aligns the Rule with Nebraska Statute §79-704(2) that removes the opportunity for public school districts to use biennial courses with content areas where the State Board of Education has adopted content standards.
- **007.06** through **007.06A2** – Broadens the teacher evaluation section to include evaluation of all certificated employees aligning the Rule with §79-318 and §79-828.
- **009** – Adds the word continuous to school improvement plans and requires that the school's professional development plan be aligned to the continuous improvement plan.
- **011.01E** – Requires that school systems have policy that addresses seclusion and restraints of students, and
- **011.01F** – Requires that school systems have policy that addresses bullying prevention.

Input from multiple sources, including the State Accreditation Committee, the Interchurch Ministries of Nebraska, individual emails, letters, and calls from both public and nonpublic educators and parents, an ad hoc committee on middle grade athletics, the Nebraska State Activities Association (NSAA), the Nebraska State Education Association, and data collected through the Nebraska Staff and Student Record System (NSSRS) has helped form the proposed revisions. We have appreciated the interest, concern, and advice.

We thank you for attending this hearing and welcome your testimony.

JAMES R. CUNNINGHAM / EXECUTIVE DIRECTOR

Nebraska Catholic Conference

215 CENTENNIAL MALL SOUTH, SUITE 310 / LINCOLN, NE 68508-1813
TELEPHONE (402) 477-7517 / FAX (402) 477-1503

OFFICERS

Most Rev. George J. Lucas
Archbishop of Omaha
President

Most Rev. Fabian W. Bruskewitz
Bishop of Lincoln

Most Rev. William J. Dendinger
Bishop of Grand Island

4/18/12

TO: Hearing Officer
Members, State Board of Education
Commissioner of Education
301 Centennial Mall South
Box 94987
Lincoln, NE 68509-4987

RE: 92 NAC 10, Hearing Draft of Jan. 12, 2012

The following request for revisions in the Rule 10 hearing draft is submitted on behalf of the Diocesan Superintendents of Schools for the Catholic Archdiocese of Omaha and the Dioceses of Lincoln and Grand Island.

1. Regarding proposed section **11.01F**, it appears that the proposed language exceeds the statutory authority given in Neb.Rev.Stat. 79-2,137, which says in pertinent part: "...each school district (emphasis added) as defined in section 79-101 shall develop a policy concerning bullying prevention and education for all students. The school district (emphasis added) shall review the policy annually." Proposed section 11.01F says: "Each school system (emphasis added) shall develop and adopt a policy concerning bullying prevention and education for all students. The school system (emphasis added) shall review the policy annually." Usage of the term school system indicates that the mandate would apply to private as well as public schools, but state statute limits the mandate to school districts.

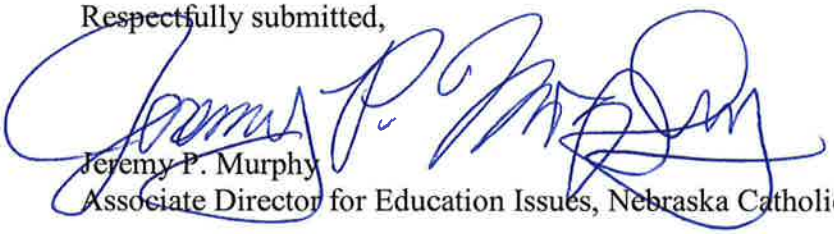
While we appreciate that bullying prevention is important, and while most of our schools are dealing with this issue from a faith-based perspective, it is inappropriate for the specific language of the rule to exceed the statutory authority given by state law on the issue. In contrast, Rule 10, Section 11.01G respects the statutory boundaries in applying the mandate for prevention of dating violence to school districts only (mirroring the scope of the statute). Inexplicably, the statutory authority is being exceeded in this instance. In order to resolve this inconsistency with state statute, we would recommend and request that "system" be stricken twice in 11.01F and that the statutory language "district" be inserted, so it reads: "Each school district shall develop and adopt a policy concerning bullying prevention and education for all students. The school

district shall review the policy annually." Thus, the proposed rule revision would track the precise language of state statute.

Thank you for your attention to our testimony regarding the proposed changes to Rule 10.

ON BEHALF OF THE CATHOLIC DIOCESAN SUPERINTENDENTS OF SCHOOLS

Respectfully submitted,



Jeremy P. Murphy
Associate Director for Education Issues, Nebraska Catholic Conference

cc: Msgr. James Gilg, Archdiocese of Omaha Superintendent of Schools
Msgr. John Perkinton, Diocese of Lincoln Superintendent of Schools
Rev. Tom Ryan, Diocese of Grand Island Superintendent of Schools

Testimony before the Nebraska Department of Education
Regarding
Rule 10 – Section 004.02C, 004.03C and 004.02B4
From
Nebraska School Activities Association
April 18, 2012

My name is Deb Velder, Associate Director of the Nebraska School Activities Association, representing Dr. Steve Shanahan, Executive Director of the NSAA, and our Board of Directors. I am here with a member of our Board, Dr. Bob Reznicek, to speak in favor of the proposed changes to Rule 10 in regard to participation of Middle School students in extra-curricular activities.

As I am sure the State Board of Education is well aware, our membership, which totals 310 schools across the state, both public and private, have overwhelmingly approved the same contest limitations you have incorporated in to Rule 10. This was done in 2009 by a vote of our member schools.

Since that time, our member schools have been in a "state of limbo." Do we follow the NSAA guidelines, as placed in Article 9 of our Constitution and By-laws, or do we follow those contest limitations as outlined in Rule 10? We consistently and without hesitation have always advised our membership to follow the Nebraska Department of Education Rule 10 requirements. We continue to do so.

The consistency between NDE Rule 10 contest limitations and the NSAA Article 9 limitations is now complete and offers our members and the state's school districts one common message regarding the permissible contests for Middle School age students.

While the majority of our membership would like to see participation for Middle School interscholastic activities limited to grades 7 and 8, we also understand, full well, the lack of sufficient enrollment in many of the smaller schools in the state to field teams that are able to compete. The compromise the NDE has written in to Rule 10, which states that should a school system have a "boy or girl combined enrollment in grades 7 and 8 of less than 12 boys or 12 girls," the local governing body, the School Board, may approve participation on the interscholastic team for grade 6 students, is a fair solution to this problem. We, at the NSAA, feel that participation at the Middle School level is an essential component to the educational growth of young people. We also believe participation in school activities contributes to the development of lifelong skills in our youth.

We thank the Nebraska State Board of Education, Commissioner Dr. Roger Breed, and NSAA Liaison from the Department, Mr. Rick Moses for their continued work to increase opportunities for student participation in school activities. You have written developmentally appropriate and educationally sound guidelines and we fully support their inclusion in Rule 10

We are available to answer any questions you might have at this time.

RECEIVED MAR 29 2012

BANNER COUNTY SCHOOL DISTRICT
"Preparing all the Students of Today for the World of Tomorrow"
Box 5, 200 School Street
Harrisburg, Nebraska 69345
Phone: 308-436-5262, Fax: 308-436-5252

Lana Sides Superintendent | **Heath Johnson** Principal | **Kari Gifford** Activities Director | **Mark Keszler** Guidance

Date: March 27, 2012
To: Nebraska Department of Education, Accreditation and School Improvement
From: Banner County Public School Board of Education

This letter is written in support of the proposed changes to Rule 10 that are specific to middle grade athletics.

Banner County School supports the proposed Rule 10-004.02C changes that would eliminate the need for our smaller schools to submit a waiver to the State Board asking for permission for six grade boys or girls to play if there are not sufficient numbers of students in the seventh and eighth grades and if the school board has a policy regulating participation for sixth graders.

Banner County Public School is a small class III school with one K-12 building and a current student population of 150 students. The school is located in the unincorporated town of Harrisburg, the only town in the county. The school district is 802.3 square miles, with a population that averages approximately one person per square mile. Like many rural schools in Nebraska, Banner County Public School faces a declining population and the possibility of declining enrollment associated with the demographic shift.

It is projected that there will be a total of 3 boys (one boy is verified limited participation) and 12 girls in 7th & 8th grades next school year. If the school cannot offer Jr. High girls and boys activities, the Board of Education feels that the equitable learning opportunities for all students may be in jeopardy. Our school prides itself in giving all students the opportunity to be successful. We feel that taking away this opportunity could possibly jeopardize the future of our school.

Options to overcome this inequity have previously been explored. The option of co-oping our Jr. High activities with another school was explored; however, there is a distance barrier. The Board of Education feels strongly that placing students on a bus for up to 96 miles per day is not in the best interest of the school or the students.

The Board feels confident that the proposed Rule 10 change would make equitable allowances for our Jr. High boys and girls to field a team and be allowed to participate in activities. We feel that without the opportunity our students would suffer the loss of athletic teams and a sense of self-worth and pride. We want to provide opportunities for our students to have the skills of teamwork and responsibility that only a team can build.

The Banner County Public School Board of Education supports the proposed changes to Rule 10 that would allow 6th grade boys and girls to participate in Junior High activities if the school board has a policy regulating participation for sixth graders.

Sincerely,
Lana Sides
Lana Sides, Superintendent and Secretary of the Board of Education
Banner County School

HYANNIS AREA SCHOOLS

East Highway 2
P.O. Box 286
Hyannis, NE 69350

Tel: (308) 458-2202
Fax: (308) 458-2227

"Home of the Longhorns"

April 16, 2012

Ms. Frieda Lang
Nebraska State Board of Education
Centennial Mall
Lincoln, NE

Ms. Lang;

I regret that I am unable to attend Wendesday's public hearing. I would like to voice my support of the changes in Rule 10 and Rule 14. I have worked in Class B, Class C and Class D schools and believe the recommended changes are needed and will benefit the vast majority of students in Nebraska.

Hyannis is one of the smallest school districts in the state and also one of the most isolated. This geographic isolation makes co-oping an unrealistic option. Hyannis is one of many schools which benefits by allowing sixth graders to participate in Junior High activities. Hyannis supports the under twelve student standard for sixth grade participation and also supports the right of the local school board to allow sixth grade participation when the district is below the twelve student standard. This would save time and effort at both the local and state level.

The contest limitation changes have long been overdue. The increase in contests will allow more participation opportunities for students. The changes allow the activitiy administrator flexability in scheduling to meet student needs. While some schools will fill the maximum number of contests others will schedule less because that is what is best for their students. Hyannis also supports the initiative because it will align Rule 10 and Rule 14 in regards to contest limitations.

I appreciate the opportunity to be heard and appreciate the efforts of the board. If you have any further questions please contact me at 308-458-2202.

Respectfully yours;

Bruce Parish CMAA

Bruce Parish CMAA
Principal/AD

Nebraska State Education Association
Nancy Fulton, *President* · Craig R. Christiansen, *Executive Director*
A member-directed union representing 28,000 public school teachers, faculty and education support professionals across Nebraska.

April 18, 2012

Ms. Freida Lange, Administrator
Accreditation and School Improvement
Nebraska Department of Education
301 Centennial Mall South
Lincoln, NE 68509-4987

Reference: Proposed changes to Title 92, NAC, Chapter 10 (Rule 10) Dated March 14, 2012

Dear Ms. Lange:

The Nebraska State Education Association supports the proposed changes to Title 92, NAC, Chapter 10 (Rule 10) Regulations and Procedures for the Accreditation of Schools, contained in the Hearing Draft dated March 14, 2012. The NSEA encourages the State Board of Education to adopt all of the proposed changes at their next State Board of Education meeting.

Sincerely,

Jay Sears, Program Director
Instructional Advocacy
Nebraska State Education Association

605 South 14 Street · Lincoln, Nebraska 68508-2742 · www.nsea.org · *phone:* (402) 475-7611 · (800) 742-0047 · *fax:* (402) 475-2630

Rule 10 - Summary of Proposed Revisions
(*Regulations and Procedures for the Accreditation of Schools*)

Rationale for Revisions and Additions: To align Rule 10 with current statutes and Rule 14 (92 NAC 14) *Regulations for Nonpublic Schools*, providing equity and meeting compliance requirements.

Section	Content & Potential Change
003.08 Reports (pages 5-6)	• Strikes the requirement for districts to submit a report of student success in achieving state standards since the state will receive this data through NeSA results. • Adds emphasis on the requirement for administrators to submit required reports in a timely and complete manner through the NSSRS system.
004.01B Content Standards Adoption (page 7)	• Outlines the schedule for districts to adopt the new academic content standards.
004.02 Elementary Curriculum (page 8)	• Emphasizes, in the quality indicator, the need for instruction to be appropriate for the grade level of students.
004.02B and 004.02B1 Kindergarten (pages 9-10)	• Aligns the kindergarten entrance age with current Statute (79-214), as well as outlining assessment procedures if early entrance is requested.
004.02C Elementary Athletics (page 10)	• Aligns Rule 10 and Rule 14 so requirements are consistent. • Establishes consistency among small schools by allowing 6th graders to participate with 7th or 8th grade in competitive events, if the combined 7th and 8th grade population of boys or girls falls below 12. Local policy would have to be in place.
004.03C Middle Grade Athletic Contests (page 12)	• Aligns Rule 10 and Rule 14. • Details the number and type of athletic events that can be held annually within the middle grades.
004.04C4 Biennial Courses (pages 15-16)	• Aligns Rule 10 with Statute 79(704)2 removing the opportunity to use biennial courses within the content areas where content standards have been adopted.
005.01A, .01B, .01D, 005.02, and 005.04 Assessment (pages 18-20)	• Aligns Rule 10 with current status of Statute 79-760.05. This section has largely been deleted and will undergo extensive change when the new accountability system is adopted and/or statute is established.
007.06-007.06A2 and 007.06B Certificated-Employee Evaluation (pages 24-25)	• Aligns Rule 10 with Statute 79.318 and 79.828 which broadens teacher evaluation to include certificated-employee evaluation.

Section	Content & Potential Change
009.01-009.01A, .01A1, .01A3, and .01A4 Continuous School Improvement (pages 27-28)	• Add emphasis on the concept of continuous improvement. • Focus is placed on academic achievement rather than the generic term 'performance'. • Adds the requirement of having a professional development plan that is aligned to the school improvement plan.
011.01E School Environment: Seclusion & Restraints (page 29)	• Adds the requirement that all school systems shall have a policy regarding seclusion and restraints that is approved by the local governing body.
011.01F School Environment: Bullying Prevention (page 29)	• Adds reference and aligns Rule 10 to Statute 79-2,137 which requires all school systems to develop and adopt policy concerning bullying prevention and education for all students.
015.01 and 015.07 Procedures for Nonpublic schools to become accredited (pages 33-34)	• Simplifies the initial procedure for a school to become accredited or to add grades by allowing the applicant to notify the Department of the intent by mail or email, rather than submit an "Intent to Apply" form.

TITLE 92 - NEBRASKA DEPARTMENT OF EDUCATION
CHAPTER 10 - REGULATIONS AND PROCEDURES FOR THE ACCREDITATION OF SCHOOLS

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TITLE 92 - NEBRASKA DEPARTMENT OF EDUCATION
CHAPTER 10 - REGULATIONS AND PROCEDURES FOR THE ACCREDITATION OF SCHOOLS

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TITLE 92 - NEBRASKA DEPARTMENT OF EDUCATION
CHAPTER 10 - REGULATIONS AND PROCEDURES FOR THE ACCREDITATION OF SCHOOLS

001 General Provisions

001.01 Statutory Authority. This Chapter is adopted pursuant to Sections 79-318, 79-305, 79-703, 79-704, ~~79-760,~~ 79-760.01, 79-760.02, 79-762, 79-215, 79-719 to 79-724, 79-758, 79-2,141, and 79-801 to 79-804 of the Revised Statutes of Nebraska (R.R.S.).

001.02 Accreditation Classification. Accredited school systems shall comply with all the numbered provisions of this Chapter except that the items identified as Quality Indicators are not requirements. No violations will be cited under Section 014 for any Quality Indicator. School systems will be classified as accredited if they meet all of the applicable requirements of this Chapter. All of the statements herein, with the exception of the Quality Indicators, are requirements of accredited school systems. Quality Indicators may be used by school systems to help in designing local programs. Nonpublic schools that are classified as accredited shall meet all of the requirements of this Chapter except when specifically excluded or when a requirement is for districts only.

001.03 Accreditation Requirement. All public school districts in Nebraska that provide elementary and/or secondary instruction to children of compulsory attendance age are required to be accredited under the provisions of this Chapter. Accredited school systems are also considered to be approved for legal operation for purposes of state law. Approved private or parochial schools are eligible to apply for and maintain accreditation under the provisions of this Chapter.

001.04 Related Regulations. In addition to the requirements of this Chapter, public school systems must also comply with procedures for enrollment of students as found in 92 NAC 19. Provisions applicable to both public and nonpublic schools regarding teacher certification and endorsement are contained in 92 NAC 21 and 92 NAC 24.

001.05 Implementation of this Chapter. This Chapter will initially be used during the ~~2010-11~~ 2012-2013 school year to determine future accreditation status.

001.06 Duration of Accreditation. Accreditation is granted for one school year from each July 1 through the following June 30. Renewal is based upon the school system's compliance with this Chapter during the prior school year. As detailed in this Chapter, failure to comply with mandatory requirements for legal operation in Section 003 may cause a school system to lose its accreditation during the school year.

001.07 Unified School System. For purposes of compliance with this Chapter, a unified school system shall meet the requirements as though the schools were part of one single district. A unified system means two or more Class II or III school districts participating in an interlocal agreement under the Interlocal Cooperation Act with approval from the State Committee for the Reorganization of School Districts under the provisions of 79-4,108 R.R.S.

001.08 Any public school districts reopening shall follow the application procedures as provided for nonpublic schools in Section 015.

002 Definitions. As used in this Chapter:

002.01 Assessment means the process of measuring student achievement and progress on state-adopted standards. This definition applies to the statewide system of assessment and reporting for the school year 2009-10 and beyond for reading, 2010-11 and beyond for mathematics, and 2011-12 and beyond for science.

002.02 Assessment Instrument means a test aligned with state standards that is designed to measure student progress and achievement. This definition applies to the statewide system of assessment and reporting for the school year 2009-10 and beyond for reading, 2010-11 and beyond for mathematics, and 2011-12 and beyond for science.

002.03 Board means the State Board of Education.

002.04 Commissioner means the State Commissioner of Education.

002.05 Core Curriculum means a curriculum which includes language arts, social studies, science, mathematics, career and technical education, world language, visual and performing arts, and personal health and physical fitness and which, in public schools, incorporates multicultural education in all areas.

002.06 Course means a particular subject, subject area, or defined sequence of learning experiences scheduled during the school day with a certificated teacher assigned and with one or more students enrolled and in attendance.

002.07 Department means the State Department of Education, which is comprised of the Board and the Commissioner.

002.08 Elementary Grades means those grades designated by the school system as elementary, but not to include any above grade eight.

002.09 Governing Body means the school board or board of education of a public school district, a board elected or appointed to provide direction to a nonpublic school or a nonpublic school system, or an individual or corporate owner.

002.010 High School Grades means grades 9 through 12 in a school system organized with a four-year high school and grades 10 through 12 in a school system organized with a three-year high school. School systems organized with a three-year high school may include the ninth grade in determining compliance with this Chapter.

002.11 Integrated Course or Curriculum means a course or curriculum that is organized by concepts, themes, or ideas and includes content from two or more subjects or fields.

002.12 Instructional Unit means 15 clock hours (900 minutes) of classroom instruction in a course offered in the secondary school. As an example, a course which meets for 50 minutes a day for 180 days generates 10 instructional units. Instructional units are computed to the nearest one-tenth.

002.13 Learning Community means a political subdivision which shares the territory of member school districts and is governed by a learning community coordinating council established pursuant to Section 79-2102 R.R.S.

002.14 Middle Grades means grade(s) designated by the school system as middle and may include any grades from four through nine. The middle grades typically include at least grades seven and eight. Common middle grade configurations are grades six through eight or grades seven through nine.

002.15 National Assessment Instrument means a nationally norm-referenced test developed and scored by a national testing service.

002.16 Quality Indicators means statements used in this Chapter to describe conditions which contribute to high performance learning. These statements express the intent of the regulations which follow. Quality Indicators are not requirements of this Chapter.

002.17 School means an individual attendance center within a school system which provides either elementary, middle, secondary and/or high school education.

002.18 School District means the territory under the jurisdiction of a single public school board as authorized in Chapter 79 of the Revised Statutes of Nebraska.

002.19 School System means a public school district or a nonpublic school or group of nonpublic schools under a governing body organized to provide education in elementary, middle, secondary, and/or high school grades as provided in this Chapter.

002.20 Secondary Grades means those grades designated by the school system as secondary, but not to include any below grade seven.

002.21 Teach as defined in Section 79-101 R.R.S., means and includes, but is not limited to, the following responsibilities: The organization and management of the classroom or the physical area in which the learning experiences of pupils take place; the assessment and diagnosis of the individual educational needs of the pupils; the planning,

selection, organizing, prescribing, and directing of the learning experiences of pupils; the planning of teaching strategies and the selection of available materials and equipment to be used; the evaluation and reporting of student progress.

003 Mandatory Requirements for Legal Operation. To be eligible for accreditation or to continue as an accredited school system, the following requirements shall be met when applicable. Failure to comply with Sections 003.01 through 003.11 shall be just cause for the Commissioner to initiate proceedings before the Board to terminate accreditation and end legal operation during the school year.

003.01 Teacher and Administrator Certification. The school system shall use only persons certificated pursuant to 92 NAC 21 to be a teacher or administrator. Pursuant to 79-1603 R.R.S., persons conducting religion or prekindergarten classes in nonpublic schools which are not counted as a part of the school's courses for purposes of complying with the requirements of this Chapter are excluded from this requirement. Pursuant to 79-802.01 R.R.S., American Indian language teachers who are approved by the tribe to teach their native language are also excluded from this requirement when conducting native language classes.

003.02 Grade Levels. The school system shall operate, offer instruction in, and give credit in only the grades for which the school system is accredited.

003.03 Required Instruction. Instruction in English, mathematics, science, and social studies shall be available each school year for all grades.

003.04 Required Programs and Procedures. Each public school district shall incorporate multicultural education in all areas of the curriculum of grades kindergarten through twelve, as provided in Section 004.01F. Each public school district shall meet the ~~teacher~~ certificated-employee evaluation requirements as provided in Sections 007.06A through 007.06B. Each public school shall comply with the requirements for enrollment of students contained in 92 NAC 19. Each public school shall meet statutory provisions contained in Sections 004.01B, 004.02B, ~~005.01B, 005.01D,~~ 005.0~~3~~2 through 005.0~~3~~2C, 008.05B, 008.05C, ~~and~~ 011.01~~E~~ F and 011.01G of 92 NAC 10. Each school system shall meet statutory provisions contained in Sections 004.02A3, 004.03A4, and 004.04B2.

003.05 Graduation Requirements. Each high school shall require from grades nine through twelve at least 200 credit hours for graduation, for which at least 80 percent shall be from the core curriculum. The number of credit hours given for a course may be less than the number of instructional units and may be increased up to 25 percent above the number of instructional units.

003.05A By the 2014-15 school year, school districts shall adopt and implement graduation requirements that meet the highest level of rigor of the standards as specified in the state standards set forth in the appendices of this Chapter, including, but not limited to the following:

003.05A1 Language Arts. Forty credit hours of Language Arts with course content that includes composition, verbal communication, literature, research skills, and technical reading and writing.

003.05A2 Mathematics. Thirty credit hours of mathematics with course content that includes algebraic, geometric, data analysis, and probability concepts.

003.05A3 Science. Thirty credit hours of science with course content that includes biological, earth/space, and physical science concepts with corresponding science inquiry skills and laboratory experience.

003.05A4 Social Studies/History. Thirty credit hours of social studies/history with course content that includes civics/government, geography, United States and world history, and economic concepts.

003.05B School systems may adopt a policy allowing high school credit to be awarded to students enrolled in a middle grades course if the course content and requirements are equivalent to a course offered in the high school.

003.05C As required in 92 NAC 18, school systems accept the academic credit earned at Interim Program Schools and issue diplomas to students transferring from Interim Program Schools who have met the requirements for graduation from their own accredited high school.

003.06 School Year. Each school system shall provide at least the following instruction annually between July 1 and June 30 for the grades it offers: (a) for grades up through grade eight, the time equivalent to 1,032 hours, (b) for grades nine through twelve, the time equivalent to 1,080 hours; and (c) for kindergarten, the time equivalent to 400 hours. When a school is dismissed for any reason such as tournaments or contests, parent/teacher conferences, funerals, parades, and school picnics, time shall not be counted in meeting the 400/1,032/1,080 hour school year requirement. Time scheduled for the school lunch period shall not be counted in meeting the school year requirements. Pursuant to the provisions of 79-213 R.R.S., school systems unable to meet the minimums for instructional hours due to epidemic sickness, severe storm conditions, or destruction of the school house may request permission from the Board to offer fewer than the minimum hours by submitting an affidavit sworn to by the secretary of the school board and explaining the circumstances resulting in the request.

003.07 Assurance Statement. Each school system shall, by November 1 of each year, submit to the Department an Assurance Statement, as prescribed by the Department, signed by a representative of the school system governing body affirming compliance or specifically noting any noncompliance with the regulations contained in this Chapter.

003.08 Reports. ~~For the school years through 2009-10 for mathematics and through 2010-11 for science, the head administrator of each school district shall submit~~

~~electronically, via the Nebraska Student and Staff Record System (NSSRS) portal a report of student success in achieving the state standards referenced in Section 005.02 of this Chapter to the Department by June 30 of each year. The head administrator of each school system shall submit a Fall Personnel Report and a Curriculum Report~~ The following reports shall be submitted to the Department each school year.

003.08A On or before September 15 of each school year, the head administrator of each school system shall submit electronically, via the Nebraska Student and Staff Record System (NSSRS) portal, a Fall Personnel Report. Additions of certificated staff after submission of the Fall Personnel Report shall be reported to the Department at the time of contracting.

003.08B On or before June 30 of each school year, the head administrator of each school district shall submit electronically, via the NSSRS portal, data elements required by Sections 005.02 thru 005.02C of this Chapter.

003.08C On or before the last day of February of each school year, the head administrator of each nonpublic school system shall submit electronically, via the NSSRS portal, a Curriculum Report.

003.09 Contracting Districts. School districts that contract under the provisions of state statute with another district or districts to provide all educational services for all students in the secondary grades may be considered accredited but may operate only elementary grades. School districts shall notify the Department upon approval of the patrons of the district for contracting all elementary students and/or all secondary students with other districts. Any school district reopening after contracting all students shall follow the same application procedures as provided for nonpublic schools in Section 015 of this Chapter.

003.10 School Site Review. The State Department of Education staff may conduct periodic on-site visits to school systems to review and determine compliance with the provisions of this Chapter.

003.11 Contested Case Orders. In a contested case, any school system receiving an order entered by the State Board of Education under the Administrative Procedures Act shall comply with the conditions of the order, unless a judicial stay has been entered.

004 Curriculum and Standards

004.01 K-12 Curriculum. **Quality Indicator: The curriculum is comprehensive, coordinated, and sequential and is directed toward locally approved goals and standards for student learning. The instructional program focuses on achievement and provides for the needs of all students including learners with disabilities and high ability learners. It draws upon research, best practice, and reputable theory.**

004.01A The instructional program of the school system is based on written purposes or standards and is approved by the local board of education or governing body. These documents are on file in each school building and each certificated staff member is provided a copy.

004.01B ~~No later than December 11, 2009, s~~School districts adopt ~~new~~ academic content standards in the subject areas of reading and writing (language arts), mathematics, and science determined by each district to be measurable quality standards that are the same as, equal to, or more rigorous than the state academic content standards in Appendix ~~J~~A (Language Arts Standards), Appendix B (Mathematics Standards), and Appendix C (Science Standards) of this Chapter. ~~No later than October 6, 2010, school districts adopt new academic content standards in the subject area of mathematics determined by each district to be measurable quality standards that are the same as, equal to, or more rigorous than the state academic content standards in Appendix B (Mathematics Standards) of this Chapter. The standards adopted by school districts with reference to Appendix B replace standards previously adopted with reference to Appendix A of this Chapter.~~ Pursuant to 79-760.01 R.R.S., the State Board will adopt new academic content standards in ~~science and~~ social studies by July 1, 2013. The ~~D~~deadline~~s~~ for school districts to adopt replacement academic content standards in ~~these additional subject areas~~ social studies will be specified in future revisions to this Chapter, but, pursuant to 79-760.02 R.R.S., will not extend past one year following the State Board's adoption of new content standards for social studies. Nonpublic schools have local academic content standards for reading, writing, mathematics, science, and social studies/history approved by the local governing body.

004.01C The school system has written guides, frameworks, or standards for all other areas of the curriculum. The school system also has a written description of the library media and guidance programs.

004.01D Writing experiences are incorporated in all curricular areas K-12.

004.01E Educational/computer technology is incorporated in the instructional program at the elementary, middle, and secondary levels.

004.01F The instructional program in public schools incorporates multicultural education in all curriculum areas at all grades. Multicultural education includes, but is not limited to, studies relative to the culture, history, and contributions of African Americans, Hispanic Americans, Native Americans, Asian Americans and European Americans with special emphasis on human relations and sensitivity toward all races. The regulation is based on statute and cannot be waived through Section 013.01 of 92 NAC 10.

004.01F1 The district has a statement of philosophy or mission for the multicultural education program. Local program goals address multicultural education.

004.01F2 The district curriculum guides, frameworks, or standards incorporate multicultural education.

004.01F3 The district multicultural education program includes a process for selecting appropriate instructional materials.

004.01F4 The district has a process for provision of staff development in multicultural education including professional development for administrators, teachers, and support staff which is congruent with local district and program goals.

004.01F5 The district has a process for periodic assessment of the multicultural education program. An annual status report is provided to the local board of education.

004.02 Elementary Curriculum. **Quality Indicator: The elementary instructional program is based on state or locally approved standards for student learning and helps each student acquire knowledge, skills, and understanding in all subject areas. The instruction is appropriate for the ~~developmental~~ grade level of the students. Teaching and learning activities and the general environment stimulate, nurture, and encourage involvement in a wide range of learning experiences. The program helps students apply and extend basic skills by integrating topics throughout the curriculum. The schedule is sufficiently flexible to encourage teachers and students to address emergent needs and topics.**

004.02A The Elementary Instructional Program. The elementary school has a representative weekly schedule for each classroom teacher encompassing experiences in the following subject areas:

004.02A1 Reading and Language Arts. The curriculum includes development and practice of skills and understanding in reading, writing, speaking, and listening. It helps children develop appreciation of literature, creativity, and expression.

004.02A2 Mathematics. The curriculum includes development, practice, and application of numeration, computation, estimation, problem solving, geometry/spatial concepts, measurement and related topics.

004.02A3 Social Studies. The curriculum helps children to develop an understanding of the world and its people. It includes experiences drawn from geography, history, economics, government, citizenship, career awareness, human relations, current affairs, and cultural studies. This

includes instruction in American history and stories about the exploits and deeds of American heroes, singing patriotic songs, memorizing the Star-Spangled Banner and America, and reverence for the flag and proper conduct for its presentation as provided in 79-724 R.R.S.

004.02A4 Science. The curriculum helps children develop an understanding of science concepts and processes, and includes science as inquiry. It includes experiences drawn from physical science, life science, earth and space science, science and technology, and history and nature of science.

004.02A5 Health. The curriculum helps children develop an understanding of the body systems, nutrition, wellness (including physical activity), and healthy living habits.

004.02A6 Physical Education. The curriculum helps children develop and maintain physical coordination, large and small muscle control, physical fitness, leisure activities, and healthy behaviors.

004.02A7 Visual Arts. The curriculum helps children understand and apply a variety of media, techniques, and processes within a range of subject matter, symbols, and ideas. The curriculum includes reflection upon and assessment of art and study of art in relation to history, culture, and other curricular areas.

004.02A8 Music. The curriculum helps children to sing and play a variety of music, read and notate music, listen to and describe music, and evaluate music. The curriculum includes music in relation to history, culture, and other curricular areas.

004.02B Kindergarten. For school year 2012-2013 and each school year thereafter, ~~A~~admission to public school kindergarten is on an unqualified basis to all resident children who will reach age 5 by ~~October 15~~ July 31 of the ~~current school~~ calendar year in the school year for which the child is seeking admission begins. ~~If allowed by local board policy, children who will reach age 5 between October 16 and February 1 of the current school year may be admitted if the parent or guardian requests such admission and presents an affidavit as provided in 79-214(2) R.R.S.~~ Testing prior to school entrance, if any, is conducted only to identify children with disabilities under 92 NAC 51 or to meet requirements of 79-214(2) R.R.S.

004.02B1 Pursuant to 79-214(2) R.R.S., the school board may admit a child who will reach the age of 5 years on or after August 1 and on or before October 15 of such school year under the following circumstances:

004.02B1a The parent or guardian requests such entrance and provides an affidavit stating that:

004.02B1a(i) The child attended kindergarten in another jurisdiction in the current school year, or

004.02B1a(ii) The family anticipates relocation to another jurisdiction that would allow admission within the current year, or

004.02B1a(iii) The child has demonstrated through a recognized assessment procedure approved by the school board that he or she is capable of carrying the work of kindergarten.

004.02B2 Each school board in districts that choose to use Section 004.02B1a(iii) of this Chapter shall approve and make available a recognized assessment procedure for determining if a child is capable of carrying the work of kindergarten.

004.02C Pupils in kindergarten through sixth grade do not participate in any kinds of athletic contests between schools within a school system or between school ~~districts~~ systems except that ~~nonpublic~~ elementary school~~s~~ systems having seventh and eighth grade athletics may include ~~fifth and~~ sixth grade ~~students~~ boys or girls when combined enrollment for seventh and eighth grade becomes fewer than 12 boys or 12 girls and if the school board or local governing body has a policy regulating participation for sixth graders. Annual field or play days are excluded from this regulation.

004.03 Middle Grades Curriculum. **Quality Indicator: The middle grades instructional program is based upon state or locally approved standards for student learning. It builds upon the content of the elementary grades, extends the depth of learning experiences, and provides exploratory experiences throughout the curriculum. The program incorporates vocational technical education, foreign language, career education, and technology education. The instructional activities and schedule are designed to meet the developmental needs of middle grade learners.**

004.03A Middle Grades Instructional Program. The program in the middle grades includes instruction for each grade each year in the following subject areas. Instruction may be provided through separate courses, integrated blocks of time, and/or through exploratory programs.

004.03A1 Reading. The curriculum includes experiences designed to help students expand, develop and apply reading skills introduced in the elementary grades. It includes reading for both information and enjoyment.

004.03A2 Language Arts. The curriculum includes activities that engage students in using language for a variety of reading, writing, speaking, and listening purposes.

004.03A3 Mathematics. The curriculum includes practice in numeration, computation, estimation, problem solving, geometry/spatial concepts, and measurement. It introduces algebraic and statistical concepts and provides opportunities for students to develop understanding of the structure of mathematics.

004.03A4 Social Studies. The curriculum includes content and experiences drawn from geography, history, economics, citizenship, government, cultural studies, and current events. This includes instruction in American history that makes the course interesting and attractive and to instill a love of country as provided in 79-724 R.R.S. All history courses stress contributions of all ethnic groups in the development and growth of America.

004.03A5 Science. The curriculum includes elements of life, physical, earth and space sciences, science as technology, and history of science. Learning activities emphasize science as inquiry and scientific processes and concepts.

004.03A6 Health. The curriculum includes the study of body systems and those factors which affect health, including natural and man-made threats and individual health choices.

004.03A7 Art. The curriculum includes activities and experiences designed to develop skills in working with a variety of artistic techniques, processes, and media. The curriculum relates art to history and culture and to other curricular areas.

004.03A8 Music. The curriculum includes experiences that involve students in singing and playing musical instruments and provides opportunities for students to pursue individual musical interests and to develop individual talents. It includes the study of a varied repertoire of music and its relation to history and culture.

004.03A9 Physical Education. The curriculum includes active involvement in health-related physical fitness activities designed to develop cardiorespiratory endurance, muscular strength and endurance,

and flexibility. It encourages students to develop habits of physical exercise through individual and team activities and by emphasizing involvement rather than competition. Practice for and participation in interscholastic activities cannot substitute for any part of physical education.

004.03B Career education is included in the middle grades program.

004.03C No student in grades seven or eight participates in interscholastic athletic contests between schools within a school system or between school systems which exceed ~~four~~ six games in football, ~~and eight games in other sports~~ fourteen matches in volleyball, twelve games in basketball, eight meets in wrestling, eight meets in track and field, and eight contests in all other activities. Contest limits shall be based upon the total number of contests played. Each game, match or meet played in a tournament shall count as one of the contests permitted within these contest limits.

004.04 Secondary Curriculum. **Quality Indicator: The secondary instructional program is based upon state or locally approved standards for student learning. It provides breadth and depth of subject areas which enable students to achieve knowledge and skills necessary to continue post-secondary education or enter a career field. Instruction builds upon knowledge acquired in previous grades and helps students acquire the learning goals of the school, builds 21st century skills, and prepares students for living in a global society. Schools provide required instructional units on site or through a combination of local and distance learning programs.**

004.04A Required High School Program. The high school program consists of courses totaling at least 400 instructional units.

004.04B The instructional program in grades 9-12 includes as a minimum the following subject fields and the number of instructional units shown for each:

004.04B1 Language Arts - 60 instructional units. The curriculum includes written composition, critical reading, interpretation of fiction and non-fiction, oral presentation, and application of listening skills.

004.04B2 Social Science - 40 instructional units. The curriculum includes content drawn from American and world history, geography, economics, civics, government and citizenship and may also include content from other social science areas such as sociology, psychology, and anthropology. This includes instruction in the U.S. and Nebraska Constitutions, the benefits and advantages of our government, the dangers of Nazism, Communism, and similar ideologies, the duties of citizenship and the appropriate patriotic exercises to include Lincoln's birthday, Washington's birthday, Flag Day, Memorial Day and Veterans Day as

provided in 79-724 R.R.S. All history courses stress contributions of all ethnic groups in the development and growth of America.

004.04B3 Mathematics - 40 instructional units. The curriculum includes communicating, reasoning, problem solving, numeration, computation, estimation, measurement, geometry, data analysis, probability and statistical concepts, and algebraic concepts

004.04B4 Science - 40 instructional units. The curriculum includes science concepts and processes, science as inquiry, physical science, life science, earth and space science, science and technology, and history and nature of science.

004.04B5 World Language - 20 instructional units or two years of daily classes in the same language. The curriculum includes reading, writing, speaking, and listening skills for communicating in one or more languages other than English, knowledge and understanding of other cultures, and developing insight into the nature of language and culture.

004.04B6 Career Education. ~~Beginning in 2010-11, t~~The curriculum includes 80 instructional units in Career Education that include instruction in any of the following career fields: (1) Arts, Communication, and Information Systems, (2) Business, Marketing, and Management, (3) Environmental and Agricultural Systems, (4) Health Sciences, (5) Human Services and Resources, and (6) Industrial, Manufacturing, and Engineering Systems.

004.04B6a Communication and Information Systems. The curriculum in this career field includes areas such as advertising, public relations, commercial photography, journalism, graphic design, broadcasting, scriptwriting, radio/TV production, computer applications, web design, interactive media, networking, e-commerce, computer science, and information technology.

004.04B6b Business, Marketing, and Management. The curriculum in this career field includes areas such as e-commerce, business communication, finance, business and consumer law, entrepreneurship, accounting, business economics, personal finance, consumer economics, financial services marketing, retailing, fashion marketing/merchandising, clothing and textiles, international marketing, sports and entertainment marketing, hospitality and recreation marketing.

004.04B6c Environmental and Agricultural Systems. The curriculum in this career field includes areas such as animal, plant, and soil sciences, agribusiness, food sciences, power,

structural and technical systems, leadership and human resource development, natural resources, and environmental science.

004.04B6d Health Sciences. The curriculum in this career field includes areas such as nutrition and food, family health, medical terminology, certified nursing assistant, and health care sciences.

004.04B6e Human Services and Resources. The curriculum in this career field includes areas such as independent/adult living, home management, housing and home furnishings, family health, clothing and textiles, leadership and human resource development, business management, business law, international business, criminal justice, human growth and development, interpersonal relationships, parenting/child development, and applied psychology.

004.04B6f Industrial, Manufacturing, and Engineering Systems. The curriculum in this career field includes areas such as housing and home furnishings, woods and construction, construction/ electricity, construction/home maintenance, computer aided drafting, metals and welding, manufacturing/metalworking, manufacturing/woodworking, millwork and cabinetmaking, electronics, technology engineering education, Principles of Technology, technology education, transportation power/auto mechanics, automotive services, data base management and computer applications.

004.04B6g Nonpublic college preparatory schools may substitute additional courses in language arts, foreign language, science, mathematics, and/or social science for up to 40 instructional units in career and technical education.

004.04B7 Personal Health and Physical Fitness - 20 instructional units or two years of daily classes in personal health and physical fitness. The personal health and physical fitness curriculum includes content to emphasize life-long wellness habits. The curriculum emphasizes non-participation in high risk behavior. The physical fitness curriculum includes an active program of health-related physical fitness, including cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition. Practice for and participation in interscholastic athletic activities are not accepted as a substitute for any part of the personal health and physical fitness requirement.

004.04B8 Visual and Performing Arts - 40 instructional units which include each year instruction in vocal music, instrumental music, and visual arts. It may also include dance and theater. The visual and

performing arts curriculum includes performance, interpretation, and evaluation.

004.04B8a Music. The curriculum includes singing and playing a varied repertoire of music, improvising melodies and accompaniments, reading and notating music, listening to and describing music, evaluating music and music performances, recognizing relationships between music and the other disciplines, and the study of music in relation to history and culture.

004.04B8b Visual Arts. The curriculum includes media, techniques, and processes; choice and evaluation of a range of subject matter, symbols, and ideas; assessment of characteristics and merits of student work and the work of others; and the visual arts in relation to other disciplines.

004.04C Local Options for Providing High School Courses.

004.04C1 High schools may meet the instructional unit requirements of Section 004.04B through integrated courses, as defined in Section 002.11, if the school has on file locally a description of the curriculum or course including a list of the goals, an explanation of the subjects included, and the rationale for allocating instructional units to appropriate subject fields in Section 004.04B.

004.04C2 High schools may count instructional units for two courses in a subject field taught in the same classroom at the same time if the courses are primarily individualized wherein all students do independent projects or practice. (Examples: Spanish 3 and 4, Accounting 1 and 2, Art 1 and 2)

004.04C3 Schools may use performance based curriculum or courses as an option in place of any subjects in Section 004.04B if they have a written description of the curricula or course which includes the goals, representative instructional experiences, expected student performance for accomplishment of the goals, and the rationale for allocating instructional units for the course. The written description is approved by the local board of education and is on file in the school. Performance based curriculum provides learning opportunities for students equivalent to or greater than those through the course(s) under Section 004.04B, but may take less than the time required in Section 002.12 for determining instructional units.

004.04C4 Instructional units may be counted each year for two courses taught in alternating years ~~in up to~~ not to exceed one course in each of four subject fields, as listed in Section 004.04B, provided schedules verifying

alternating courses are kept on file in the school system. As an example, a high school that alternates a course that generates 10 instructional units in ~~chemistry~~ World Language II in the current year, with a course that generated 10 instructional units in ~~physics~~ World Language I the previous year, may count 20 instructional units each year. A school board of a school district shall not establish an alternating biennial secondary course offering in any subject area for which the State Board of Education has adopted content standards pursuant to section 79-704(2) and 79-760.01 R.R.S..

004.04D Multi-site and Distance Learning Options for Providing High School Courses. Up to a total of 200 instructional units of the total 400 instructional unit requirement for the high school may be provided through one or more of the following course options:

004.04D1 Synchronous Course Option: Synchronous courses are those multi-site or distance learning courses in which the teacher and student(s) are simultaneously present; can both see and hear one another; and questions may be answered and instructional accommodations made immediately. This includes:

004.04D1a Teacher Sharing. Instructional units provided through contractual or cooperative arrangements with other school systems, educational service units, and/or postsecondary institutions in which either the teacher(s) or student(s) move to be located at the same site to provide classroom instruction may be counted in meeting a portion of the instructional unit requirement provided: (a) each course is taught by a teacher holding a valid Nebraska Teaching Certificate; (b) each course is shown on the high school class schedule along with the name of the teacher; (c) at least one high school student is enrolled and participating in each course; and (d) each course is made available to all students at the school's expense. A copy of the written agreement with the cooperating school/agency is on file in the school.

004.04D1b Interactive Audio-Visual Options. Up to 100 of the allowable 200 multi-site or distance learning instructional units may be met through synchronous interactive audio-visual instruction provided: (a) each course is taught by a teacher holding a valid Nebraska Teaching Certificate; (b) each course is shown on the high school class schedule along with the name of the teacher; (c) at least one high school student is enrolled and participating in the course; (d) each course is made available to all students at the school's expense; and (e) a teacher holding a valid Nebraska Teaching Certificate monitors student progress and

general appropriateness of the course and is present in the classroom while the course is being taught unless:

004.04D1b(1) The off-site interactive teacher holds a valid Nebraska Teaching Certificate and a district employee is present in the receiving classroom, or

004.04D1b(2) The off-site interactive teacher holds a valid Nebraska Teaching Certificate, maintains two-way audio and video communication with the distance learning classroom, and has a direct telephone connection with a supervising adult in the school.

004.04D2 Asynchronous Course Options: Asynchronous courses are those multi-site or distance learning courses in which communication between teacher and student is delayed, as are the cases, for example, with written correspondence courses and many computer-delivered courses. This includes:

004.04D2a University of Nebraska Independent Study High School Options. Up to 50 of the allowable 200 distance learning multi-site instructional units may be met through the use of courses taught by teachers of the University of Nebraska Independent Study High School provided that (a) each course is shown on the high school class schedule; (b) at least one high school student is enrolled and participating in the course; (c) each course is made available to all students at the school's expense; and (d) a teacher holding a valid Nebraska Teaching Certificate is present during the assigned period (one teacher may supervise more than one course) to monitor and assist with instruction.

004.04D2b Other Distance Learning Technology Options. Up to 30 of the allowable 200 distance learning multi-site instructional units may be met through courses delivered by other methods of distance technology provided that each course is reviewed in advance and recommended for school use by a committee of at least one local teacher and one local school administrator and is approved by the local governing body, and the written review and statement of approval are on file in the school system; and provided (a) each course is shown on the high school class schedule; (b) at least one high school student is enrolled and participating in each course; (c) each course is made available to all students at the school's expense; (d) a teacher holding a valid Nebraska Teaching Certificate is present during the assigned period (one teacher may supervise more than one course) to monitor and assist with instruction; and (e) each student enrolled in

such a course is assigned to a local teacher holding a Nebraska Teaching Certificate who monitors student progress and general appropriateness of the course.

004.04E Secondary Schools With Grades Seven and Eight. Secondary schools including grades seven and eight provide an instructional program for those grades in accordance with Sections 004.03A through 004.03C.

004.04F New Schools. A school adding high school grades shall provide at least one-fourth of the total instructional unit requirements and one-fourth of the individual subject matter requirements for each grade that it offers.

005 Statewide System for Assessment of Student Learning and for Reporting the Performance of School Districts.

005.01 Quality Indicator: Assessment procedures and results assist teachers in planning and providing appropriate instruction for all students. Assessment results also provide information for monitoring program success, and for reporting to parents, policy makers, and the community. Schools periodically review procedures to improve assessment quality and increase student learning. The information assists schools in establishing and achieving improvement goals.

005.01A All school districts participate annually in statewide assessments in compliance with the schedule as outlined in Appendix E. *(Revised from Regulation 005.01D)* ~~For the school years through 2009-10 for mathematics and through 2010-11 for science, the school district has a local assessment plan which includes a schedule and procedures for assessing success in achieving state standards in Appendices A and C of this Chapter or local standards approved by the Commissioner prior to July 18, 2008, as equal to or exceeding in rigor the state standards.~~ Nonpublic schools have an assessment plan which includes a schedule and procedures for assessing success in achieving their academic content standards. Student success in achieving their standards is reported to the head administrator or governing board of the nonpublic school *(moved from 005.02)*.

~~005.01B For the school years through 2009-10 for mathematics and through 2010-11 for science, the school system assesses students according to procedures in the local assessment plan and meets the assessment schedule in Appendix E of this Chapter. The assessment includes use of criterion-referenced assessments and a standardized norm-referenced assessment.~~

005.01~~C~~ B Whole grade norm-referenced assessment using a national assessment instrument begins no earlier than grade two and is conducted annually in at least one grade in each of the following two levels: grades 2-5; grades 6-8. A national assessment instrument is administered at least once in the high school

grades. The Board's recommendations for assessing and reporting are found in Appendix E of this Chapter.

~~005.01D The school district participates annually in statewide writing, reading, mathematics, and science assessment instruments according to the schedule and at the grade levels specified in Appendix E of this Chapter.~~ *(Revised and moved to Regulation 005.01A)*

~~005.02 For school years through 2009-10 for mathematics and through 2010-11 for science, each school district reports student success in achieving the state standards in Appendices A and C of this Chapter or local content standards approved by the Department prior to July 18, 2008, on a building basis, to the residents of the district and to the Department. The reports are provided according to the schedule and for the grade levels specified in Appendix E of this Chapter. Nonpublic school systems report to the head administrator or governing board.~~

005.0~~3~~2 Each school year, for the purpose of implementing a statewide system of tracking student achievement as required by 79-760.05 R.R.S., school districts shall report by June 30 of each school year the following data to the Department electronically via the NSSRS portal using the Department's student identifier system:

005.0~~3~~2A Individual student demographics including each student's race, poverty status, high mobility status, attendance, and limited English proficiency;

005.0~~3~~2B Individual student achievement including individual student achievement data from the assessment instruments required in Section 005.01~~D~~ A and scores and subscores available to the district on national assessment instruments administered by the district; and

005.0~~3~~2C Individual student educational input characteristics including class size, teacher education, teacher experience, special education, early childhood programs, federal programs, and targeted education programs.

~~005.04 Student Performance Rating. School districts having a low student performance rating on the Nebraska academic content standards for reading through the 2008-09 school year, or mathematics (Appendix A) through the 2009-10 school year, develop and implement plans to increase student performance. A rating of "Unacceptable" or "Needs Improvement" is considered a low student performance rating. The rating is determined by the Commissioner or his or her designee pursuant to the criteria and rating chart in Appendix G of this Chapter and reported by the Commissioner in an annual Nebraska State of the Schools Report.~~

~~005.04A By the February 1 following the annual Nebraska State of the Schools Report, such school districts submit to the Department a plan to improve student performance in grades having a low rating in reading or mathematics. The plan~~

~~includes the components in Appendix H and is designed to achieve the next higher rating within three years.~~

~~005.04A1 Such school districts annually submit to the Department by February 1 a written report of progress in implementation of the improvement plan and in improving learning in the areas receiving a low rating.~~

~~005.04B On or before June 30 of the third school year after receipt of the initial low rating, the district documents an increase in the percentage of students achieving state standards in each subject area and grade having the low rating sufficient to reach the next higher rating. Districts not reaching the next higher rating are in violation of Rule 10 unless the district applies for and receives an extension from the Board pursuant to the procedures in Appendix I. The district may also apply for permission to use an alternative option for documenting improved student learning during the period of the extension pursuant to the procedures in Appendix I.~~

005.~~05~~03 Student Assistance. Each school has a student assistance process of its own design to provide problem solving and intervention strategies.

006 Media and Technology Resources

006.01 Quality Indicator: The library/media/technology program provides a wide range of accessible print and electronic resources that expand opportunity for learning, contribute to information literacy, support the local curriculum, and enhance and enrich learning experiences for all students.

006.01A Each school has a library media area(s) which is available to students during the entire school day. All library media resources are properly cataloged, marked, and shelved according to a standard classification system. Each school has at least one set of encyclopedia available in either print or electronic format with copyright dates in the past five years.

006.01B Each elementary school acquires a minimum of 25 new library media resources in print format, exclusive of textbooks and encyclopedia, of different titles, per teacher per year, up to 150 titles during one year. The minimum number of new titles in print format is 75 if library media resources are also available through electronic format. Each middle and high school acquires a minimum of 150 titles each year in either print or in full text electronic format.

006.01C Each middle level school subscribes to at least ten periodicals either in print or in full text electronic format.

006.01D Each secondary school subscribes to at least 25 periodicals in print or in full text electronic format.

007 Instructional Staff

007.01 Elementary Staff. **Quality Indicator: Instructional staff members have appropriate training and preparation to work with elementary school children. They are knowledgeable of principles of child growth and development, the scope of the elementary school curriculum, and cross-disciplinary instructional strategies. They establish a positive and supportive learning environment for all students.**

007.01A Computed on a full-time equivalency basis, a minimum of 95 percent of the teachers in the elementary grades are assigned to areas for which they hold certificates having appropriate endorsements pursuant to 92 NAC 24.

007.01B Pre-kindergarten programs operated by public schools are coordinated by a staff member who holds a Nebraska Teaching Certificate with at least 9 college credit hours in early childhood education.

007.02 Middle Grades Staff. **Quality Indicator: Staff members at the middle grades are knowledgeable of the growth and development of middle grades students. They have knowledge of the curriculum content for which they are responsible and they use teaching strategies that engage students actively in learning, that build upon elementary content and skills, and that help students understand and apply content across subject areas.**

007.02A Computed on a full-time equivalency, at least 90 percent of the teachers in middle grades hold one of the following endorsements or meet the provisions of Sections 007.02A1a or 007.02A4:

007.02A1 In grades seven and eight, any middle grades endorsement or an appropriate secondary endorsement.

007.02A1a Teachers holding an elementary endorsement may teach in grades seven and eight if they acquire six credit hours per year toward the middle grades endorsement or participate in staff development in accordance with a local mission and plan for education of middle grade students.

007.02A2 In grades four through six, an elementary endorsement or any middle grades endorsement.

007.02A2a Teachers holding a content area endorsement at the secondary level may teach grade six in that content area if they acquire six credit hours per year toward the elementary or middle grades endorsement or participate annually in staff development in accordance with a local mission and plan for education of middle grade students.

007.02A3 In grade nine, an appropriate secondary endorsement or any middle grades endorsement.

007.02A4 Teachers not holding an appropriate endorsement may be assigned to the middle grades if they acquire six credit hours per year toward a middle grades endorsement.

007.02A5 Secondary teachers assigned to integrated courses or curriculum in grades seven through nine are considered appropriately endorsed if they hold an endorsement for any of the subjects or fields included in the course.

007.03 Secondary Staff. **Quality Indicator: Instructional staff members in the secondary grades have specialized preparation in a subject area or field and knowledge of the developmental level of students. Staff members use strategies that help students become actively involved in the learning process through in-depth study of subjects and through experiences that use and apply knowledge, skills, and understanding across the curricular areas.**

007.03A At least 80 percent of the instructional units offered in secondary grades during the regular school term are assigned to teachers who hold certificates having appropriate endorsements issued pursuant to 92 NAC 24. If 92 NAC 24 does not provide an endorsement designated for a particular course or subject area, any teacher holding a regular certificate may instruct such course without penalty to the school system. Teachers holding a subject endorsement are considered appropriately endorsed for any other subject within the broad field if they annually acquire, prior to the opening of school, six credit hours toward the subject endorsement or the broad field endorsement.

007.03A1 Teachers assigned to integrated courses or curriculum in accordance with Sections 002.11 and 004.04C1 are considered appropriately endorsed if they hold an endorsement for any of the subjects or fields included in the course.

007.03B Secondary schools including grades seven and eight may assign the teachers as provided in Section 007.02A.

007.04 Media/Technology Staff. **Quality Indicator: The library/media/technology programs and services are an integral part of the instructional program. Library/media staff provide leadership and assistance in selection, provision, and use of library/media resources. Technology staff and services are available locally or in collaboration with other agencies to provide support, maintenance, consultation, and training for meaningful use of technology resources.**

007.04A Each K-12 school system and each secondary school system has a person holding a Nebraska Teaching Certificate with an endorsement appropriate for library science or educational media specialist, or meeting Section 007.04B, assigned on at least a one-half time basis to provide library media services to the school system.

007.04A1 Each school building having an enrollment of from 70 to 249 students has a person holding a valid Nebraska Teaching Certificate with an appropriate endorsement for library science or educational media specialist assigned on at least a one-fifth time basis or has a library media paraprofessional assigned on at least a one-half time basis under the supervision of a certificated staff member.

007.04A2 Each school building having an enrollment of at least 250 students has a person holding a Nebraska Teaching Certificate with an appropriate endorsement for library science or educational media specialist assigned on at least a one-half time basis, or has such person assigned on a one-fourth time basis and a full-time library media paraprofessional also assigned. Buildings with 500 or more students have at least a full-time educational media specialist or a one-half time educational media specialist and a full-time library media paraprofessional. Buildings with 750 or more students have a full-time educational media specialist.

007.04B A school system may assign a person holding a Nebraska Teaching Certificate with no endorsement appropriate for library science or educational media specialist to fulfill the requirements for Sections 007.04A, 007.04A1, and 007.04A2 if such person acquires at least six credit hours each year toward an appropriate endorsement pursuant to 92 NAC 24. Persons employed by a Nebraska school prior to July 1, 1989, to provide library media services and who hold a Nebraska Special Services Certificate with an endorsement appropriate for library media services may fulfill the requirements of these regulations.

007.05 Guidance Staff. **Quality Indicator: A comprehensive, developmental, K-12 guidance and counseling program assists all students in learning skills needed for academic success and for personal, social, and career development. The guidance program includes planned classroom and group activities, counseling services responsive to individuals and small groups, and assistance to students in academic planning and placement. The school and community work cooperatively to provide appropriate support for students, families, and teachers.**

Guidance and counseling programs are directed by professional staff with appropriate endorsements in guidance and counseling. Professional staff are assigned based upon local needs determined through a formal process documenting the needs.

007.05A Each K-12 and each secondary school system assigns at least a one-half time equivalency person to conduct a guidance and counseling program. The level of assignment is determined by the local school system and the person assigned holds a guidance and counseling endorsement appropriate for the level(s) assigned. When enrollment in a school system exceeds 400, the system assigns at least one full-time equivalency appropriately endorsed person.

007.05B School systems having a total of 300 or more students in the middle grades, secondary grades, or high school grades assign at least a one-half time appropriately endorsed person to provide guidance and counseling for the level. When the total enrollment in any of those levels reaches 450, one full-time equivalent appropriately endorsed person is assigned. Thereafter, an additional one-half time appropriately endorsed person is assigned for each 225 students at any of those levels.

007.05C School districts having 300 or more students in the elementary grades have guidance programs or services available for the elementary students. The procedures and time allotment are determined by the local school district.

007.05D A person holding a Nebraska Teaching Certificate with no endorsement appropriate for guidance and counseling may be assigned to fulfill the requirements of Sections 007.05A and 007.05B if such person acquires at least six credit hours each year toward an endorsement appropriate for guidance and counseling pursuant to 92 NAC 24. Persons employed by a Nebraska school prior to July 1, 1989, to provide guidance and counseling services and who hold a Nebraska Special Services Certificate with an endorsement appropriate for guidance and counseling services may fulfill the requirements of this regulation.

007.05E In nonpublic schools, clergy holding a Nebraska teaching or administrative certificate may be assigned to fulfill the requirement of Sections 007.05A and 007.05B.

007.06 ~~Teacher~~ Certificated-Employee Evaluation. **Quality Indicator: The primary purpose of ~~teacher~~ certificated-employee evaluation is to improve ~~the quality of instruction~~ student learning. The procedures are clear, equitable, and systematic.**

007.06A The school district has a written board policy for the evaluation of ~~teachers~~ certificated-employees. The policy is approved by the ~~Department~~ Commissioner or designee as required by 79-318 (5)(h) R.R.S. Sections 007.06A through 007.06B are based on statute and cannot be waived under the provisions of Section 013 of 92 NAC 10.

007.06A1 The policy is implemented by written procedures that include:

007.06A1a Annual written communication of the evaluation process to those being evaluated;

007.06A1b A description of the duration and frequency of observations and written evaluations for probationary and permanent ~~teachers~~ certificated-employees;

007.06A1c Specific district-defined evaluation criteria, which include, at a minimum:

007.06A1c(1) Instructional performance (applicable to teachers only),

007.06A1c(2) Classroom organization and management (applicable to teachers only), and

007.06A1c(3) Personal and professional conduct.

007.06A1d Provision for written communication and documentation to the evaluated ~~teacher~~ certificated-employee specifying all noted deficiencies, specific means for the correction of the noted deficiency, and an adequate timeline for implementing the concrete suggestions for improvement;

007.06A1e Provision for the ~~teacher~~ certificated-employee to offer a written response to the evaluation; and

007.06A1f A description of the district plan for training evaluators.

007.06A2 In the event a district changes its policies or procedures for ~~teacher~~ certificated-employee evaluation, it shall submit the revised policies and procedures to the ~~Department~~ Commissioner or designee for approval. If the ~~Department~~ Commissioner or designee finds the policies and procedures in compliance with the requirements of Sections 007.06A through 007.06A1f, of this Chapter, it notifies the district in writing that such policies and procedures are approved. Such approval shall remain in effect until there is a change in the policies or procedures by the district, or the amendment of state law or regulations relating to such approval. In the event the ~~Department~~ Commissioner or designee does not find the revised policies and procedures of the district in compliance with the provisions of this Chapter, the ~~Department~~ Commissioner or designee will notify the district in writing~~. T~~ and the district may resubmit amended policies and procedures. ~~or may appeal such decision to the State Board pursuant to the procedures set forth in 92 NAC 61.~~

007.06B All evaluators, with the exception of the local board of education when it evaluates the superintendent, possess a valid Nebraska Administrative Certificate and are trained to use the evaluation system used in the district.

007.07 Staff Development. **Quality Indicator: Staff development supports instructional improvement, the local school improvement plan, and accomplishment of school and/or school system goals.**

007.07A The school system annually conducts or arranges staff development sessions. Each teacher participates in at least ten hours of staff development activities each year.

008 Administrative Staff.

008.01 **Quality Indicator: Building administrators provide leadership to curriculum, instruction, assessment, and school improvement. They guide staff and students in achieving goals and fulfill other functions supportive of quality learning.**

008.02 Elementary Administration.

008.02A Each elementary school has a principal assigned who holds a Nebraska Administrative and Supervisory Certificate with an endorsement appropriate for serving as an elementary principal or for superintendent. When the number of full-time equivalency teachers supervised by a principal in one or more school systems reaches 10, the principal is assigned at least one-half time for administration and supervision. The principal is assigned full-time when the number of full-time equivalency teachers reaches 20 or more.

008.02B An elementary principal who is the head administrator of a school system meets with the board of education or governing body at least four times each year to provide leadership in the development of school goals, policies, budgets, instructional programs, staff evaluation, and other administrative and instructional matters.

008.03 Middle Grades Administration.

008.03A Each middle grades school has a principal who holds a Nebraska Administrative and Supervisory Certificate with an endorsement for middle grades principal, elementary principal, secondary principal or for superintendent.

008.03A1 Middle grades schools having only grades four through six have a principal holding an endorsement for elementary principal, middle grades principal, or superintendent.

008.03A2 Middle grades schools having only grades seven through nine have a principal holding an endorsement for middle grades principal, secondary principal, or superintendent.

008.03B When the number of full-time equivalency teachers supervised by the principal reaches 10, the principal is assigned at least one-half time for administration and supervision. The principal is assigned full-time when the number of full-time equivalency teachers reaches 20 or more.

008.04 Secondary School Administration.

008.04A Each secondary school has a principal assigned who holds a Nebraska Administrative and Supervisory Certificate with an endorsement for serving as a secondary principal or for superintendent. When the number of full-time equivalency teachers reaches 10 or more, the principal is assigned at least one-half time for administration and supervision. The principal is assigned full-time for administration and supervision when the number of full-time equivalency teachers reaches 20 or more.

008.05 School System Administration. **Quality Indicator: The school administration exercises leadership in the development and implementation of school goals and policies. Administrators demonstrate leadership in management and operation of the school system and in the improvement of curriculum and instruction.**

008.05A Each K-12 and each secondary school system having grades ten through twelve has a head administrator who holds a Nebraska Administrative and Supervisory Certificate with an endorsement for serving as a superintendent. Nonpublic systems may share an area or diocesan head administrator.

008.05B Any person assigned to administrative and/or supervisory duties holds a Nebraska Administrative and Supervisory Certificate with an appropriate endorsement for the position held.

008.05C A copy of the certificate or permit of each staff member who is required to have a certificate is on file in the school or school system's administrative office. Upon initial employment or acquisition of a new certificate, the certificate or permit is registered by the head administrator of the school system in accordance with 79-804(1) R.R.S.

008.05D Two or more school systems may jointly contract with a person holding a Nebraska Administrative and Supervisory Certificate with the appropriate endorsement to fulfill administrative responsibilities.

009 Continuous School Improvement.

009.01 Quality Indicator: A systematic on-going process guides planning, implementation, and evaluation and renewal of continuous school improvement activities to meet local and statewide goals and priorities. The school improvement process focuses on improving student learning. The process includes a periodic

review by visiting educators who provide consultation to the local school/community in continued accomplishment of plans and goals.

009.01A The school system develops and implements a continuous school improvement process to promote quality learning for all students. This process includes procedures and strategies to address quality learning, equity, and accountability. In public schools, the process incorporates multicultural education as described in 004.01~~G~~F. In all school systems, the continuous school improvement process includes the following activities at least once within each five years.

009.01A1 Review and update of ~~a~~ the mission ~~or~~ and vision statements.

009.01A2 Collection and analysis of data about student performance, demographics, learning climate, and former high school students.

009.01A3 Selection of improvement goals. At least one goal is directed toward improving student ~~performance~~ academic achievement.

009.01A4 Development and implementation of a plan which includes procedures, strategies, ~~or~~ actions to achieve goals, and an aligned professional development plan.

009.01A5 Evaluation of progress toward improvement goals.

009.01B The school improvement process includes a visitation by a team of external representatives to review progress and provide written recommendations. A copy of the written recommendations is provided to the Department. The external team visits are conducted at least once each five years.

010 Accountability Reporting.

010.01 Quality Indicator: The school system demonstrates accountability to the residents of the school community. School staff periodically assess and report student progress toward accomplishment of academic content standards. Results are used to plan and make needed changes to improve instruction for all students.

010.01A The school system annually prepares a written report which includes at least student academic performance as required in Section 005.02, school system demographics, school improvement goals and progress and, in the case of public schools, financial information. School systems report the information in accordance with the policy in 010.01B.

010.01B The school system has a written policy for annually preparing and distributing the performance report(s) required in Section 010.01A to the residents of the district or, in the case of nonpublic schools, to the appropriate body. The

policy assures that individual test scores are kept confidential. If the school has fewer than ten students in the grades being reported, or if reporting would allow for the identification of students because they all had comparable scores, no public reports of student performance are provided for those grades.

011 School Environment.

011.01 Quality Indicator: The school facilities and the general environment are safe, orderly, and supportive of quality learning for all students. A positive atmosphere for learning supports and reflects the work of students.

011.01A Each school system maintains safe, healthful, and sanitary conditions within the school building(s) and on the school grounds and meets fire, safety, and health codes.

011.01B Each school system has a safety and security plan for the schools in the system. The plan addresses the safety and security of students, staff, and visitors. The plan is approved by the local governing body.

011.01C Each school system has a school safety and security committee which includes representatives of faculty, parents, and the community. The committee meets at least annually to prepare and/or review safety and security plans and procedures, including emergency plans and procedures.

011.01D The school system's safety and security plan(s) are reviewed annually by one or more persons not on the local school system safety committee and not an employee of the school system. This review will include a visit to school buildings to analyze plans, policies, procedures, and practices and provide recommendations. Any recommendations made as a result of the analysis are forwarded to the head administrator and to the school safety and security committee to be considered in making revisions to the plan.

011.01E Each school system has a seclusion and restraints policy approved by the school board or local governing body.

011.01F Each school system shall develop and adopt a policy concerning bullying prevention and education for all students. The school system shall review the policy annually.

011.01~~E~~G Pursuant to 79-2,141 (2) R.R.S., ~~by July 1, 2010,~~ each school district shall develop and adopt a specific policy to address incidents of dating violence involving students at school. This policy shall include a statement that dating violence will not be tolerated.

012 School System Governance.

012.01 Quality Indicator: The board governs through orderly procedures which focus efforts of the school upon quality learning, result in equitable opportunities for learning for all students, and insure accountability to the local community.

012.01A The governing body has a written set of policies for the school system. These policies are accessible in each school building.

012.01B The school system has a written policy which assures that each school will meet the statutory requirement of at least 400 hours for kindergarten, at least 1,032 hours for students up through grade eight, and at least 1,080 hours for students in grades nine through twelve. The policy(ies) or regulations stipulate the conditions for which individual students may be excused from the regular school day.

012.01C The ratio of pupils to certificated staff members, computed on a full-time equivalency basis, in each school does not exceed 25 to 1.

013 Waivers and Plans.

013.01 School systems, in order to better meet local goals, may submit a request for a waiver of one or more regulations found in Sections 004 through 012.01C of this Chapter. Section 003 and sections identified in Sections 003.04, 004.02A3, 004.03A4, and 004.04B2 of 92 NAC 10 are based on statute and may not be waived. The waiver request must include at least the following:

013.01A A copy of the local improvement plan developed in accordance with Section 009.01A. The plan shall contain local improvement objectives and shall address quality learning, equity, and accountability.

013.01B A description of the program or process to be substituted for the regulation to be waived.

013.01C An explanation indicating how the local program or process will provide equivalent or improved opportunities for students and will accomplish the quality indicator.

013.01D If appropriate, how resources would be reallocated or used differently to provide programs or services.

013.01E Length of time for the requested waiver, not to exceed three years.

013.01F Procedures for providing an annual progress report to the Board.

013.02 The Commissioner will submit the waiver request to the Board with his or her recommendations. The Board may approve the requested waiver if the components of the plan substituted for the waived provisions will promote quality learning, equity, and/or accountability. The Board shall reject the waiver if, in its opinion, the plan and requested waivers would not provide improvement in quality learning, equity, and/or accountability.

013.03 At the end of the waived time period, school systems may request and be granted Board approval of the same waiver for a period of up to three additional years if it can be demonstrated that the system is meeting the objectives for which the waiver was granted.

013.04 The Board recognizes the need for public special purpose school systems, such as schools operated expressly for students with disabilities or schools operating within the confines of correctional facilities. If such a school system can demonstrate that a requirement of this Chapter is not educationally necessary or appropriate for the students in attendance, or is in conflict with state or federal laws or regulations governing facilities operation, the Board may waive such requirement.

013.05 Public school districts which exist in unique circumstances due to population sparsity, geographic barriers, or other similar factors may submit a request to the State Board of Education for a modification of this Chapter to better meet the need of the students. Schools seeking such modification shall submit: (1) an explanation of the unique circumstances leading to this request, (2) proposed modifications to better meet the needs of the students in the school, (3) an explanation of how the modifications will provide quality learning, equity, and accountability, (4) a copy of the local improvement plan developed in accordance with Section 009.01A, and (5) procedures for annually reporting to the Commissioner. Upon approval by the Board, the modifications shall remain in effect unless changed by a revision of this Rule or change in status of the school district.

014 Loss of Accreditation.

014.01 Quality Indicator: Schools comply fully and continuously with all accreditation requirements in order to provide for all students the learning opportunities described herein. Schools experiencing unfulfilled requirements make concerted efforts to achieve compliance or to provide alternative programs generating equivalent or improved programs and services. Schools not fulfilling accreditation requirements deprive students of opportunities for learning and may be subject to probation or loss of accreditation.

014.02 Section 003 of this Chapter lists requirements that must be met at all times by school systems as a condition of accreditation. Failure to meet those provisions may result in the Board terminating the legal operation of the school system during the school year. Noncompliance with other regulations in this Chapter will result in the assessment of violations which, if not corrected, will result in a recommendation to the Board for probation or loss of accreditation.

014.03 Violations. In determining the future accreditation status of a school system, each failure to meet a numbered regulation other than those contained in Section 003 constitutes a separate violation.

014.04 Reporting Violations. A school system shall report any existing violations to the Department on its annual Statement of Assurance.

014.05 Correction of Violations. A school system will have until February 1 to correct violations or to prepare a written plan for correction of a violation that existed at the time of submission of the Statement of Assurance. Written evidence of the correction of the violations or a written plan developed in accordance with Section 014.05A must be submitted to the Department.

014.05A School systems having an uncorrected violation may submit a written plan to the Department by February 1 for correcting the violation before the following school year. Such plans may be approved by the Board if evidence provided indicates that the violation occurred after August 1, and the violation could not reasonably be corrected immediately before or during the current school year. Written evidence of the correction must be submitted to the Department by the following September 1.

014.06 Effect of Violations on Public School Systems. All public school systems are required by state statute to be accredited. If, after consultation with school officials, the Commissioner determines that public school systems have any uncorrected violations, he or she shall make the applicable following recommendations to the Board:

014.06A A PUBLIC SCHOOL SYSTEM having an uncorrected violation of a requirement with no written plan under Section 014.05A shall be recommended for ACCREDITATION ON PROBATION for the following school year.

014.06B A PUBLIC SCHOOL SYSTEM having a written plan under Section 014.05A and having the same uncorrected violation after September 1 shall be recommended for ACCREDITATION ON PROBATION for the current school year.

014.06C A PUBLIC SCHOOL SYSTEM ON PROBATION continuing to have the same uncorrected violation after February 1 shall be recommended for NONACCREDITATION for the following school year and shall be subject to loss of authority to operate and reassignment of territory to other school districts.

014.07 Effect of Violations on Nonpublic School Systems. Nonpublic schools may operate either as accredited or approved school systems. If, after consultation with school officials, the Commissioner determines that nonpublic school systems have any uncorrected violations, he or she shall make the applicable following recommendations to the Board:

014.07A An ACCREDITED NONPUBLIC SCHOOL SYSTEM having a plan under Section 014.05A and having the same uncorrected violation after September 1 of a requirement shall be recommended for ACCREDITATION ON PROBATION for the current school year.

014.07B An ACCREDITED NONPUBLIC SCHOOL SYSTEM having an uncorrected violation of a requirement and having no written plan under Section 014.05A shall be recommended for ACCREDITATION ON PROBATION for the following school year.

014.07C An ACCREDITED NONPUBLIC SCHOOL SYSTEM ON PROBATION having an uncorrected violation after February 1 of a requirement shall be recommended for APPROVAL for the following school year.

014.08 Provisions for Notice and Hearing.

014.08A When the Commissioner makes a recommendation to the Board for a school system to be placed on probation or for denial or revocation of accreditation or approval, notice of the recommendation and of the right to request a hearing shall be given to the school system by certified mail sent at least 30 calendar days prior to the date of the Board meeting at which the recommendation is to be considered. Copies will be sent to the superintendent, head administrator, or head teacher of the school system, and to the presiding officer of the governing body, if known. This notice shall specify the basis for the recommendation.

014.08B If the school system notifies the Commissioner at least seven days prior to the date the recommendation is to be considered by the Board that it requests a hearing, the Board shall schedule a hearing date.

014.08C All hearings arising under this Chapter shall be conducted in accordance with the hearing procedures of 92 NAC 61, including provisions of that Chapter relating to evidence. Any action taken or recommended by the Commissioner adverse to the school system may be the subject of a petition by such school system under 92 NAC 61, in which case all the provisions of 92 NAC 61 shall apply to such appeal.

014.09 Action by the Board. Upon review of the Commissioner's recommendation, and following any hearing, the Board shall make a determination of the future accreditation status of the system and shall inform the system in writing of its determination.

015 Procedures for Nonpublic Schools Applying for Initial Accreditation or Adding Grades to Previously Accredited Schools.

015.01 The Nebraska Department of Education recognizes the contribution made by the nonpublic schools to the state system of education by extending alternatives and opportunities to the citizens of the state. Nonpublic schools seeking accreditation shall ~~submit an Intent to Apply form~~ notify ~~to~~ the Department of their intent to seek accreditation by letter or email no later than ~~by~~ July 1 prior to the school year of the application process.

015.02 By November 1, each applicant nonpublic school shall submit to the Department a report documenting compliance with this Chapter.

015.03 By March 1, each applicant nonpublic school shall be visited by a representative of the Department or a designee to verify the school's compliance with the provisions of this Chapter. Reports of such visitations shall be reviewed by the State Accreditation Committee, which shall make recommendations to the Commissioner relative to accreditation for the following school year.

015.04 Upon favorable review by the State Accreditation Committee, the Commissioner will make a recommendation to the State Board of Education that the applicant nonpublic school be granted accreditation.

015.05 Upon favorable action by the Board, accreditation is granted for one school year from each July 1 through the following June 30. Renewal is granted based upon the school's compliance with this Chapter during the prior school year.

015.06 When an approved nonpublic school is added to an accredited school system, the approved school shall follow the procedures for applying for initial accreditation as provided in this Chapter.

015.07 Accredited nonpublic schools intending to add new grades shall inform the Department of such intent ~~submit~~, by letter or email, ~~such intent to the Department by~~ no later than May 1 prior to the year in which the new grades will operate. If it is determined through visitation or reporting that the intended new grades can comply with the provisions of this Chapter, the Commissioner will submit a recommendation to the Board that the school be granted conditional accreditation to add new grades. Schools having conditional accreditation to add new grades shall follow procedures established in Sections 015.02 through 015.05 for obtaining accreditation.

APPENDICES

~~Appendix A: Mathematics Content Standards (effective through June 30, 2010)~~

Appendix A: Language Arts Standards

Appendix B: Mathematics Standards ~~(effective July 1, 2010)~~

~~Appendix C: Science Content Standards~~

Appendix C: Science Standards

Appendix D: Social Studies/History Content Standards

Appendix E: Statewide System of Assessment and Reporting

Appendix F: American citizenship statute 79-724 R.R.S.

~~Appendix G: Criteria for Rating Student Performance~~

~~Appendix H: Written Plan for Low Performing Schools~~

~~Appendix I: Procedures for Low Performing Schools – Extensions and Reporting Options~~

~~Appendix J: Language Arts Standards~~

~~GENERAL INFORMATION~~

~~Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.~~

~~Scope and Application of this Appendix. This Appendix provides mathematics model academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 of the Revised Statutes of Nebraska (R.R.S.)), and the requirements of this Chapter.~~

~~Example Indicators. Following each standard is a set of example indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the standards are repeated in whole or in part at different grade levels, the example indicators show progression and increased expectations throughout the grades. Although the example indicators are not an exhaustive list of what can be done to meet the standards, they are representative of the content for each standard at each grade level.~~

~~FIRST GRADE~~

~~1.1 Numeration/Number Sense~~

~~1.1.1 By the end of first grade, students will recognize, write, and orally express the sequential order of the number system.~~

~~Example indicators:~~

~~Recognize and write numerals from 0-100.~~

~~Count forward by 1s, 2s, 5s and 10s up to 100.~~

~~Count backward from 10 to 0 by 1s.~~

~~Identify ordinal positions of first, second, third, through tenth.~~

~~1.1.2 By the end of first grade, students will demonstrate ways of representing numbers and compare relations among numbers.~~

~~Example indicators:~~

~~Count objects to demonstrate one-to-one correspondence.~~

~~Use comparison vocabulary (bigger, smaller, more, less, equal, higher, and lower).~~

~~Identify and represent wholes into equal parts for the fractions of one-half and one-fourth.~~

~~Connect number words and numerals to the quantities they represent.~~

~~Demonstrate place value in the base-ten number system using models.~~

~~1.1.3 By the end of first grade, students will identify numbers and applications in everyday situations.~~

~~Example indicators:~~

~~Identify how numbers are used in counting situations (setting the table and passing out candy treats).~~

~~Identify how numbers are used for identification (room numbers and phone numbers).~~

~~Recognize and demonstrate the value of a collection of pennies, nickels, dimes, and quarters whose total value is 100 cents or less.~~

~~1.1.4 By the end of first grade, students will demonstrate the value of numbers (0-20) using concrete objects.~~

~~1.2 Computation/Estimation~~

~~1.2.1 By the end of first grade, students will demonstrate the concepts of addition and subtraction up to 10.~~

~~Example indicators:~~

~~Demonstrate the value of basic facts using concrete objects.~~

~~Recognize the symbols + and - as representing the operations of addition and subtraction.~~

~~Recognize the symbol = represents equal quantities.~~

~~Solve problems involving one-step solutions related to children's experiences.~~

~~Demonstrate strategies for whole number computation.~~

~~Compute efficiently and accurately basic number facts for addition and subtraction.~~

~~1.2.2 By the end of first grade, students will justify estimations to mathematical problems.~~

~~Example indicator:~~

~~Make estimations and comparisons to actual results.~~

~~1.3 Measurement~~

~~1.3.1 By the end of first grade, students will measure two or more items or sets using nonstandard units of measure and compare attributes.~~

~~Example indicators:~~

~~Compare attributes of items (length-shorter/longer, height-taller/shorter, weight-heavier/lighter, and temperature-hotter/colder).~~

~~Measure items using nonstandard units (human foot, hand span, new pencil, toothpick, block, and paper clip).~~

~~1.3.2 By the end of first grade, students will identify tools of measurement and their appropriate use (clocks, calendar, ruler, balance scale, and thermometer).~~

~~1.3.3 By the end of first grade, students will tell time to the half-hour using an analog and digital clock.~~

~~1.3.4 By the end of first grade, students will identify the different units of measurement used in their environment (cents, dollars, pounds, gallons, liters, meters, miles, minutes, and hours).~~

~~1.3.5 By the end of first grade, students will identify past, present, and future as orientations in time.~~

~~1.4 Geometry/Spatial Concepts~~

~~1.4.1 By the end of first grade, students will compare relative position (left/right, above/below, over/under, up/down, and near/far).~~

~~1.4.2 By the end of first grade, students will identify, describe, and create circles, squares, triangles, and rectangles.~~

~~Example indicators:~~

~~Construct congruent shapes and designs using manipulatives.~~

~~Identify and describe common geometric shapes in their environment.~~

~~1.5 Data Analysis, Probability, and Statistical Concepts~~

~~1.5.1 By the end of first grade, students will collect information about objects and events in their environment (favorite candy bar, number of siblings, and number of pets).~~

~~1.5.2 By the end of first grade, students will organize and display collected information using objects and pictures.~~

~~1.5.3 By the end of first grade, students will compare and interpret information from displayed data (more, less, and fewer).~~

~~1.5.4 By the end of first grade, students will describe the process used in data collection and analysis.~~

~~1.6 Algebraic Concepts~~

~~1.6.1 By the end of first grade, students will identify, describe, extend, and create patterns (objects, sounds, movements, shapes, numbers, and colors).~~

~~1.6.2 By the end of first grade, students will sort and classify objects according to one or more attributes (size, shape, color, and thickness).~~

~~1.6.3 By the end of first grade, students will identify and describe patterns in their environment.~~

~~FOURTH GRADE~~

~~4.1 Numeration/Number Sense~~

~~4.1.1 By the end of fourth grade, students will demonstrate place value of whole numbers through the millions and decimals to the hundredth place.~~

~~Example indicators:~~

~~Read and write numerals (in digits and words) through the millions place and decimals to the hundredth place.~~

~~Order and compare whole numbers through the millions place and decimals to the hundredth place using the symbols <, >, and =.~~

~~Round whole numbers to the nearest named place, such as rounding 1,234 to the nearest hundred would be 1,200.~~

~~4.1.2 By the end of fourth grade, students will write and illustrate equivalences of whole numbers in expanded form, decimals, and fractions.~~

~~Example indicators:~~

~~Write numbers in expanded form, such as 432 = 400 + 30 + 2.~~

~~Represent equivalent fractions with denominators of 2, 4, 5, 8 and 10 (1/2 = 2/4) using concrete objects.~~

~~Write equivalent decimals (.4 = .40).~~

~~Write decimals as fractions using denominators of 10 and 100 (.68 = 68/100).~~

~~4.1.3 By the end of fourth grade, students will describe and apply relationships between whole numbers, decimals, and fractions by order, comparison, and operation.~~

~~Example indicators:~~

~~Order and compare whole numbers, common fractions, and decimals using the symbols <, >, and =.~~

~~Illustrate mathematical concepts by using objects and drawing pictures or diagrams (subtraction as the opposite of addition and multiplication as repeated addition).~~

~~Solve and check a mathematical problem by using the related facts.~~

~~4.1.4 By the end of fourth grade, students will identify examples of positive and negative numbers and zero.~~

~~Example indicator:~~

~~Demonstrate simple concepts of positive and negative numbers (a thermometer for temperature or distances to the right or left of zero on a number line).~~

~~4.1.5 By the end of fourth grade, students will make change and count out in amounts up to $20.00.~~

~~Example indicators:~~

~~Count back change from purchase price to amount given using fewest coins possible.~~

~~Calculate change through subtraction and choose correct bills and coins to make this amount.~~

~~4.2 Computation/Estimation~~

~~4.2.1 By the end of fourth grade, students will estimate, add, subtract, multiply, and divide whole numbers without and with calculators and solve word problems.~~

~~Example indicators:~~

~~Demonstrate with accuracy and reasonable speed the basic facts of addition (1-20), subtraction (1-20), multiplication (1-144), and division (1-44).~~

~~Add and subtract accurately five-digit numbers including columns of numbers.~~

~~Multiply up to a three-digit number by a two-digit number.~~

~~Divide up to a three-digit number by a one-digit divisor.~~

~~Choose correct operation and solve word problems.~~

~~4.2.2 By the end of fourth grade, students will estimate, add, and subtract decimals without and with calculators and solve word problems.~~

~~Example indicator:~~

~~Add and subtract decimals to the hundredth place.~~

~~4.2.3 By the end of fourth grade, students will estimate, add, and subtract fractions with like denominators without calculators and solve word problems.~~

~~Example indicator:~~

~~Solve problems involving fractions of halves, fourths, and eighths using the operations of addition and subtraction.~~

~~4.3 Measurement~~

~~4.3.1 By the end of fourth grade, students will estimate, measure, and solve word problems using metric units for linear measure, area, mass/weight, capacity, and temperature.~~

~~Example indicators:~~

~~Use the appropriate units of measurement.~~

~~Estimate and accurately measure length to the nearest meter or centimeter and calculate area.~~

~~Estimate and accurately measure mass/weight to the nearest gram.~~

~~Estimate and accurately measure capacity to the nearest milliliter.~~

~~Measure and read temperature accurately to the nearest degree using Celsius thermometer.~~

~~4.3.2 By the end of fourth grade, students will estimate, measure, and solve word problems using standard units for linear measure, area, mass/weight, capacity, and temperature.~~

~~Example indicators:~~

~~Use the appropriate units of measurement.~~

~~Estimate and accurately measure length to the nearest yard, foot, inch, and quarter inch and calculate area.~~

~~Estimate and accurately measure mass/weight to the nearest ounce and pound.~~

~~Estimate and accurately measure capacity to the nearest fluid ounce.~~

~~Measure and read temperature accurately to the nearest degree using Fahrenheit thermometer.~~

~~4.3.3 By the end of fourth grade, students will tell and write correct time to the minute using an analog clock.~~

~~Example indicators:~~

~~Set an analog clock to a given time.~~

~~State time in different ways (8:35, 35 minutes after 8:00, or 25 minutes until 9:00).~~

~~Identify time of day (am, pm, noon, and midnight).~~

~~4.3.4 By the end of fourth grade, students will measure and determine the perimeter of a many-sided figure without a formula using standard and metric units of measure.~~

~~4.4 Geometry/Spatial Concepts~~

~~4.4.1 By the end of fourth grade, students will identify, describe, and create two- and three-dimensional geometric shapes.~~

~~4.4.2 By the end of fourth grade, students will identify and draw points, lines, line segments, rays, and angles.~~

~~4.4.3 By the end of fourth grade, students will identify, analyze, and compare two-dimensional geometric figures using congruence, symmetry, similarity, and simple transformations.~~

~~4.5 Data Analysis, Probability, and Statistical Concepts~~

~~4.5.1 By the end of fourth grade, students will collect, organize, record, and interpret data and describe the findings.~~

~~Example indicators:~~

~~Collect, organize, and interpret data in line plots, tables, charts, and graphs (pie graphs, bar graphs, and pictographs).~~

~~Draw valid conclusions from displayed data.~~

~~Investigate and record patterns in a simple probability situation in an organized way.~~

~~4.6 Algebraic Concepts~~

~~4.6.1 By the end of fourth grade, students will use and interpret variables and mathematical symbols to write and solve one-step equations.~~

~~Example indicators:~~

~~Use letters, boxes, or other symbols to stand for any number, measured quantity, or object in simple situations to demonstrate the beginning concept of a variable and writing formulas.~~

~~Identify and use various indicators of multiplication (parentheses, x, *) and division, (/, :).~~

~~4.6.2 By the end of fourth grade, students will identify, describe, and extend arithmetic patterns, using concrete materials and tables.~~

~~Example indicator:~~

~~Use Input/Output or function box to identify and extend patterns.~~

~~EIGHTH GRADE~~

~~8.1 Numeration/Number Sense~~

~~8.1.1 By the end of eighth grade, students will recognize natural numbers whole numbers, integers, and rational numbers.~~

~~8.1.2 By the end of eighth grade, students will determine equivalences among fractions, decimals, and percents.~~

~~Example indicators:~~

~~Find the equivalencies among fractions, decimals, and percents.~~

~~Solve problems with appropriate equivalencies.~~

~~8.1.3 By the end of eighth grade, students will write and use numbers in expanded exponential form and scientific notation.~~

~~Example indicators:~~

~~Write numbers in expanded form using exponential notation.~~

~~Express small and large numbers using scientific notation.~~

~~8.1.4 By the end of eighth grade, students will identify and display numbers including prime and composite, factors and multiples, divisibility, powers, and properties.~~

~~Example indicators:~~

~~Properties of numbers may include, but not be limited to, order of operations, commutative, associative, distributive, identity, and inverse.~~

~~8.2 Computation/Estimation~~

~~8.2.1 By the end of eighth grade, students will add, subtract, multiply, and divide decimals and proper, improper, and mixed fractions with uncommon and common denominators with and without the use of technology.~~

~~8.2.2 By the end of eighth grade, students will identify the appropriate operation and do the correct calculations when solving word problems.~~

~~8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) with and without the use of technology.~~

~~Example indicators:~~

~~Use proportions to solve scale-model problems with fractions and decimals.~~

~~Problems should be of increasing level of difficulty and involve real-life situations.~~

~~8.2.4 By the end of eighth grade, students will apply the order of operations to solve problems with and without the use of technology.~~

~~Example indicator:~~

~~Evaluate all types of numerical expressions, including grouping symbols and exponents.~~

~~8.2.5 By the end of eighth grade, students will apply strategies of estimation when solving problems with and without the use of technology.~~

~~Example indicators:~~

~~Properly round to an appropriate place value if context permits.~~

~~Perform estimation prior to calculation.~~

~~Without a calculator, estimate square roots of whole numbers up to one hundred to the nearest whole number.~~

~~Use compatible numbers to perform mental math.~~

~~Use estimation to check reasonableness of an answer.~~

~~8.3 Measurement~~

~~8.3.1 By the end of eighth grade, students will select measurement tools and measure quantities for temperature, time, money, distance, angles, area, perimeter, volume, capacity, and weight/mass in standard and metric units at the designated level of precision.~~

~~8.3.2 By the end of eighth grade, students will convert units within measurement systems using standard and metric, given conversion factors.~~

~~Example indicators:~~

~~Convert between various units of area and various units of volume (square foot to square yards and cubic decimeters to liters, etc.).~~

~~Check solutions to problems using unit analysis (feet/second to miles/hour).~~

~~8.4 Geometry/Spatial Concepts~~

~~8.4.1 By the end of eighth grade, students will identify, describe, compare, and classify two-and three-dimensional geometric figures such as plane figures like polygons and circles; solid figures like prisms, pyramids, cones, spheres, and cylinders; and lines, line segments, rays, angles, parallel and perpendicular lines.~~

~~8.4.2 By the end of eighth grade, students will use geometric properties, the Pythagorean theorem, and the relationships of congruence, similarity, and symmetry.~~

~~8.4.3 By the end of eighth grade, students will use formulas to solve problems involving perimeter and area of a square, rectangle, parallelogram, trapezoid and triangle, as well as the area and circumference of circles.~~

~~8.4.4 By the end of eighth grade, students will solve problems given formulas for volume and surface area of rectangular prisms, cylinders, and cones.~~

~~8.4.5 By the end of eighth grade, students will apply transformations to two-and three-dimensional geometric figures.~~

~~Example indicators:~~

~~Draw geometric figures using translations or slides, rotations or turns, reflections or flips, and scale.~~

~~8.4.6 By the end of eighth grade, students will use geometric terms and representations to describe the physical world.~~

~~8.5 Data Analysis, Probability, and Statistical Concepts~~

~~8.5.1 By the end of eighth grade, students will collect, construct, and interpret data displays and compute mean, median, and mode.~~

~~Example indicator:~~

~~Select appropriate representations of data when constructing data displays (graphs, tables, or charts).~~

~~8.5.2 By the end of eighth grade, students will read and interpret tables, charts, and graphs to make comparisons and predictions.~~

~~8.5.3 By the end of eighth grade, students will conduct experiments or simulations to demonstrate theoretical probability and relative frequency.~~

~~Example indicator:~~

~~Compare the results of a simulation (relative frequency) to the theoretical probability (a three-color spinner or a coin).~~

~~8.5.4 By the end of eighth grade, students will identify statistical methods and probability for making decisions .~~

~~Example indicators:~~

~~Identify the use of appropriate sampling techniques.~~

~~Identify the use of appropriate charts and graphs.~~

~~Identify the use of measures of central tendency (mean, median, and mode) appropriately.~~

~~8.6 Algebraic Concepts~~

~~8.6.1 By the end of eighth grade, students will demonstrate knowledge and use of the one- and two-dimensional coordinate systems.~~

~~Example indicators:~~

~~Order numbers on a number line.~~

~~Graph ordered pairs on a coordinate plane.~~

~~Generate a table of ordered pairs to graph an equation in two variables.~~

~~8.6.2 By the end of eighth grade, students will apply algebraic concepts and operations to solve linear equations and word problems.~~

~~Example indicators:~~

~~Solve multi-step equations with one variable.~~

~~Use order of operations to evaluate algebraic expressions for given replacement values of the variables.~~

~~Recognize and apply commutative, associative, distributive, inverse, and identity properties, and the properties of zero.~~

~~8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.~~

~~Example indicator:~~

~~Use variables to recognize and describe patterns.~~

~~TWELFTH GRADE~~

~~12.1 Numeration/Number Sense~~

~~12.1.1 By the end of twelfth grade, students will describe and compare the relationships between subsets of real numbers.~~

~~Example indicators:~~

~~Draw Venn diagrams including, but not limited to, natural, whole, integers, rational, irrational, and real numbers.~~

~~Find intersection and union of two sets of numbers.~~

~~Given a number, identify which subsets it belongs.~~

~~Justify why a number does not belong to a specific set.~~

~~12.1.2 By the end of twelfth grade, students will express the equivalent forms of numbers using exponents, radicals, scientific notation, absolute values, fractions, decimals, and percents.~~

~~12.2 Computation/Estimation~~

~~12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.~~

~~12.2.2 By the end of twelfth grade, students will justify solutions to mathematical problems.~~

~~Example indicator:~~

~~Write an explanation based on the context of the problem stating why the solution is reasonable.~~

~~12.2.3 By the end of twelfth grade, students will perform estimations and computations of real numbers mentally, with paper and pencil, and with technology.~~

~~12.3 Measurement~~

~~12.3.1 By the end of twelfth grade, students will select and use measuring units, tools, and/or technology and explain the degree of accuracy and precision of measurements.~~

~~Example indicators:~~

~~Explain the accuracy of the measurement.~~

~~Explain the precision of the measurement tool.~~

~~12.3.2 By the end of twelfth grade, students will convert between metric and standard units of measurement, given conversion factors.~~

~~Example indicators:~~

~~Change yards to meters.~~

~~Change miles/hours to meters/second.~~

~~12.4 Geometry/Spatial Concept~~

~~12.4.1 By the end of twelfth grade, students will calculate perimeter and area of two-dimensional shapes and surface area and volume of three-dimensional shapes.~~

~~12.4.2 By the end of twelfth grade, students will create geometric models to describe the physical world.~~

~~Example indicators:~~

~~Create perspective drawing.~~

~~Create scale models.~~

~~12.4.3 By the end of twelfth grade, students will evaluate characteristics and properties of two-and three-dimensional geometric shapes.~~

~~Example indicators:~~

~~Classify and compare attributes of two- and three-dimensional shapes.~~

~~Classify shapes in terms of congruence and similarity and apply these relationships.~~

~~Determine the effects of changing dimensions on perimeter, area, and volume.~~

~~Investigate and deduce geometric properties using transformations such as translations, rotations, and reflections.~~

~~12.4.4 By the end of twelfth grade, students will apply coordinate geometry to locate and describe objects algebraically.~~

~~Example indicators:~~

~~Graph a geometric shape and determine the slope of the sides.~~

~~Identify the missing vertices of a polygon.~~

~~12.4.5 By the end of twelfth grade, students will apply right triangle trigonometry to find length and angle measures.~~

~~12.4.6 By the end of twelfth grade, students will apply geometric properties to solve problems.~~

~~Example indicator:~~

~~Find missing angles and lengths of geometric shapes using geometric properties. (Properties may include, but are not limited to, similarity, parallel and line-transversal).~~

~~12.4.7 By the end of twelfth grade, students will apply deductive reasoning to arrive at a conclusion.~~

~~Example indicators:~~

~~Justify steps when solving an algebraic equation using properties of real numbers.~~

~~Use logic statements, paragraph proof, two-column proof, or algebraic proof to arrive at a conclusion.~~

~~12.5 Data Analysis, Probability, and Statistical Concepts~~

~~12.5.1 By the end of twelfth grade, students will select a sampling technique to gather data, analyze the resulting data, and make inferences.~~

~~Example indicators:~~

~~Justify the chosen sampling techniques.~~

~~Use technology to analyze the data.~~

~~12.5.2 By the end of twelfth grade, students will write equations and make predictions from sets of data.~~

~~Example indicators:~~

~~Display data in a scatter plot, describe its shape, and estimate how close the data comes to fitting an equation.~~

~~Relate the slope of a regression line to the rate of change for the data set.~~

~~Determine what the y-intercept or beginning value indicates about the data.~~

~~Determine the validity of predictions made from regression equations.~~

~~12.5.3 By the end of twelfth grade, students will apply theoretical probability to represent problems and make decisions.~~

~~Example indicator:~~

~~Explain the likelihood of the next event based on theoretical probabilities.~~

~~12.5.4 By the end of twelfth grade, students will evaluate how transformations on data affect the measures of central tendency and variability .~~

~~Example indicators:~~

~~Describe how adding the same amount to each score changes the mean, median, mode, range, outliers, interquartile points, maximum, and minimum.~~

~~Describe how dropping an outlier changes the other measures.~~

~~12.5.5 By the end of twelfth grade, students will interpret data represented by the normal distribution and formulate conclusions.~~

~~Example indicators:~~

~~Sketch a normal or bell curve, label one and two standard deviations from the mean and fill in approximate percents associated with the deviations.~~

~~Determine factors that will produce a curve that is not normal.~~

~~Describe how sample size is related to a normal curve.~~
~~Determine position or rank relative to others in a normally distributed group given the standard deviation and mean.~~

~~12.5.6 By the end of twelfth grade, students will calculate probabilities of independent events.~~

~~Example indicator:~~

~~Calculate probabilities using the fundamental counting principle and permutations.~~

~~12.6 Algebraic Concepts~~

~~12.6.1 By the end of twelfth grade, students will graph and interpret algebraic relations and inequalities.~~

~~Example indicators:~~

~~Describe a graph by identifying intercepts, slopes, maximum, minimum, increasing, decreasing, parallel, and perpendicular.~~

~~Use families of curves to describe the effect of changing coefficients of an equation.~~

~~12.6.2 By the end of twelfth grade, students will solve problems involving equations and inequalities.~~

~~Example indicator:~~

~~Use appropriate methods to solve linear and quadratic equations.~~

~~12.6.3 By the end of twelfth grade, students will solve problems involving systems of two equations, and systems of two or more inequalities.~~

~~Example indicator:~~

~~Solve systems by graphing, substitution, elimination, or matrices.~~

~~12.6.4 By the end of twelfth grade, students will solve problems using patterns and functions.~~

~~Example indicators:~~

~~Apply direct and indirect variations.~~

~~Recognize the properties of families of functions.~~

~~Recognize patterns of exponential growth and decay and their significance to real-life situations.~~

~~Represent a problem in multiple formats (words, tables, graphs, and symbols).~~

The State Board of Education adopted these Language Arts Standards on December 11, 2008, pursuant to the requirements of 79-760.01 R.R.S.

GENERAL INFORMATION

Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.

Scope and Application of this Appendix. This Appendix provides language arts (reading, writing, speaking and listening, and multiple literacies) state academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 R.R.S.), and the requirements for this Chapter.

K-12 Comprehensive Content Standards. The comprehensive content standards identify broad K-12 learning standards related to reading, writing, speaking and listening, and multiple literacies.

Grade Level Standards. The grade level standards represent the critical content for students to know and be able to do by the end of a specific grade level.

Curricular Indicators. Following each grade level standard is a set of curricular indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the grade level standards are repeated in whole or in part at different grade levels, the curricular indicators show progression and increased expectations throughout the grades. Although the curricular indicators are not an exhaustive list of what can be done to meet the grade level standards, they are representative of the content for each standard at each grade level.

Nebraska Language Arts Standards – Kindergarten

LA 0.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 0.1.1 Knowledge of Print: Students will demonstrate knowledge of the concepts of print.

LA 0.1.1.a Identify variations in print (e.g., font, size, bold, italic, upper/lower case)

LA 0.1.1.b Explain that the purpose of print is to carry information (e.g., environmental print, names)

LA 0.1.1.c Demonstrate voice to print match (e.g., student points to print as someone reads)

LA 01.1.d Demonstrate understanding that words are made up of letters

LA 01.1.e Identify parts of a book (e.g., cover, pages, title, author, illustrator)

LA 01.1.f Demonstrate knowledge that print reads from left to right and top to bottom

LA 01.1.g Identify punctuation (e.g., period, exclamation mark, question mark)

LA 0.1.2 Phonological Awareness: Students will demonstrate phonological awareness through oral activities.

LA 0.1.2.a Segment spoken sentences into words

LA 0.1.2.b Identify and produce oral rhymes

LA 0.1.2.c Blend and segment syllable sounds in spoken words (e.g., cupcake, birthday)

LA 0.1.2.d Blend spoken onsets and ~~rimes~~ rhymes to form simple words (e.g., v-an, gr-ab)

LA 0.1.2.e Segment onsets and ~~rimes~~ rhymes orally (e.g., v-an, gr-ab)

LA 0.1.2.f Blend phonemes in spoken words (e.g., beginning, middle, and ending sounds; recognize same sounds in different words)

LA 0.1.2.g Segment phonemes in spoken words (e.g., beginning, middle, and ending sounds; recognize same sounds in different words)

LA 0.1.3 Word Analysis**: Students will acquire phonetic knowledge as they learn to read, write, and spell grade level text.**

LA 0.1.3.a Identify upper and lower case letters

LA 0.1.b Match consonant and short vowel sounds to appropriate letters (e.g., matching letters to sounds while writing)

LA 0.1.c Read at least 25 basic high frequency words from a commonly used list

LA 0.1.d Use phonetic knowledge to write (e.g., approximated spelling)

LA 0.1.e Recognize known words in connected text (e.g., big book, environmental print, class list, labels)

LA 0.1.f Identify similarities and differences in words (e.g., word endings, onset and ~~rime~~ rhyme) when spoken or written.

LA 0.1.4 Fluency**: Students will develop accuracy, phrasing, and expression during grade level reading experiences.**

LA 0.1.4.a Imitate adult's expression, reflecting meaning with voice (e.g., pause, stress, phrasing)

LA 0.1.4.b Imitate repeating language patterns during reading (e.g., modeled reading, choral reading)

LA 0.1.4.c Read familiar text with others, maintaining an appropriate pace

LA 0.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 0.1.5.a Examine word structure elements and word patterns to determine meaning (e.g., plural forms, simple compounds)

LA 0.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 0.1.5.c Develop awareness of context clues (e.g., predictions, word and sentence clues) and text features (e.g., titles, bold print, illustrations) that may be used to infer the meaning of unknown words

LA 0.1.5.d Identify and sort pictures of objects into conceptual categories (e.g., colors, shapes)

LA 0.1.5.e Determine word meaning using reference materials and classroom resources (e.g., word wall, picture dictionary, peer(s), teacher)

LA 0.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 0.1.6.a Explain that the author and illustrator create books

LA 0.1.6.b Identify elements of the story including setting, character, and events

LA 0.1.6.c Retell information from narrative text including characters, setting, and events

LA 0.1.6.d Indicate that authors use words in different ways (e.g., rhythm, repeating line, simile, alliteration, onomatopoeia, sensory details)

LA 0.1.6.e Retell main ideas from informational text

LA 0.1.6.f Identify text features in informational text (e.g., titles, bold print, illustrations)

LA 0.1.6.g Demonstrate a basic knowledge of familiar narrative and informational text genres (e.g., fairy tales, nursery rhymes, picture books, how-to-books)

LA 0.1.6.h Make connections between characters or events in narrative and informational text, to own life or other cultures

LA 0.1.6.i Generate and/or answer clarifying questions (who, what, when, where, why, how), supporting answers using prior knowledge and information from the text

LA 0.1.6.j Identify different purposes for reading (e.g., information, pleasure)

LA 0.1.6.k Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 0.1.6.l Make predictions about a text using prior knowledge, pictures, and titles

LA 0.1.6.m Respond to text verbally, in writing, or artistically

LA 0.2 Students will learn and apply writing skills and strategies to communicate.

LA 0.2.1 Writing Process: Students will use writing to communicate.

LA 0.2.1.a Demonstrate that writing communicates thoughts and ideas

LA 0.2.1.b Apply prewriting activities to generate ideas (e.g., brainstorming, discussions, drawing, literature, personal/classroom experiences)

LA 0.2.1.c Generate representations of ideas (e.g., pictures, labels, letter strings, words, simple sentences); select and organize ideas relevant to a topic

LA 0.2.1.d Revise writing by adding details

LA 0.2.1.e Edit writing for format and conventions (e.g., correct spelling of frequently used words, basic punctuation such as period, exclamation mark, question mark)

LA 0.2.1. f Publish a legible document (e.g., handwritten)

LA 0.2.1. g Print all uppercase and lowercase letters, attending to the form of the letters

LA 0.2.2 Writing Genres: Student will write for a variety of purposes and audiences in multiple genres.

LA 0.2.2.a Write for a specific purpose (e.g., lists, alphabet book, story with picture, label objects in classroom)

LA 0.2.2.b Write to known audience or specific reader (e.g., letter to a familiar person, note to teacher, thank you note)

LA 0.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 0.3.1 Speaking Skills: Students will develop and demonstrate speaking skills to communicate key ideas in a variety of situations.

LA 0.3.1.a Communicate ideas orally in daily classroom activities and routines

LA 0.3.2 Listening Skills: Students will develop and demonstrate active listening skills across a variety of situations.

LA 0.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., stories, songs, conversations, student sharing, teacher presentation)

LA 0.3.2.b Complete a task after listening for information

LA 0.3.2.c Listen and retell main ideas of information

LA 0.3.3 Reciprocal Communication: Students will demonstrate reciprocal communication skills.

LA 0.3.3.a Demonstrate awareness of and sensitivity to the use of words (e.g., helpful and hurtful words)

LA 0.3.3.b Demonstrate conversation strategies (e.g., face the speaker, listen while others are talking, take turns talking, eye contact)

LA 0.3.3.c Participate in learning situations (e.g., small groups, show and share, cooperative problem solving, play)

LA 0.4 Students will identify, locate, and evaluate information.

LA 0.4.1 Multiple Literacies: Students will gain knowledge, identify main idea, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 0.4.1.a Identify resources to find information (e.g., print, electronic)

LA 0.4.1.b Demonstrate understanding of authorship of print and online resources

LA 0.4.1.c Demonstrate awareness of safe behaviors when communicating and interacting with others (e.g. rules for internet use)

LA 0.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 0.4.1.e Gather and share information and opinions as a result of communication with others (e.g., computer applications, teacher controlled internet downloads, multimedia presentations)

Nebraska Language Arts Standards - Grade 1

LA 1.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 1.1.1 Knowledge of Print: Students will demonstrate knowledge of the concepts of print.

LA 1.1.1.a Identify variations in print (e.g., font, size, bold, italic, upper/lower case)

LA 1.1.1.b Explain that the purpose of print is to carry information

LA 1.1.1.c Demonstrate voice to print match (e.g., student points to words while reading)

LA 1.1.1.d Demonstrate understanding that words are made up of letters

LA 1.1.1.e Identify parts of a book (e.g., pages, title, title page, author, illustrator, table of contents)

LA 1.1.1.f Demonstrate knowledge that print reads from left to right and top to bottom

LA 1.1.1.g Identify punctuation (e.g., period, quotation marks, exclamation mark, question mark)

LA 1.1.2 Phonological Awareness: Students will demonstrate phonological awareness through oral activities.

LA 1.1.2.a Segment spoken sentences into words

LA 1.1.2.b Identify and produce oral rhymes

LA 1.1.2.c Blend and segment syllable sounds in spoken words

LA 1.1.2.d Blend and segment onset and ~~rime~~ rhymes orally (e.g., v-an, gr-ab)

LA 1.1.2.e Manipulate phonemes orally (e.g., blend, segment)

LA 1.1.2.f Manipulate phonemes to create new words, pseudo or real (e.g., “What is hand without the /h/?” –and; “The word is cat. Change the /t/ to /n/. What’s the new word?” –can)

LA 1.1.3 Word Analysis: Students will use phonetic analysis to read, write, and spell grade level text.

LA 1.1.3.a Read, write, and spell words by applying common letter-sound correspondences (e.g., single letter consonants, consonant blends, long and short vowels, digraphs)

LA 1.1.3.b Use common word patterns to read, write, and spell new words (e.g., r-controlled letter-sound associations, endings [-s, -ing, -ed], consonant blends)

LA 1.1.3.c Read at least 100 high-frequency words from a commonly used list

LA 1.1.3.d Spell single syllable phonetically regular words

LA 1.1.3.e Blend sounds to read words

LA 1.1.3.f Read words in connected text

LA 1.1.3.g Use word structure to read text including onsets and ~~rimes~~ rhymes, contractions, and common compound words (e.g., football, popcorn, daydream)

LA 1.1.3.h Monitor the accuracy of decoding

LA 1.1.4 Fluency: Students will develop accuracy, phrasing, and expression while reading grade level text.

LA 1.1.4.a Read in meaningful phrases that sound like natural language to support comprehension

LA 1.1.4.b Use a core of high-frequency words and phrases

LA 1.1.4.c Use repeating language patterns when reading

LA 1.1.4.d Use voice intonation (e.g., volume, tone, emphasis) to influence the meaning of text (e.g., character voices, excitement, sadness)

LA 1.1.4.e Read along with others and independently practice keeping an appropriate pace for a text

LA 1.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 1.1.5.a Use word structure elements, known words, and word patterns to determine meaning (e.g., plural forms, simple compounds, base words)

LA 1.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 1.1.5.c Demonstrate understanding that context clues (e.g., word and sentence clues, re-reading) and text features (e.g., photos, illustrations, titles, bold print) exist and may be used to help infer the meaning of unknown words

LA 1.1.5.d Define, sort, and categorize words into conceptual categories (e.g., opposites, living things, synonyms)

LA 1.1.5.e Determine word meaning using reference materials and classroom resources (e.g., word wall, picture dictionary, peer(s), teacher)

LA 1.1.5.f Locate words in reference materials (e.g., alphabetical order)

LA 1.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 1.1.6.a Identify author, illustrator, and author's purpose (e.g., explain, entertain, inform)

LA 1.1.6.b Identify elements of narrative text (e.g., characters, setting, events)

LA 1.1.6.c Retell information from narrative text including characters, setting, and events

LA 1.1.6.d Identify the ways authors use words (e.g., rhythm, repeating line, simile, alliteration, onomatopoeia)

LA1.1.6.e Retell main ideas from informational text

LA 1.1.6.f Identify the characteristics of organizational patterns found in informational text (e.g., sequence, compare/contrast)

LA 1.1.6.g Identify text features in informational text (e.g., titles, bold print, italic, illustrations, captions)

LA 1.1.6.h Identify the basic characteristics of familiar narrative and informational text genres (e.g., fairy tales, nursery rhymes, picture books, how-to-books)

LA 1.1.6.i Make connections between characters or events in narrative and informational text, to own life or other cultures

LA 1.1.6.j Generate and/or answer clarifying questions (who, what, when, where, why, how), supporting answers using prior knowledge and information from the text

LA 1.1.6.k Identify and explain purpose for reading (e.g., information, pleasure)

LA 1.1.6.l Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 1.1.6.m Self-monitor comprehension by applying appropriate strategies to self-correct when errors detract from meaning

LA 1.1.6.n Confirm predictions about what will happen next in a text by using meaning clues (e.g., pictures, titles, cover, story sequence, key words)

LA 1.1.6.o Respond to text verbally, in writing, or artistically

LA 1.2 Students will learn and apply writing skills and strategies to communicate.

LA 1.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 1.2.1.a Demonstrate that writing communicates thoughts and ideas

LA 1.2.1.b Apply prewriting activities and inquiry tools to generate ideas (e.g., draw, brainstorm, graphic organizer, writing tools)

LA 1.2.1.c Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing complete sentences of varying length and complexity (e.g., dictation, labeling, simple sentences)

LA 1.2.1.d Revise writing by adding details (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 1.2.1.e Provide feedback to other writers

LA 1.2.1.f Edit writing for format and conventions (e.g., correct spelling of frequently used words, capitalization, grammar, basic punctuation such as exclamation mark.

LA 1.2.1.g Publish a legible document (e.g., handwritten)

LA 1.2.1.h Write with appropriate spaces between letters, words, and sentences.

LA 1.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 1.2.2.a Write for a specific purpose (e.g., story with pictures, factual book, alphabet book, poem, letter)

LA 1.2.2.b Write to known audience or specific reader (e.g., letter to familiar person)

LA 1.2.2.c Write books and short pieces of writing that tell a story and/or provide information to readers about a topic

LA 1.2.2.d Write stories with a beginning, middle, and end

LA 1.2.2.e Compare models and examples (own and others) of various genres create similar pieces

LA 1.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 1.3.1 Speaking Skills: Students will develop and demonstrate speaking skills to communicate key ideas in a variety of situations.

LA 1.3.1.a Communicate ideas orally in a manner appropriate for the purpose and setting (e.g., language, word choice, sequence, relevance)

LA 1.3.1.b Communicate orally in daily classroom activities and routines

LA 1.3.2 Listening Skills: Students will develop and demonstrate active listening skills across a variety of situations.

LA 1.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., stories, songs, conversations, student sharing, teacher presentation)

LA 1.3.2.b Use information in order to complete a task (e.g., following one/two step directions, responding to questions)

LA 1.3.2.c Listen and retell specific details of information

LA 1.3.2.d Listen to and ask questions about thoughts, ideas, and information being communicated

LA 1.3.3 Reciprocal Communication: Students will develop reciprocal communication skills.

LA 1.3.3.a Demonstrate awareness of and sensitivity to the use of words (e.g., helpful and hurtful words)

LA 1.3.3.b Apply conversation strategies (e.g., face the speaker, listen while others are talking, take turns talking, eye contact)

LA 1.3.3.c Participate in learning situations (e.g. small groups, show and share, cooperative problem solving, play)

LA 1.4 Students will identify, locate, and evaluate information.

LA 1.4.1 Multiple Literacies: Students will research, summarize, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 1.4.1.a Identify resources to find information (e.g., print, electronic)

LA 1.4.1.b Demonstrate understanding of authorship of print and online resources

LA 1.4.1.c Demonstrate awareness of safe behaviors when communicating and interacting with others (e.g., safe information to share online)

LA 1.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning, e-pals)

LA 1.4.1.e Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

Nebraska Language Arts Standards - Grade 2

LA 2.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 2.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 2.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 2.1.3 Word Analysis: Students will use phonetic analysis to read, write, and spell grade level text.

LA 2.1.3.a Use knowledge of letter/sound correspondence and spelling patterns to read, write, and spell (e.g., consonant and vowel digraphs, diphthongs)

LA 2.1.3.b Read, write, and spell sight words

LA 2.1.3.c Blend sounds to form words

LA 2.1.3.d Read words in connected text

LA 2.1.3.e Use word structure to read text (e.g., onset and ~~rime~~ rhyme, prefixes/suffixes, compound words, contractions, syllabication, derivation)

LA 2.1.3.f Monitor the accuracy of decoding

LA 2.1.4 Fluency: Students will develop accuracy, phrasing, and expression while reading grade level text.

LA 2.1.4.a Read phrases, clauses, and sentences that sound like natural language to support comprehension

LA 2.1.4.b Read high-frequency words and phrases accurately and automatically

LA 2.1.4.c Vary voice intonation (e.g., volume, tone) to reflect meaning of text

LA 2.1.4.d Use appropriate pace while reading to gain and enhance the meaning of text

LA 2.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 2.1.5.a Use word structure elements, known words, and word patterns to determine meaning (e.g., contractions, plurals, possessives, basic parts of speech, compounds, syllables)

LA 2.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 2.1.5.c Identify and use context clues (e.g., word and sentence clues, re-reading) and text features (e.g., illustrations, graphs, titles, bold print) to help infer meaning of unknown words

LA 2.1.5.d Identify semantic relationships (e.g., patterns and categories, synonyms, antonyms, multiple meanings)

LA 2.1.5.e Identify meaning using print and digital reference materials (e.g., dictionary, glossary)

LA 2.1.5.f Locate words in reference materials (e.g., alphabetical order, guide words)

LA 2.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 2.1.6.a Identify author's purpose(s) (e.g., explain, entertain, inform, persuade) to support text comprehension

LA 2.1.6.b Identify elements of narrative text (e.g., characters, setting, plot)

LA 2.1.6.c Retell information from narrative text including characters, setting, and plot

LA 2.1.6.d Explain the ways authors use words (e.g., rhythm, repeating line, simile, alliteration, onomatopoeia)

LA 2.1.6.e Retell and summarize the main idea from informational text

LA 2.1.6.f Identify organizational patterns found in informational text (e.g., sequence, description, compare/contrast)

LA 2.1.6.g Use text features to locate information and gain meaning from a text (e.g., table of contents, maps, charts, illustrations, titles, bold print, captions)

LA 2.1.6.h Identify the basic characteristics of familiar narrative and informational text genres (e.g., fairy tales, nursery rhymes, picture books, how-to books)

LA 2.1.6.i Compare and contrast connections between characters or events in narrative or informational text, to own life or other cultures

LA 2.1.6.j Generate and/or answer literal, inferential, and critical questions, supporting answers using prior knowledge and literal and inferential information from the text

LA 2.1.6.k Identify and explain purpose for reading (e.g., information, pleasure, understanding)

LA 2.1.6.l Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 2.1.6.m Self-monitor comprehension by applying appropriate strategies to self-correct when errors detract from meaning

LA 2.1.6.n Make and confirm/modify predictions before, during, and after reading (e.g., illustrations, personal experience, events, character traits)

LA 2.1.6.o Respond to text verbally, in writing, or artistically

LA 2.2 Students will learn and apply writing skills and strategies to communicate.

LA 2.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 2.2.1.a Use prewriting activities and inquiry tools to generate ideas (e.g., brainstorm, map, free write, graphic organizer)

LA 2.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing complete sentences of varying length, and complexity, and type (e.g., dictation, labeling, simple sentences declarative, interrogative, exclamatory)
- Developing a coherent beginning and end

LA 2.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 2.2.1.d Provide oral feedback to other writers; utilize others' feedback to improve own writing

LA 2.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, basic punctuation)

LA 2.2.1.f Publish a legible document (e.g., handwritten or electronic)

LA 2.2.1.g Print legibly (e.g., letter formation, letter size, spacing, alignment)

LA 2.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 2.2.2.a Write for a specific purpose (e.g., story with pictures, factual book, alphabet book, poem, letter)

LA 2.2.2.b Write to known audience or specific reader (e.g. letter to familiar person)

LA 2.2.2.c Write considering typical characteristics of a selected genre (e.g., variety of poems, friendly letter, how-to books)

LA 2.2.2.d Use Apply an organizational structure that includes a central idea or focus

LA 2.2.2.e Compare models and examples (own and others) of various genres to create a similar piece

LA 2.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 2.3.1 Speaking Skills: Students will develop and demonstrate speaking skills to communicate key ideas in a variety of situations.

LA 2.3.1.a Communicate ideas orally in a manner appropriate for the purpose and setting (e.g., language, word choice, sequence, relevance)

LA 2.3.1.b Demonstrate speaking techniques for a variety of purposes and situations

LA 2.3.2 Listening Skills: Students will develop and demonstrate active listening skills across a variety of situations.

LA 2.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., electronic, one-to-one, small/large group, teacher presentation)

LA 2.3.2.b Use information in order to complete a task (e.g., follow multi-step directions, responding to questions)

LA 2.3.2.c Listen and retell specific details of information heard

LA 2.3.2.d Listen to and ask questions about thoughts, ideas, and information being communicated

LA 2.3.3 Reciprocal Communication: Students will develop reciprocal communication skills.

LA 2.3.3.a Demonstrate awareness of and sensitivity to the use of words (e.g., helpful and hurtful words, stereotypes, multiple meanings of words)

LA 2.3.3.b Apply conversation strategies (e.g., face the speaker, listen while others are talking, take turns talking, eye contact, stay on topic, non-verbal cues)

LA 2.3.3.c Participate actively with others in learning situations by contributing questions, information, opinions, and ideas (e.g., book share, literature circle, field trip share, cooperative problem solving)

LA 2.4 Students will identify, locate, and evaluate information.

LA 2.4.1 Multiple Literacies: Students will research, summarize, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 2.4.1.a Use resources to answer guiding questions (e.g., print, electronic)

LA 2.4.1.b Discuss ethical and legal use of information

LA 2.4.1.c Practice safe behaviors when communicating and interacting with others (e.g., safe information to share online)

LA 2.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning, e-pals)

LA 2.4.1.e Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 2.4.1.f Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 3

LA 3.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 3.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 3.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 3.1.3 Word Analysis: Students will use knowledge of phonetic and structural analysis to read, write, and spell grade level text.

LA 3.1.3.a Use advanced sound/spelling patterns (e.g., special vowel spellings [ough, ion], multi-syllable words) to read, write, and spell

LA 3.1.3.b Use word structure to read text (e.g., prefixes/suffixes, compound words, contractions, syllabication, derivation)

LA 3.1.4 Fluency: Students will develop accuracy, phrasing, and expression while reading grade level text.

LA 3.1.4.a Read phrases, clauses, and sentences that sound like natural language to support comprehension

LA 3.1.4.b Read words and phrases accurately and automatically

LA 3.1.4.c Demonstrate conversational tone (e.g., volume, emphasis) and use of punctuation to reflect meaning of text

LA 3.1.4.d Demonstrate varied pace while reading orally to enhance the meaning of text through pause, stress, and phrasing

LA 3.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 3.1.5.a Apply word structure elements, known words, and word patterns to determine meaning (e.g., contractions, plurals, possessives, basic parts of speech, compounds, syllables)

LA 3.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 3.1.5.c Apply context clues (e.g., word, phrase, and sentence clues, re-reading) and text features (e.g., table of contents, maps, charts, font/format styles) to help infer meaning of unknown words

LA 3.1.5.d Identify semantic relationships (e.g., patterns and categories, synonyms, antonyms, homonyms, multiple meanings)

LA 3.1.5.e Identify meaning using print and digital reference materials (e.g., dictionary, glossary)

LA 3.1.5.f Locate words in reference materials (e.g., alphabetical order, guide words)

LA 3.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 3.1.6.a Identify author's purpose(s) (e.g. explain, entertain, inform, persuade) to support text comprehension

LA 3.1.6.b Identify elements of narrative text (e.g., characters, setting, plot, point of view)

LA 3.1.6.c Retell and summarize narrative text including characters, setting, and plot with supporting details

LA 3.1.6.d Identify literary devices and explain the ways in which language is used (e.g., simile, alliteration, onomatopoeia, imagery, rhythm)

LA 3.1.6.e Retell and summarize the main idea from informational text using supporting details

LA 3.1.6.f Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast)

LA 3.1.6.g Apply knowledge of text features to locate information and gain meaning from a text (e.g., table of contents, maps, charts, illustrations, headings, captions, font/format styles)

LA 3.1.6.h Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)

LA 3.1.6.i Use narrative or informational text to develop a multi-cultural perspective

LA 3.1.6.j Generate and/or answer literal, inferential, and critical questions, supporting answers using prior knowledge and literal and inferential information from the text

LA 3.1.6.k Identify and explain purpose for reading (e.g., information, pleasure, understanding)

LA 3.1.6.l Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 3.1.6.m Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct

LA 3.1.6.n Make and confirm/modify predictions before, during, and after reading (e.g., captions, headings, character traits, personal experience)

LA 3.1.6.o Use examples and details in a text to make inferences about a story or situation

LA 3.1.6.p Respond to text verbally, in writing, or artistically

LA 3.2 Students will learn and apply writing skills and strategies to communicate.

LA 3.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 3.2.1.a Use prewriting activities and inquiry tools to generate and organize information (e.g., sketch, brainstorm, web, free write, graphic organizer, storyboarding, and word processing tools)

LA 3.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing paragraphs with grammatically correct sentences of varying length, and complexity, and type (e.g., declarative, interrogative, and exclamatory)
- Developing paragraphs with topic sentences and supporting facts and details

LA 3.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 3.2.1.d Provide oral and/or written feedback to other writers; utilize others' feedback to improve own writing

LA 3.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 3.2.1.f Publish a legible document (e.g., handwritten or electronic)

LA 3.2.1.g Write legibly in cursive

LA 3.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 3.2.2.a Write in a selected genre considering purpose (e.g., inform, entertain, persuade, instruct)

LA 3.2.2.b Write considering audience and what the reader needs to know

LA 3.2.2.c Write considering typical characteristics of a selected genre (e.g., variety of poems, friendly letter, how-to books)

LA 3.2.2.d Apply an organizational structure appropriate to the task (e.g., logical, sequential order)

LA 3.2.2.e Analyze models and examples (own and others) of various genres to create a similar piece

LA 3.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 3.3.1 Speaking Skills: Students will develop and apply speaking skills to communicate key ideas in a variety of situations.

LA 3.3.1.a Communicate ideas and information in a clear and concise manner appropriate for the purpose and setting (e.g., language, word choice, sequence, relevance)

LA 3.3.1.b Demonstrate speaking techniques for a variety of purposes and situations

LA 3.3.1.c Utilize available media to enhance communication (e.g., poster, overhead)

LA 3.3.2 Listening Skills: Students will develop and apply active listening skills across a variety of situations.

LA 3.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., electronic, one-to-one, small/large group, presentation)

LA 3.3.2.b Use information in order to complete a task

LA 3.3.2.c Listen, ask questions to clarify, and take notes to ensure accuracy of information

LA 3.3.2.d Listen to and summarize thoughts, ideas, and information being communicated

LA 3.3.3 Reciprocal Communication: Students will develop and apply reciprocal communication skills.

LA 3.3.3.a Demonstrate awareness of and sensitivity to the use of words (e.g., stereotypes, multiple meanings of words)

LA 3.3.3.b Apply conversation strategies (e.g., face the speaker, listen while others are talking, gain the floor, take turns talking, eye contact, tone, stay on topic, non-verbal cues)

LA 3.3.3.c Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 3.4 Students will identify, locate, and evaluate information.

LA 3.4.1 Multiple Literacies: Students will research, analyze, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 3.4.1.a Select and use multiple resources to answer guiding questions (e.g., print, electronic)

LA 3.4.1.b Discuss ethical and legal use of information

LA 3.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilizing appropriate sites and materials)

LA 3.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning, e-pals)

LA 3.4.1.e Identify bias and commercialism (e.g., product placement, advertising)

LA 3.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 3.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 4

LA 4.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 4.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 4.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 4.1.3 Word Analysis: Students will use knowledge of phonetic and structural analysis to read, write, and spell grade level text.

LA 4.1.3.a Use advanced sound/spelling patterns (e.g., vowel variance, multi-syllable words) to read, write, and spell

LA 4.1.3.b Use word structure to read text (e.g., prefixes/suffixes, compound words, contractions, syllabication, derivation)

LA 4.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 4.1.4.a Read phrases, clauses, and sentences that sound like natural language to support comprehension

LA 4.1.4.b Read words and phrases accurately and automatically

LA 4.1.4.c Demonstrate conversational tone (e.g., volume, pitch) and use of punctuation to reflect meaning of text

LA 4.1.4.d Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 4.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 4.1.5.a Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., parts of speech, plurals, possessives, suffixes, prefixes, base and root words)

LA 4.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 4.1.5.c Apply context clues (e.g., word, phrase, sentence, and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions) to infer meaning of unknown words

LA 4.1.5.d Identify semantic relationships (e.g., patterns and categories, homographs, homophones, synonyms, antonyms, multiple meanings)

LA 4.1.5.e Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)

LA 4.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 4.1.6.a Identify author's purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author's perspective (e.g., beliefs, assumptions, biases) influences text

LA 4.1.6.b Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)

LA 4.1.6.c Summarize narrative text including characters, setting, and plot with supporting details

LA 4.1.6.d Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)

LA 4.1.6.e Retell and summarize the main idea from informational text using supporting details

LA 4.1.6.f Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)

LA 4.1.6.g Apply knowledge of text features to locate information and gain meaning from a text (e.g., glossary, maps, charts, tables, graphs, illustrations, headings, subheadings, captions, font/format styles)

LA 4.1.6.h Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)

LA 4.1.6.i Use narrative or informational text to develop a multi-cultural perspective

LA 4.1.6.j Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text

LA 4.1.6.k Identify and explain purpose for reading (e.g., information, pleasure, understanding)

LA 4.1.6.l Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 4.1.6.m Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct

LA 4.1.6.n Make and confirm/modify predictions before, during, and after reading (e.g., title, topic sentences, font, key words, foreshadowing clues)

LA 4.1.6.o Use examples and details in a text to make inferences about a story or situation

LA 4.1.6.p Respond to text verbally, in writing, or artistically

LA 4.2 Students will learn and apply writing skills and strategies to communicate.

LA 4.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 4.2.1.a Use prewriting activities and inquiry tools to generate and organize information, guide writing and answer questions (e.g., sketch, brainstorm, diagram, free write, graphic organizer, digital idea mapping tool, word processing tools, multimedia)

LA 4.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing paragraphs with grammatically correct sentences of varying length, and complexity, and type (e.g., declarative, interrogative, exclamatory, and imperative)
- Developing introductory and concluding paragraphs

LA 4.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 4.2.1.d Provide oral, written, and/or electronic feedback to other writers; utilize others' feedback to improve own writing

LA 4.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 4.2.1.f Publish a legible document (e.g., handwritten or electronic)

LA 4.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 4.2.2.a Write in a selected genre considering purpose (e.g., inform, entertain, persuade, instruct)

LA 4.2.2.b Write considering audience and what the reader needs to know; select words and format with audience in mind

LA 4.2.2.c Write considering tone/voice and typical characteristics of a selected genre (e.g., memoir, biography, report, formal letter)

LA 4.2.2.d Select and apply an organizational structure appropriate to the task (e.g., logical, sequential order)

LA 4.2.2.e Analyze models and examples (own and others) of various genres to create a similar piece

LA 4.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 4.3.1 Speaking Skills: Students will develop and apply speaking skills to communicate key ideas in a variety of situations.

LA 4.3.1.a Communicate ideas and information in a clear and concise manner appropriate to the purpose and setting

LA 4.3.1.b Demonstrate speaking techniques for a variety of purposes and situations

LA 4.3.1.c Utilize available media to enhance communication (e.g., presentation software, poster)

LA 4.3.2 Listening Skills: Students will develop and apply active listening skills across a variety of situations.

LA 4.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., electronic, one-to-one, small/large group, presentation)

LA 4.3.2.b Listen, ask questions to clarify, and take notes to ensure accuracy of information

LA 4.3.2.c Listen to, summarize, and explain thoughts, ideas, and information being communicated

LA 4.3.3 Reciprocal Communication: Students will develop and apply reciprocal communication skills.

LA 4.3.3.a Demonstrate sensitivity to the use of words (e.g., stereotypes, multiple meanings of words)

LA 4.3.3.b Apply conversation strategies (e.g., face the speaker, listen while others are talking, gain the floor, take turns talking, eye contact, tone, stay on topic, non-verbal cues)

LA 4.3.3.c Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 4.4 Students will identify, locate, and evaluate information.

LA 4.4.1 Multiple Literacies: Students will research, synthesize, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 4.4.1.a Select and use multiple resources to answer guiding questions (e.g., print, subscription databases, web resources)

LA 4.4.1.b Demonstrate ethical and legal use of information by citing sources using a prescribed format (e.g., creating a simplified citation of information used)

LA 4.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilizing appropriate sites and materials, respecting diverse perspectives)

LA 4.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning, e-pals)

LA 4.4.1.e Identify bias and commercialism (e.g., product placement, advertising)

LA 4.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 4.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 5

LA 5.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 5.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 5.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 5.1.3 Word Analysis: Students will use knowledge of phonetic and structural analysis to read, write, and spell grade level text.

LA 5.1.3.a Use knowledge of phonetic and structural analysis (e.g., Anglo-Saxon common roots and affixes, multiple syllable words)

LA 5.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 5.1.4.a Read phrases, clauses, and sentences that sound like natural language to support comprehension

LA 5.1.4.b Read words and phrases accurately and automatically

LA 5.1.4.c Recognize and practice elements of oral prosodic reading to reflect meaning of text (e.g., poem read slowly, conversational narrative, emphasis on key points of information)

LA 5.1.4.d Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 5.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 5.1.5.a Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., affixes, abbreviations, parts of speech, word origins)

LA 5.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 5.1.5.c Select and apply knowledge of context clues (e.g., word, phrase, sentence, and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions, maps) to determine meaning of unknown words in a variety of text structures

LA 5.1.5.d Identify semantic relationships (e.g., multiple meanings, metaphors, similes, idioms, analogies)

LA 5.1.5.e Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)

LA 5.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 5.1.6.a Identify author's purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author's perspective (e.g., beliefs, assumptions, biases) influences text

LA 5.1.6.b Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)

LA 5.1.6.c Summarize narrative text including characters, setting, plot, and theme with supporting details

LA 5.1.6.d Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)

LA 5.1.6.e Summarize and analyze the main idea from informational text using supporting details

LA 5.1.6.f Understand and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)

LA 5.1.6.g Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)

LA 5.1.6.h Describe the defining characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)

LA 5.1.6.i Recognize the social, historical, cultural, and biographical influences in a variety of genres

LA 5.1.6.j Use narrative and informational text to develop a national and global multi-cultural perspective

LA 5.1.6.k Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources

LA 5.1.6.l Select text for a particular purpose (e.g., information, pleasure, answer a specific question)

LA 5.1.6.m Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 5.1.6.n Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct

LA 5.1.6.o Use examples and details to make inferences or logical predictions while previewing and reading text

LA 5.1.6.p Respond to text verbally, in writing, or artistically

LA 5.2 Students will learn and apply writing skills and strategies to communicate.

LA 5.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 5.2.1.a Use prewriting activities and inquiry tools to generate and organize information, guide writing, and answer questions (e.g., sketch, brainstorm, map, outline, diagram, free write, graphic organizer, digital idea mapping tool)

LA 5.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing paragraphs with simple and compound sentences of varying length, and complexity, and type (e.g., declarative, interrogative, exclamatory, and imperative)
- Developing details and transitional phrases that link one paragraph to another

LA 5.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 5.2.1.d Provide oral, written, and/or electronic feedback to other writers; utilize others' feedback to improve own writing

LA 5.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 5.2.1.f Publish a legible document (e.g. report, digital story) applying formatting techniques (e.g., indenting paragraphs, titles)

LA 5.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 5.2.2.a Write in a selected genre considering purpose (e.g., inform, entertain, persuade, instruct)

LA 5.2.2.b Write to a specified audience considering interests, background knowledge, and expectations (e.g., known or unknown individual, business, organization)

LA 5.2.2.c Write considering tone/voice and typical characteristics of a selected genre (e.g., memoir, biography, report, persuasive letter, poem, essay)

LA 5.2.2.d Select and apply an organizational structure appropriate to the task (e.g., logical, sequential order, description)

LA 5.2.2.e Analyze models and examples (own and others') of various genres to create a similar piece

LA 5.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 5.3.1 Speaking Skills: Students will develop and apply speaking skills to communicate key ideas in a variety of situations.

LA 5.3.1.a Communicate ideas and information in a manner appropriate for the purpose and setting

LA 5.3.1.b Demonstrate speaking techniques for a variety of purposes and situations

LA 5.3.1.c Utilize available media to enhance communication (e.g., projection system, presentation software)

LA 5.3.2 Listening Skills: Students will develop and apply active listening skills across a variety of situations.

LA 5.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., video, audio, distance, one-to-one, group)

LA 5.3.2.b Listen and ask questions to clarify, and take notes to ensure accuracy of information

LA 5.3.2.c Listen to, summarize and interpret message and purpose of information being communicated

LA 5.3.3 Reciprocal Communication: Students will develop and apply reciprocal communication skills.

LA 5.3.3.a Demonstrate sensitivity to the use of words in general as well as to a particular audience (e.g., stereotypes, connotations, subtleties of language)

LA 5.3.3.b Apply conversation strategies (e.g., face the speaker, listen while others are talking, gain the floor, eye contact, tone, stay on topic, non-verbal cues)

LA 5.3.3.c Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 5.4 Students will identify, locate, and evaluate information.

LA 5.4.1 Multiple Literacies: Students will research, synthesize, evaluate and communicate information in a variety of media and formats (textual, visual, and digital).

LA 5.4.1.a Select and use multiple resources to generate and answer questions (e.g., print, subscription databases, web resources)

LA 5.4.1.b Demonstrate ethical and legal use of information by citing sources using a prescribed format (e.g., creating a simplified citation of information used)

LA 5.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilizing appropriate sites and materials, respecting diverse perspectives)

LA 5.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 5.4.1.e Evaluate the message for bias and commercialism (e.g., product placement, advertising, body image)

LA 5.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 5.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 6

LA 6.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 6.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 6.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 6.1.3 Word Analysis: Students will use knowledge of phonetic and structural analysis to read, write, and spell grade level text.

LA 6.1.3.a Use knowledge of phonetic and structural analysis (e.g., Anglo-Saxon, Greek, and Latin roots, foreign words frequently used in English, bases, affixes)

LA 6.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 6.1.4.a Apply elements of oral prosodic reading to reflect the meaning of text (e.g., poem read slowly, conversational narrative, emphasis on key points of information)

LA 6.1.4.b Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 6.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 6.1.5.a Determine the meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies

LA 6.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations

LA 6.1.5.c Select and apply knowledge of context clues (e.g., word, phrase, sentence, and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, charts) to determine meaning of unknown words in a variety of text structures

LA 6.1.5.d Identify semantic relationships (e.g., metaphors, similes, idioms, analogies, comparisons)

LA 6.1.5.e Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)

LA 6.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 6.1.6.a Explain how author's purpose and perspective affect the meaning and reliability of the text

LA 6.1.6.b Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)

LA 6.1.6.c Summarize narrative text using understanding of characters, setting, sequence of events, plot, and theme

LA 6.1.6.d Interpret and explain the author's use of literary devices (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)

LA 6.1.6.e Summarize, analyze, and synthesize informational text using main idea and supporting details

LA 6.1.6.f Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)

LA 6.1.6.g Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)

LA 6.1.6.h Distinguish between the defining characteristics of different narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, and essays)

LA 6.1.6.i Describe the social, historical, cultural, and biographical influences in a variety of genres

LA 6.1.6.j Use narrative and informational text to develop a national and global multi-cultural perspective

LA 6.1.6.k Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and information from the text and additional sources

LA 6.1.6.l Select text for a particular purpose (e.g., information, pleasure, answer a specific question)

LA 6.1.6.m Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading

LA 6.1.6.n Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct

LA 6.1.6.o Use examples and details to make inferences or logical predictions while previewing and reading text

LA 6.1.6.p Respond to text verbally, in writing, or artistically

LA 6.2 Students will learn and apply writing skills and strategies to communicate.

LA 6.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 6.2.1.a Use prewriting activities and inquiry tools, using available technology, to generate and organize information, guide writing, answer questions

LA 6.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing paragraphs with simple, compound, and complex sentences, avoiding fragments and run-ons of varying length and complexity
- Concluding with detailed summary linked to the purpose of the composition

LA 6.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 6.2.1.d Provide oral, written, and/or electronic feedback to other writers; utilize others' feedback to improve own writing

LA 6.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 6.2.1.f Publish a legible document (e.g., report, podcast, web page, PowerPoint) that applies formatting techniques to aid comprehension (e.g., differing fonts, title page, highlighting, spacing)

LA 6.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 6.2.2.a Write in a selected genre considering purpose (e.g., inform, entertain, persuade, instruct)

LA 6.2.2.b Write to a specified audience considering interests, background knowledge, and expectations (e.g., known or unknown individual, business, organization, cyber audience)

LA 6.2.2.c Write considering typical characteristics of the selected genre (e.g., biography, report, business memo, poem, essay, email, podcast)

LA 6.2.2.d Select and apply an organizational structure appropriate to the task (e.g., chronological order, cause and effect, compare and contrast)

LA 6.2.2.e Analyze models and examples (own and others') of various genres in order to create a similar piece

LA 6.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 6.3.1 Speaking Skills: Students will develop and apply speaking skills to communicate key ideas in a variety of situations.

LA 6.3.1.a Communicate ideas and information in a manner appropriate for the purpose and setting

LA 6.3.1.b Demonstrate and adjust speaking techniques for a variety of purposes and situations

LA 6.3.1.c Utilize available media to enhance communication

LA 6.3.2 Listening Skills: Students will develop, apply, and refine active listening skills across a variety of situations.

LA 6.3.2.a Demonstrate listening skills needed for multiple situations and modalities (e.g., video, audio, distance, one-to-one, group)

LA 6.3.2.b Listen, ask questions to clarify, and take notes to ensure accuracy of information

LA 6.3.2.c Listen to, analyze, and evaluate message, purpose, and perspective of information being communicated

LA 6.3.3 Reciprocal Communication: Students will develop, apply, and adapt reciprocal communication skills.

LA 6.3.3.a Demonstrate sensitivity to the use of words in general as well as to a particular audience (e.g., stereotypes, connotations, subtleties of language)

LA 6.3.3.b Apply conversation strategies (e.g., listen while others are talking, gain the floor, eye contact, tone, stay on topic, non-verbal cues)

LA 6.3.3.c Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 6.4 Students will identify, locate, and evaluate information.

LA 6.4.1 Multiple Literacies: Students will research, synthesize, evaluate, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 6.4.1.a Select and use multiple resources to generate and answer questions and establish validity of information (e.g., print, subscription databases, web resources)

LA 6.4.1.b Demonstrate ethical and legal use of information by citing sources using a prescribed format (e.g., citation of information used)

LA 6.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilize appropriate sites and materials, respect diverse perspectives)

LA 6.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 6.4.1.e While reading, listening, and viewing, evaluate the message for bias, commercialism and hidden agendas (e.g., product placement, television ad, radio ad, movie, body image, sexism)

LA 6.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 6.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 7

LA 7.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 7.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 7.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 7.1.3 Word Analysis: Concept mastered at a previous grade level

LA 7.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 7.1.4.a Apply elements of prosodic reading to a group of related texts and explore their potential for performance

LA 7.1.4.b Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 7.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 7.1.5.a Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies

LA 7.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations.

LA 7.1.5.c Select and apply knowledge of context clues (e.g., word, phrase, sentence, and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, graphs, charts) appropriate to a particular text to determine meaning of unknown words

LA 7.1.5.d Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)

LA 7.1.5.e Determine meaning using print and digital reference materials

LA 7.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 7.1.6.a Analyze the meaning, reliability, and validity of the text considering author's purpose, and perspective

LA 7.1.6.b Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme

LA 7.1.6.c Analyze author’s use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony)

LA 7.1.6.d Summarize, analyze, and synthesize informational text using main idea and supporting details

LA 7.1.6.e Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support)

LA 7.1.6.f Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings)

LA 7.1.6.g Explain and make inferences based on the characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)

LA 7.1.6.h Explain the social, historical, cultural, and biographical influences in a variety of genres

LA 7.1.6.i Use narrative and informational text to develop a national and global multi-cultural perspective

LA 7.1.6.j Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing prior knowledge, information from the text and additional sources, to support answers

LA 7.1.6.k Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)

LA 7.1.6.l Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading

LA 7.1.6.m Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct

LA 7.1.6.n Use examples and details to make inferences or logical predictions while previewing and reading text

LA 7.1.6.o Respond to text verbally, in writing, or artistically

LA 7.2 Students will learn and apply writing skills and strategies to communicate.

LA 7.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 7.2.1.a Use prewriting activities and inquiry tools, using available technology, to generate and organize information, guide writing and answer questions

LA 7.2.1.b Generate a draft by:

- Selecting and organizing ideas relevant to topic, purpose, and genre
- Composing paragraphs with sentences of varying length and complexity avoiding fragments and run-ons
- Using effective transitional words and cues to unify important ideas

LA 7.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 7.2.1.d Provide oral, written, and/or electronic feedback to other writers; utilize others' feedback to improve own writing

LA 7.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 7.2.1.f Publish a legible document (e.g., report, podcast, web page, PowerPoint) that applies formatting techniques to aid comprehension (e.g., differing fonts, title page, highlighting, spacing)

LA 7.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 7.2.2.a Write in a variety of genres, considering purpose (e.g., inform, entertain, persuade, instruct)

LA 7.2.2.b Write in a variety of genres, considering audience (e.g., a known or unknown individual, a business, organization, or cyber audience)

LA 7.2.2.c Write considering typical characteristics of the selected genre (e.g., letter to the editor, report, email, class notes, essay, research paper, play)

LA 7.2.2.d Select and apply an organizational structure appropriate to the task (e.g., order of importance, similarity and difference, posing and answering a question)

LA 7.2.2.e Analyze models and examples (own and others') of various genres in order to create a similar piece

LA 7.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 7.3.1 Speaking Skills: Students will develop and apply speaking skills to communicate key ideas in a variety of situations.

LA 7.3.1.a Communicate ideas and information in a manner appropriate for the purpose and setting

LA 7.3.1.b Demonstrate and adjust speaking techniques for a variety of purposes and situations

LA 7.3.1.c Utilize available media to enhance communication

LA 7.3.2 Listening Skills: Students will develop, apply, and refine active listening skills across a variety of situations.

LA 7.3.2.a Apply listening skills needed for multiple situations and modalities (e.g., video, audio, distance, one-to-one, group)

LA 7.3.2.b Listen and ask probing questions to elicit information

LA 7.3.2.c Listen to, analyze, and evaluate message, purpose, and perspective of information being communicated

LA 7.3.3 Reciprocal Communication: Students will develop, apply, and adapt reciprocal communication skills.

LA 7.3.3.a Demonstrate sensitivity to the use of words in general as well as to a particular audience (e.g., stereotypes, connotations, subtleties of language)

LA 7.3.3.b Apply conversation strategies (e.g., listen while others are talking, eye contact, tone, stay on topic, non-verbal cues)

LA 7.3.3.c Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 7.4 Students will identify, locate, and evaluate information.

LA 7.4.1 Multiple Literacies: Students will research, synthesize, evaluate, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 7.4.1.a Select and use multiple resources to generate and answer questions and establish validity of information (e.g., print, subscription databases, web resources)

LA 7.4.1.b Demonstrate ethical and legal use of information by citing sources using a prescribed format (e.g., citation of information used)

LA 7.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilize appropriate sites and materials, respect diverse perspectives)

LA 7.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 7.4.1.e While reading, listening, and viewing, evaluate the message for bias, commercialism and hidden agendas (e.g., product placement, television ad, radio ad, movie, body image, sexism)

LA 7.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 7.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 8

LA 8.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 8.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 8.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 8.1.3 Word Analysis: Concept mastered at a previous grade level

LA 8.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 8.1.4.a Incorporate elements of prosodic reading to communicate text

LA 8.1.4.b Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 8.1.4.c Recognize and represent writer's tone and style while reading individually or in groups (e.g., choral reading, reader's theatre performances)

LA 8.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 8.1.5.a Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies

LA 8.1.5.b Relate new grade level vocabulary to prior knowledge and use in new situations.

LA 8.1.5.c Select a context clue strategy to determine meaning of unknown word appropriate to text (e.g., restatement, example, gloss, annotation, sidebar)

LA 8.1.5.d Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)

LA 8.1.5.e Determine meaning using print and digital reference materials

LA 8.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 8.1.6.a Analyze the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources

LA 8.1.6.b Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, inferred and recurring themes)

LA 8.1.6.c Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony, transitional devices)

LA 8.1.6.d Summarize, analyze, and synthesize informational text using main idea and supporting details

LA 8.1.6.e Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support)

LA 8.1.6.f Analyze and evaluate information from text features (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings, lists)

LA 8.1.6.g Analyze and make inferences based on the characteristics of narrative and informational genres

LA 8.1.6.h Analyze a variety of genres for the social, historical, cultural, and biographical influences

LA 8.1.6.i Use narrative and informational text to develop a national and global multi-cultural perspective

LA 8.1.6.j Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing and synthesizing prior knowledge, information from the text and additional sources, to support answers

LA 8.1.6.k Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)

LA 8.1.6.l Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading

LA 8.1.6.m Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct

LA 8.1.6.n Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text

LA 8.1.6.o Respond to text verbally, in writing, or artistically

LA 8.2 Students will learn and apply writing skills and strategies to communicate.

LA 8.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 8.2.1.a Use prewriting activities and inquiry tools to generate and organize information, guide writing, answer questions, and synthesize information

LA 8.2.1.b Generate a draft by:

- Defining and stating a thesis
- Structuring ideas and arguments in an effective and sustained way, following an organizational pattern appropriate to the purpose and intended audience
- Identifying and using parallelism to present items in a series and items juxtaposed for emphasis

LA 8.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 8.2.1.d Provide oral, written, and electronic feedback to other writers; utilize others' feedback to improve own writing

LA 8.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 8.2.1.f Publish a legible document that applies formatting techniques to contribute to the readability and impact of the document (e.g., fonts, spacing, highlighting, images, style conventions, manuscript requirements)

LA 8.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 8.2.2.a Write in a variety of genres, considering purpose and audience

LA 8.2.2.b Write considering typical characteristics of the selected genre (e.g., business letter, report, email, class notes, research paper, play, web page/blog)

LA 8.2.2.c Select and apply an organizational structure appropriate to the task (e.g., problem/solution, persuasion)

LA 8.2.2.d Analyze models and examples (own and others') of various genres in order to create a similar piece

LA 8.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 8.3.1 Speaking Skills: Students will develop, apply, and refine speaking skills to communicate key ideas in a variety of situations.

LA 8.3.1.a Communicate ideas and information in a manner appropriate for the purpose and setting

LA 8.3.1.b Demonstrate and adjust speaking techniques for a variety of purposes and situations

LA 8.3.1.c Utilize available media to enhance communication

LA 8.3.2 Listening Skills: Students will develop, apply, and refine active listening skills across a variety of situations.

LA 8.3.2.a Apply listening skills needed for multiple situations and modalities (e.g., video, audio, distance, one-to-one, group)

LA 8.3.2.b Listen and ask questions concerning the speaker's content, delivery and purpose.

LA 8.3.2.c Listen to, analyze, and evaluate thoughts, ideas, and credibility of information being communicated

LA 8.3.3 Reciprocal Communication: Students will develop, apply, and adapt reciprocal communication skills.

LA 8.3.3.a Demonstrate sensitivity to the use of words (e.g., stereotypes, connotations, subtleties of language)

LA 8.3.3.b Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 8.3.3.c Respect diverse perspectives while collaborating and participating as a member of the community

LA 8.4 Students will identify, locate, and evaluate information.

LA 8.4.1 Multiple Literacies: Students will research, synthesize, evaluate, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 8.4.1.a Select and use multiple resources to answer questions and support conclusions using valid information (e.g., print, subscription databases, web resources)

LA 8.4.1.b Demonstrate ethical and legal use of information by citing sources using prescribed formats and tools (e.g., online citation assistance, publication guidelines)

LA 8.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilize appropriate sites and materials, respect diverse perspectives)

LA 8.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 8.4.1.e While reading, listening, and viewing, evaluate the message for bias, commercialism and hidden agendas (e.g., product placement, television ad, radio ad, movie, body image, sexism)

LA 8.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 8.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools)

Nebraska Language Arts Standards - Grade 12

LA 12.1 Students will learn and apply reading skills and strategies to comprehend text.

LA 12.1.1 Knowledge of Print: Concept mastered at a previous grade level

LA 12.1.2 Phonological Awareness: Concept mastered at a previous grade level

LA 12.1.3 Word Analysis: Concept mastered at a previous grade level.

LA 12.1.4 Fluency: Students will read a variety of grade level texts fluently with accuracy, appropriate pace, phrasing, and expression.

LA 12.1.4.a Independently incorporate elements of prosodic reading to interpret text in a variety of situations

LA 12.1.4.b Adjust oral or silent reading pace based on purpose, text difficulty, form, and style

LA 12.1.4.c Recognize and represent writer's tone and style while reading individually or in groups (e.g., change genre of text to perform orally)

LA 12.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.

LA 12.1.5a Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies

LA 12.1.5b Relate new grade level vocabulary to prior knowledge and use in new situations.

LA 12.1.5c Independently apply appropriate strategy to determine meaning of unknown words in text

LA 12.1.5d Use semantic relationships to evaluate, defend, and make judgments

LA 12.1.5e Determine meaning using print and digital reference materials

LA 12.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.

LA 12.1.6.a Evaluate the meaning, reliability, and validity of the text considering author's purpose perspective, and information from additional sources

LA 12.1.6.b Analyze and evaluate narrative text (e.g., characterization, setting, plot development, internal and external conflict, inferred and recurring themes, point of view, tone, mood)

LA 12.1.6.c Analyze the function and critique the effects of the author‘s use of stylistic and literary devices (e.g., allusion, symbolism, irony, foreshadowing, flashback, metaphor, personification, epiphany, oxymoron, dialect, tone, mood, transitional devices)

LA 12.1.6.d Summarize, analyze, synthesize, and evaluate informational text

LA 12.1.6.e Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support, concept definition, question/answer)

LA 12.1.6.f Analyze and evaluate information from text features (e.g., index, annotations, photographs, charts, tables, graphs, headings, subheadings, lists)

LA 12.1.6.g Analyze and evaluate make inferences based on the characteristics of narrative and informational genres and provide evidence from the text to support understanding

LA 12.1.6.h Critique the effects of historical, cultural, political, and biographical influences in a variety of genres

LA 12.1.6.i Use narrative and informational text to develop a national and global multi-cultural perspective

LA 12.1.6.j Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing, synthesizing, and evaluating prior knowledge, information from the text and additional sources, to support answers

LA 12.1.6.k Select a text for a particular purpose (e.g., understand a specific viewpoint, enjoy, solve problems, form an opinion, discover models for own writing, predict outcomes, accomplish a task)

LA 12.1.6.l Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading

LA 12.1.6.m Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct

LA 12.1.6.n Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text

LA 12.1.6.o Respond to text verbally, in writing, or artistically

LA 12.2 Students will learn and apply writing skills and strategies to communicate.

LA 12.2.1 Writing Process: Students will apply the writing process to plan, draft, revise, edit and publish writing using correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level.

LA 12.2.1.a Select and use appropriate prewriting tools to generate and organize information, guide writing, answer questions, and synthesize information

LA 12.2.1.b Generate a draft by:

- Constructing clearly worded and effectively placed thesis statements that convey a clear perspective on the subject
- Structuring ideas and arguments in an effective and sustained way, following an organizational pattern appropriate to the purpose and intended audience
- Applying standard rules of sentence formation, including parallel structure and subordination

LA 12.2.1.c Revise to improve writing (e.g., quality of ideas, organization, sentence fluency, word choice, voice)

LA 12.2.1.d Provide oral, written and/or electronic feedback to other writers; utilize others' feedback to improve own writing

LA 12.2.1.e Edit writing for format and conventions (e.g., spelling, capitalization, grammar, punctuation)

LA 12.2.1.f Publish a legible document that applies formatting techniques to contribute to the readability and impact of the document (e.g., fonts, spacing, highlighting, images, style conventions, manuscript requirements)

LA 12.2.2 Writing Genres: Students will write for a variety of purposes and audiences in multiple genres.

LA 12.2.a Write in a variety of genres, considering purpose, audience, medium, and available technology

LA 12.2.b Write considering typical characteristics of the selected genre (e.g., resume, brochure, web page/blog, news article, job application and accompanying cover letter, senior project, college application essay)

LA 12.2.c Select and apply an organizational structure appropriate to the task

LA 12.2.d Analyze models and examples (own and others') of various genres in order to create a similar piece

LA 12.3 Students will learn and apply speaking and listening skills and strategies to communicate.

LA 12.3.1 Speaking Skills: Students will develop, apply, and refine speaking skills to communicate key ideas in a variety of situations.

LA 12.3.1.a Communicate ideas and information in a manner appropriate for the purpose and setting

LA 12.3.1.b Demonstrate and adjust speaking techniques for a variety of purposes and situations

LA 12.3.1.c Utilize available media to enhance communication

LA 12.3.2 Listening Skills: Students will develop, apply, and refine active listening skills across a variety of situations.

LA 12.3.2.a Apply listening skills needed to summarize and evaluate information given in multiple situations and modalities (e.g., video, audio, distance, one-to-one, group)

LA 12.3.2.b Listen and respond to messages by expressing a point of view on the topic using questions, challenges, or affirmations

LA 12.3.2.c Listen to and evaluate the clarity, quality and effectiveness of important points, arguments, and evidence being communicated

LA 12.3.3 Reciprocal Communication: Students will develop, apply, and adapt reciprocal communication skills.

LA 12.3.3.a Interact and collaborate with others in learning situations by contributing questions, information, opinions, and ideas using a variety of media and formats

LA 12.3.3.b.Solicit and respect diverse perspectives while searching for information, collaborating, and participating as a member of the community (e.g., sensitivity to the use of words)

LA 12.4 Students will identify, locate, and evaluate information.

LA 12.4.1 Multiple Literacies: Students will research, synthesize, evaluate, and communicate information in a variety of media and formats (textual, visual, and digital).

LA 12.4.1.a Select and use multiple resources to answer questions and defend conclusions using valid information (e.g., print, subscription databases, web resources)

LA 12.4.1.b Demonstrate ethical and legal use of information by citing sources using prescribed formats and tools (e.g., online citation assistance, publication guidelines)

LA 12.4.1.c Practice safe and ethical behaviors when communicating and interacting with others (e.g., safe information to share online, appropriate language use, utilize appropriate sites and materials, respect diverse perspectives)

LA 12.4.1.d Engage in activities with learners from a variety of cultures through electronic means (e.g., podcasts, video chats, distance learning)

LA 12.4.1.e While reading, listening, and viewing, evaluate the message for bias, commercialism and hidden agendas (e.g., product placement, television ad, radio ad, movie, body image, sexism)

LA 12.4.1.f Gather and share information and opinions as a result of communication with others (e.g., video/audio chat, interview, podcast, multi-media presentations)

LA 12.4.1.g Use social networks and information tools to gather and share information (e.g., social bookmarking, online collaborative tools, web page/blog)

The State Board of Education adopted these Mathematics Standards on October 8, 2009, pursuant to the requirements of 79-760.01 R.R.S.

GENERAL INFORMATION

Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.

Scope and Application of this Appendix. This Appendix provides mathematics (number sense, geometry, measurement, algebra, data analysis, and probability) state academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 R.R.S.), and the requirements for this Chapter.

K-12 Comprehensive Content Standards. The comprehensive content standards identify broad K-12 learning standards related to number sense, geometry, measurement, algebra, data analysis, and probability.

Grade Level Standards. The grade level standards represent the critical content for students to know and be able to do by the end of a specific grade level.

Curricular Indicators. Following each grade level standard is a set of curricular indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the grade level standards are repeated in whole or in part at different grade levels, the curricular indicators show progression and increased expectations throughout the grades. Although the curricular indicators are not an exhaustive list of what can be done to meet the grade level standards, they are representative of the content for each standard at each grade level.

Nebraska Mathematics Standards – Kindergarten

MA 0.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 0.1.1 Number System: Students will demonstrate, represent, and show relationships among whole numbers within the base-ten number system.

MA 0.1.1.a Count, read and write numbers 0 – 20

MA 0.1.1.b Count objects using one-to-one correspondence 0 – 20

MA 0.1.1.c Sequence objects using ordinal numbers (first through fifth)

MA 0.1.1.d Match numerals to the quantities they represent 0 – 20, using a variety of models and representations

MA 0.1.1.e Demonstrate and identify multiple equivalent representations for numbers

1 – 10 (e.g., 10 is 1 and 9; 10 is 6 and 4)

MA 0.1.1.f Demonstrate relative position of whole numbers 0 – 10 (e.g., 5 is between 2 and 10; 7 is greater than 3)

MA 0.1.2 Operations: Students will demonstrate the meaning of addition and subtraction with whole numbers.

MA 0.1.2.a Use objects and words to explain the meaning of addition as a joining action (e.g., Two girls are sitting at a table. Two more girls join them. How many girls are sitting at the table?)

MA 0.1.2.b Use objects and words to explain the meaning of addition as parts of a whole (e.g., Three boys and two girls are going to the zoo. How many children are going to the zoo?)

MA 0.1.2.c Use objects and words to explain the meaning of subtraction as a separation action (e.g., Five girls are sitting at a table. Two girls leave. How many girls are left sitting at the table?)

MA 0.1.2.d Use objects and words to explain the meaning of subtraction as finding part of a whole (e.g., Jacob has 5 pencils. Three are blue and the rest are red. How many red pencils does Jacob have?)

MA 0.1.3 Computation: Mastery not expected at this level.

MA 0.1.4 Estimation: Mastery not expected at this level.

MA 0.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 0.2.1 Characteristics: Students will identify two-dimensional geometric shapes.

MA 0.2.1.a Sort and name two-dimensional shapes (e.g., square, circle, rectangle, triangle)

MA 0.2.2 Coordinate Geometry: Mastery not expected at this level.

MA 0.2.3 Transformations: Mastery not expected at this level.

MA 0.2.4 Spatial Modeling: Students will communicate relative positions in space.

MA 0.2.4.a Demonstrate positional words (e.g., above/below, near/far, over/ under, in/out, down/up, around/through)

MA 0.2.5 Measurement: Students will measure using nonstandard units and time.

MA 0.2.5.a Identify the name and amount of a penny, nickel, dime, and quarter

MA 0.2.5.b Identify time to the hour

MA 0.2.5.c Measure using nonstandard units

MA 0.2.5.d Compare objects according to length

MA 0.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 0.3.1 Relationships: Students will sort, classify, and order objects by relationships.

MA 0.3.1.a Sort by color, shape, or size

MA 0.3.1.b Create own rule for sorting other than color, shape, and size

MA 0.3.2 Modeling in Context: Students will use objects as models to represent mathematical situations.

MA 0.3.2.a Model situations that involve the addition and subtraction of whole numbers 0 – 10 using objects

MA 0.3.3 Procedures: Students will use concrete and verbal representations to solve number stories.

MA 0.3.3.a Use objects to solve addition and subtraction of whole numbers 0 – 10

MA 0.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 0.4.1 Display and Analysis: Students will sort, classify, represent, describe, and compare sets of objects.

MA 0.4.1.a Sort and classify objects according to an attribute (e.g., size, color, shape)

MA 0.4.1.b Identify the attributes of sorted data

MA 0.4.1.c Compare the attributes of the data (e.g., most, least, same)

MA 0.4.2 Predictions and Inferences: Mastery not expected at this level.

MA 0.4.3 Probability: Mastery not expected at this level.

Nebraska Mathematics Standards – Grade 1

MA 1.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 1.1.1 Number System: Students will demonstrate, represent, and show relationships among whole numbers within the base-ten number system.

MA 1.1.1.a Count, read, and write numbers 0 – 100

MA 1.1.1.b Count by multiples of 2 up to 50

MA 1.1.1.c Count by multiples of 5 up to 100

MA 1.1.1.d Count by multiples of 10 up to 100

MA 1.1.1.e Sequence objects using ordinal numbers (first through tenth)

MA 1.1.1.f Count backwards from 10 – 0

MA 1.1.1.g Connect number words to the quantities they represent 0 – 20

MA 1.1.1.h Demonstrate and identify multiple equivalent representations for numbers

1 – 100 (e.g., 23 is 2 tens and 3 ones; 23 is 1 ten and 13 ones; 23 is 23 ones)

MA 1.1.1.i Compare and order whole numbers 0 – 100

MA 1.1.1.j Demonstrate relative position of whole numbers 0 – 100 (e.g., 52 is between 50 and 60; 83 is greater than 77)

MA 1.1.2 Operations: Students will demonstrate the meaning of addition and subtraction with whole numbers.

MA 1.1.2.a Use objects, drawings, words, and symbols to explain addition as a joining action

MA 1.1.2.b Use objects, drawings, words, and symbols to explain addition as parts of a whole

MA 1.1.2.c Use objects, drawings, words, and symbols to explain subtraction as a separation action

MA 1.1.2.d Use drawings, words, and symbols to explain subtraction as finding part of a whole

MA 1.1.2.e Use objects, drawings, words, and symbols to explain subtraction as a comparison (e.g., Nancy has 8 hair ribbons. Jane has 5 hair ribbons. How many more hair ribbons does Nancy have than Jane?)

MA 1.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 1.1.3.a Fluently add whole number sums up to 10

MA 1.1.3.b Fluently subtract whole number differences from 10

MA 1.1.3.c Add and subtract two-digit numbers without regrouping

MA 1.1.3.d Use a variety of methods and tools to compute sums and differences (e.g., models, mental computation, paper-pencil)

MA 1.1.4 Estimation: Mastery not expected at this level.

MA 1.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 1.2.1 Characteristics: Students will identify characteristics of two-dimensional geometric shapes.

MA 1.2.1.a Compare two-dimensional shapes (e.g., square, circle, rectangle, triangle)

MA 1.2.1.b Describe attributes of two-dimensional shapes (e.g., square, circle, rectangle, triangle)

MA 1.2.2 Coordinate Geometry: Students will identify locations on a number line.

MA 1.2.2.a Identify the position of a whole number on a horizontal number line

MA 1.2.3 Transformations: Students will identify a line of symmetry.

MA 1.2.3.a Identify one line of symmetry in two-dimensional shapes (e.g., circle, square, rectangle, triangle)

MA 1.2.4 Spatial Modeling: Students will communicate relative positions in space and create two-dimensional shapes.

MA 1.2.4.a Demonstrate positional words (e.g., left/right)

MA 1.2.4.b Sketch two-dimensional shapes (e.g., square, circle, rectangle, triangle)

MA 1.2.5 Measurement: Students will measure using standard units, time, and money.

MA 1.2.5.a Count like coins to $1.00

MA 1.2.5.b Identify time to the half hour

MA 1.2.5.c Identify past, present, and future as orientation in time

MA 1.2.5.d Select an appropriate tool for the attribute being measured (e.g., clock, calendar, thermometer, scale, ruler)

MA 1.2.5.e Measure length using inches

MA 1.2.5.f Compare and order objects according to length

MA 1.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 1.3.1 Relationships: Students will identify and describe relationships.

MA 1.3.1.a Sort or order objects by their attributes (e.g., color, shape, size, number) then identify the classifying attribute

MA 1.3.1.b Create multiple rules for sorting beyond color, shape, and size

MA 1.3.1.c Identify, describe, and extend patterns (e.g., patterns with a repeating core)

MA 1.3.1.d Use <, =, > to compare quantities

MA 1.3.2 Modeling in Context: Students will use objects and pictures as models to represent mathematical situations.

MA 1.3.2.a Model situations that involve the addition and subtraction of whole numbers 0 – 20, using objects and pictures

MA 1.3.2.b Describe and model qualitative change (e.g., a student growing taller)

MA 1.3.3 Procedures: Students will use concrete, verbal, and visual representations to solve number sentences.

MA 1.3.3.a Write number sentences to represent fact families

MA 1.3.3.b Use concrete, pictorial, and verbal representations of the commutative property of addition

MA 1.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 1.4.1 Display and Analysis: Students will sort, classify, organize, describe, and compare data.

MA 1.4.1.a Sort and classify objects by more than one attribute

MA 1.4.1.b Organize data by using concrete objects

MA 1.4.1.c Represent data by using tally marks

MA 1.4.1.d Compare and interpret information from displayed data (e.g., more, less, fewer)

MA 1.4.2 Predictions and Inferences: Mastery not expected at this level.

MA 1.4.3 Probability: Mastery not expected at this level.

Nebraska Mathematics Standards – Grade 2

MA 2.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 2.1.1 Number System: Students will demonstrate, represent, and show relationships among whole numbers within the base-ten number system.

MA 2.1.1.a Read and write numbers 0 – 1,000 (e.g., count numbers from 400 – 500; write numbers from 400 – 500)

MA 2.1.1.b Count by multiples of 2 up to 100

MA 2.1.1.c Count backwards from 20 – 0

MA 2.1.1.d Connect number words to the quantities they represent 0 – 100

MA 2.1.1.e Demonstrate multiple equivalent representations for numbers 1 – 1,000 (e.g., 423 is 4 hundreds, 2 tens and 3 ones; 423 is 3 hundreds 12 tens and 3 ones)

MA 2.1.1.f Compare and order whole numbers 0 – 1,000

MA 2.1.1.g Demonstrate relative position of whole numbers 0 – 1,000 (e.g., 624 is between 600 and 700; 593 is greater than 539)

MA 2.1.1.h Use visual models to represent fractions of one-half as a part of a whole

MA 2.1.2 Operations: Students will demonstrate the meaning of addition and subtraction with whole numbers.

MA 2.1.2.a Use objects, drawings, words, and symbols to explain the relationship between addition and subtraction (e.g., if 2 + 3 = 5 then 5 – 3 = 2)

MA 2.1.2.b Use objects, drawings, words, and symbols to explain the use of subtraction to find a missing addend (e.g., if 3 + __ = 7, then 7- 3 = __.)

MA 2.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 2.1.3.a Fluently add whole number facts with sums to 20

MA 2.1.3.b Fluently subtract whole number facts with differences from 20

MA 2.1.3.c Add and subtract three-digit whole numbers with regrouping

MA 2.1.3.d Use a variety of methods and tools to compute sums and differences (e.g., models, mental computation, paper–pencil)

MA 2.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 2.1.4.a Estimate the results of two-digit whole number sums and differences and check the reasonableness of such results

MA 2.1.4 b Estimate the number of objects in a group

MA 2.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 2.2.1 Characteristics: Students will describe characteristics of two-dimensional shapes and identify three-dimensional objects.

MA 2.2.1.a Describe attributes of two-dimensional shapes (e.g., trapezoid, parallelogram)

MA 2.2.1.b Determine if two shapes are congruent

MA 2.2.1.c Compare two-dimensional shapes (e.g., trapezoid, parallelogram)

MA 2.2.1.d Identify solid shapes (e.g., triangular prism, rectangular prisms, cones, cylinders, pyramids, spheres)

MA 2.2.2 Coordinate Geometry: Students will describe direction on a positive number line.

MA 2.2.2.a Identify numbers using location on a vertical number line

MA 2.2.2.b Compare whole numbers using location on a horizontal number line

MA 2.2.2.c Identify the direction moved for adding and subtracting using a horizontal number line

MA 2.2.3 Transformations: Students will identify lines of symmetry.

MA 2.2.3.a Identify lines of symmetry in two-dimensional shapes

MA 2.2.3.b Draw a line of symmetry in two-dimensional shapes

MA 2.2.4 Spatial Modeling: Students will create two-dimensional shapes.

MA 2.2.4.a Sketch two-dimensional shapes (e.g., trapezoid, parallelogram)

MA 2.2.5 Measurement: Students will measure using standard units, time and money.

MA 2.2.5.a Count mixed coins to $1.00

MA 2.2.5.b Identify time to 5 minute intervals

MA 2.2.5.c Identify and use appropriate tools for the attribute being measured (e.g., clock, calendar, thermometer, scale, ruler)

MA 2.2.5.d Measure length using feet and yards

MA 2.2.5.e Compare and order objects using inches, feet and yards

MA 2.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 2.3.1 Relationships: Students will identify, describe, and extend relationships.

MA 2.3.1.a Create and describe patterns using concrete and pictorial representations

MA 2.3.2 Modeling in Context: Students will use objects, pictures, and symbols as models to represent mathematical situations.

MA 2.3.2.a Model situations that involve the addition and subtraction of whole numbers 0 – 100, using objects and number lines

MA 2.3.2.b Describe and model quantitative change involving addition (e.g., a student grew 2 inches)

MA 2.3.3 Procedures: Students will use concrete, verbal, visual, and symbolic representations to solve number sentences.

MA 2.3.3.a Use symbolic representations of the commutative property of addition (e.g., $2 + 3 = \Delta + 2$)

MA 2.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 2.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

MA 2.4.1.a Represent data using pictographs

MA 2.4.1.b Interpret data using pictographs (e.g., 7 more; 2 less; 12 all together)

MA 2.4.2 Predictions and Inferences: Mastery not expected at this level.

MA 2.4.3 Probability: Mastery not expected at this level.

Nebraska Mathematics Standards – Grade 3

MA 3.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 3.1.1 Number System: Students will represent and show relationships among positive rational numbers within the base-ten number system.

MA 3.1.1.a Read and write numbers to one-hundred thousand (e.g., 4,623 is the same as four thousand six hundred twenty three)

MA 3.1.1.b Count by multiples of 5 to 200

MA 3.1.1c Count by multiples of 10 to 400

MA 3.1.1.d Count by multiples of 100 to 1,000

MA 3.1.1.e Demonstrate multiple equivalent representations for numbers up to 10,000 (e.g., 10 tens is 1 hundred; 10 ten thousands is 1 hundred thousand; 2,350 is 235 tens; 2,350 is 2,000 + 300 + 50; 2,350 is 23 hundreds and 5 tens)

MA 3.1.1.f Demonstrate multiple equivalent representations for decimal numbers through the tenths place (e.g., 3 and 6 tenths is 3.6; 7.4 is 7 + .4)

MA 3.1.1.g Compare and order whole numbers through the thousands

MA 3.1.1.h Find parts of whole and parts of a set for ½, ⅓, or ¼

MA 3.1.1.i Round a given number to tens, hundreds, or thousands

MA 3.1.2 Operations: Students demonstrate the meaning of multiplication with whole numbers.

MA 3.1.2.a Represent multiplication as repeated addition using objects, drawings, words, and symbols (e.g., 3 x 4 = 4 + 4 + 4)

MA 3.1.2.b Use objects, drawings, words and symbols to explain the relationship between multiplication and division (e.g., if 3 x 4 = 12 then 12 ÷ 3 = 4.)

MA 3.1.2.c Use drawings, words, and symbols to explain the meaning of the factors and product in a multiplication sentence (e.g., in 3 x 4 = 12, 3 and 4 are factors and 12 is the total or product. The first factor (3) tells how many sets while the second factor tells how many are in each set. Another way to say this is that 3 groups of 4 equals 12 total.)

MA 3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication using an array (e.g., an array with 3 rows and 4 columns represents the multiplication sentence 3 x 4 = 12)

MA 3.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 3.1.3.a Compute whole number multiplication facts 0 – 10 fluently

MA 3.1.3.b Add and subtract through four-digit whole numbers with regrouping

MA 3.1.3.c Select and apply the appropriate methods of computation when problem solving with four-digit whole numbers through the thousands (e.g., models, mental computation, paper-pencil)

MA 3.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 3.1.4.a Estimate the two-digit product of whole number multiplication and check the reasonableness

MA 3.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 3.2.1 Characteristics: Students will identify characteristics and describe properties of two-dimensional shapes and three-dimensional objects.

MA 3.2.1.a Identify the number of sides, angles, and vertices of two-dimensional shapes

MA 3.2.1.b Identify congruent two-dimensional figures given multiple two-dimensional shapes

MA 3.2.1.c Identify lines, line segments, rays, and angles

MA 3.2.1.d Describe attributes of solid shapes (e.g., triangular prism, rectangular prisms, cones, cylinders, pyramids, spheres)

MA 3.2.2 Coordinate Geometry: Students will identify distances on a number line.

MA 3.2.2.a Draw a number line and plot points

MA 3.2.2.b Determine the distance between two whole number points on a number line

MA 3.2.3 Transformations: Students will draw all lines of symmetry.

MA 3.2.3.a Draw all possible lines of symmetry in two-dimensional shapes

MA 3.2.4 Spatial Modeling: Students will create two-dimensional shapes and three-dimensional objects.

MA 3.2.4.a Sketch and label lines, rays, line segments, and angles

MA 3.2.4.b Build three-dimensional objects (e.g., using clay for rectangular prisms, cone, cylinder)

MA 3.2.5 Measurement: Students will apply appropriate procedures and tools to determine measurements using customary and metric units.

MA 3.2.5.a Select and use appropriate tools to measure perimeter of simple two-dimensional shapes (e.g., triangle, square, rectangle)

MA 3.2.5.b Count mixed coins and bills greater than $1.00

MA 3.2.5.c Identify time of day (e.g., am, pm, noon, midnight)

MA 3.2.5.d State multiple ways for the same time using 15 minute intervals (e.g., 2:15, or quarter past 2, 2:45 or a quarter until 3)

MA 3.2.5.e Identify the appropriate customary unit for measuring length, weight, and capacity/volume

MA 3.2.5.f Measure length to the nearest ½ inch and centimeter (e.g., requires rounding)

MA 3.2.5.g Compare and order objects according to length using centimeters and meters

MA 3.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 3.3.1 Relationships: Students will represent relationships.

MA 3.3.1.a Identify, describe, and extend numeric and non-numeric patterns

MA 3.3.1.b Identify patterns using words, tables, and graphs

MA 3.3.2 Modeling in Context: Students will create and use models to represent mathematical situations.

MA 3.3.2.a Model situations that involve the addition and subtraction of whole numbers using objects, number lines, and symbols

MA 3.3.2.b Describe and model quantitative change involving subtraction (e.g., temperature dropped two degrees)

MA 3.3.3 Procedures: Students will identify and apply properties of whole numbers to solve equations involving addition and subtraction.

MA 3.3.3.a Use symbolic representation of the identity property of addition (e.g., $3 = 0 + 3$)

MA 3.3.3.b Solve simple one-step whole number equations involving addition and subtraction (e.g., $\Delta + 2 = 3$)

MA 3.3.3.c Explain the procedure(s) used in solving simple one-step whole number equations involving addition and subtraction

MA 3.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 3.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

MA 3.4.1.a Represent data using horizontal and vertical bar graphs

MA 3.4.1.b Use comparative language to describe the data (e.g., increasing, decreasing)

MA 3.4.1.c Interpret data using horizontal and vertical bar graphs

MA 3.4.2 Predictions and Inferences: Mastery not expected at this level.

MA 3.4.3 Probability: Students will find and describe experimental probability.

MA 3.4.3.a Perform simple experiments (e.g., flip a coin, toss a number cube, spin a spinner) and describe outcomes as possible, impossible, or certain

Nebraska Mathematics Standards – Grade 4

MA 4.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.1.1 Number System: Students will represent and show relationships among positive rational numbers within the base-ten number system.

MA 4.1.1.a Read and write numbers through the millions (e.g., 2,347,589 is the same as 2 million three hundred forty seven thousand five hundred eighty nine)

MA 4.1.1.b Demonstrate multiple equivalent representations for decimal numbers through the hundredths place (e.g., 2 and 5 hundredths is 2.05; 6.23 is 6 + .2 +.03)

MA 4.1.1.c Compare and order whole numbers and decimals through the hundredths place (e.g., money)

MA 4.1.1.d Classify a number as even or odd

MA 4.1.1.e Represent a fraction as parts of a whole and/or parts of a set

MA 4.1.1.f Use visual models to find equivalent fractions
(e.g., $\frac{2}{4} = \frac{1}{2}, \frac{2}{8} = \frac{1}{4}, 1 = \frac{2}{2} = \frac{5}{5}, \frac{3}{3}$)

MA 4.1.1.g Determine the size of a fraction relative to one half using equivalent forms (e.g., Is 3/8 more or less than one half?)

MA 4.1.1.h Locate fractions on a number line

MA 4.1.1.i Round a whole number to millions

MA 4.1.2 Operations: Students will demonstrate the meaning of division with whole numbers.

MA 4.1.2.a Use drawings, words, and symbols to explain the meaning of division [(e.g., as repeated subtraction: Sarah has 24 candies. She put them into bags of 6 candies each. How many bags did Sarah use?) (e.g., as equal sharing: Paul has 24 candies. He wants to share them equally among his 6 friends. How many candies will each friend receive?)]

MA 4.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 4.1.3.a Compute whole number division facts 0 – 10 fluently

MA 4.1.3.b Add and subtract decimals to the hundredths place (e.g., money)

MA 4.1.3.c Multiply two-digit whole numbers

MA 4.1.3.d Divide a three-digit number with one digit divisor with and without a remainder

MA 4.1.3.e Mentally compute multiplication and division involving powers of 10

MA 4.1.3.f Select and apply the appropriate method of computation when problem solving (e.g., models, mental computation, paper-pencil)

MA 4.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 4.1.4.a Estimate the three-digit product and the two-digit quotient of whole number multiplication and division and check the reasonableness

MA 4.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.2.1 Characteristics: Students will classify two-dimensional shapes and three-dimensional objects.

MA 4.2.1.a Identify two- and three-dimensional shapes according to their sides and angle properties

MA 4.2.1.b Classify an angle as acute, obtuse, and right

MA 4.2.1.c Identify parallel, perpendicular, and intersecting lines

MA 4.2.1.d Identify the property of congruency when dealing with plane geometric shapes

MA 4.2.2 Coordinate Geometry: Students will describe locations using coordinate geometry.

MA 4.2.2.a Identify the ordered pair of a plotted point in first quadrant by its location (e.g., (2, 3) is a point two right and three up from the origin)

MA 4.2.3 Transformations: Students will identify simple transformations.

MA 4.2.3.a Given two congruent geometric shapes, identify the transformation (e.g., translation, rotation, reflection) applied to an original shape to create a transformed shape

MA 4.2.4 Spatial Modeling: Student will use geometric models to solve problems.

MA 4.2.4.a Given a geometric model, use it to solve a problem (e.g., what shapes make a cylinder; streets run parallel and perpendicular)

MA 4.2.5 Measurement: Students will apply appropriate procedures and tools to estimate and determine measurement using customary and metric units.

MA 4.2.5.a Select and use appropriate tools to measure perimeter of polygons

MA 4.2.5.b Identify time to the minute on an analog clock

MA 4.2.5.c Solve problems involving elapsed time

MA 4.2.5.d Identify the appropriate metric unit for measuring length, weight, and capacity/volume (e.g., cm, m, Km; g, Kg; mL, L)

MA 4.2.5.e Estimate and measure length using customary (nearest ½ inch) and metric (nearest centimeter) units

MA 4.2.5.f Measure weight and temperature using customary units

MA 4.2.5.g Compute simple unit conversions for length within a system of measurement

MA 4.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.3.1 Relationships: Students will represent and analyze relationships.

MA 4.3.1.a Describe, extend, and apply rules about numeric patterns

MA 4.3.1.b Represent and analyze a variety of patterns using words, tables, and graphs

MA 4.3.1.c Use ≥, ≤ symbols to compare quantities

MA 4.3.1.d Select appropriate operational and relational symbols to make a number sentence true

MA 4.3.2 Modeling in Context: Students will create and use models to represent mathematical situations.

MA 4.3.2.a Model situations that involve the multiplication of whole numbers using number lines and symbols

MA 4.3.2.b Describe and model quantitative change involving multiplication (e.g., money doubling)

MA 4.3.3 Procedures: Students will identify and apply properties of whole numbers to solve equations involving multiplication and division.

MA 4.3.3.a Represent the idea of a variable as an unknown quantity using a letter or a symbol (e.g., $n + 3$, $b – 2$)

MA 4.3.3.b Use symbolic representation of the identity property of multiplication (e.g., $5 * 1 = 5$)

MA 4.3.3.c Use symbolic representations of the commutative property of multiplication (e.g., $2 * 3 = \Delta * 2$)

MA 4.3.3.d Solve simple one-step whole number equations (e.g., $x + 2 = 3$, $3 * y = 6$)

MA 4.3.3.e Explain the procedure(s) used in solving simple one-step whole number equations

MA 4.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

MA 4.4.1.a Represent data using dot/line plots

MA 4.4.1.b Compare different representations of the same data

MA 4.4.1.c Interpret data and draw conclusions using dot/line plots

MA 4.4.1.d Find the mode and range for a set of whole numbers

MA 4.4.1.e Find the whole number mean for a set of whole numbers

MA 4.4.2 Predictions and Inferences: Students will construct predictions based on data.

MA 4.4.2.a Make predictions based on data to answer questions from tables and bar graphs

MA 4.4.3 Probability: Students will find, describe, and compare experimental probabilities.

MA 4.4.3.a Perform simple experiments and compare the degree of likelihood (e.g., more likely, equally likely, or less likely)

Nebraska Mathematics Standards – Grade 5

MA 5.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 5.1.1 Number System: Students will represent and show relationships among positive rational numbers.

MA 5.1.1.a Demonstrate multiple equivalent representations for whole numbers and decimals through the thousandths place (e.g., 3.125 is 3 + .1 + .02 + .005)

MA 5.1.1.b Compare and order whole numbers, fractions, and decimals through the thousandths place

MA 5.1.1.c Identify and name fractions in their simplest form and find common denominators for fractions

MA 5.1.1.d Recognize and generate equivalent forms of commonly used fractions, decimals, and percents (e.g., one third, one fourth, one half, two thirds, three fourths)

MA 5.1.1.e Classify a number as prime or composite

MA 5.1.1.f Identify factors and multiples of any whole number

MA 5.1.1.g Round whole numbers and decimals to any given place

MA 5.1.2 Operations: Students will demonstrate the meaning of arithmetic operations with whole numbers.

MA 5.1.2.a Use words and symbols to explain the meaning of the identity properties for addition and multiplication

MA 5.1.2.b Use words and symbols to explain the meaning of the commutative and associative properties of addition and multiplication

MA 5.1.2.c Use words and symbols to explain the distributive property of multiplication over addition (e.g., 5 (y + 2) = 5y + 5 x 2)

MA 5.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 5.1.3.a Add and subtract positive rational numbers (e.g., proper and improper fractions, mixed numbers, fractions with common and uncommon denominators, decimals through the thousandths place)

MA 5.1.3.b Select, apply and explain the appropriate method of computation when problem solving (e.g., models, mental computation, paper-pencil, technology)

MA 5.1.3.c Multiply decimals

MA 5.1.3.d Divide a decimal by a whole number

MA 5.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 5.1.4.a Estimate the sums and differences of positive rational numbers to check the reasonableness of such results

MA 5.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 5.2.1 Characteristics: Students will describe relationships among two-dimensional shapes and three-dimensional objects.

MA 5.2.1.a Identify the number of edges, faces, and vertices of triangular and rectangular prisms

MA 5.2.1.b Justify congruence of two-dimensional shapes

MA 5.2.1.c Justify the classification of two-dimensional shapes (e.g., triangles by angles and sides)

MA 5.2.1.d Identify degrees on a circle (e.g., 45, 90, 180, 270, 360)

MA 5.2.2 Coordinate Geometry: Students will identify locations using coordinate geometry.

MA 5.2.2.a Plot the location of an ordered pair in the first quadrant

MA 5.2.3 Transformations: Students will identify and use simple transformations.

MA 5.2.3.a Perform one-step transformations on two dimensional shapes (e.g., translation, rotation, reflection, of 90, 180, and 270)

MA 5.2.4 Spatial Modeling: Students will create and use geometric models to solve problems.

MA 5.2.4.a Build or sketch a geometric model to solve a problem

MA 5.2.4.b Sketch congruent shapes

MA 5.2.4.c Build rectangular prisms using cubes

MA 5.2.5 Measurement: Students will apply appropriate procedures, tools, and formulas to determine measurements using customary and metric units.

MA 5.2.5.a Select and use appropriate tools to measure perimeter and angles

MA 5.2.5.b Identify correct unit (customary or metric) to the measurement situation (e.g., distance from home to school; measure length of a room)

MA 5.2.5.c Estimate and measure length with customary units to the nearest ¼ inch

MA 5.2.5.d Measure capacity/volume with customary units

MA 5.2.5.e Measure weight (mass) and temperature using metric units

MA 5.2.5.f Determine the area of rectangles and squares

MA 5.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 5.3.1 Relationships: Students will represent, analyze, and generalize relationships.

MA 5.3.1.a Describe, extend, apply rules, and make generalizations about numeric, and geometric patterns

MA 5.3.1.b Create and analyze numeric patterns using words, tables, and graphs

MA 5.3.1.c Communicate relationships using expressions and equations

MA 5.3.2 Modeling in Context: Students will create, use, and compare models representing mathematical situations.

MA 5.3.2.a Model situations that involve the addition, subtraction, and multiplication of positive rational numbers using words, graphs, and tables

MA 5.3.2.b Represent a variety of quantitative relationships using tables and graphs

MA 5.3.2.c Compare different models to represent mathematical situations

MA 5.3.3 Procedures: Students will apply properties of simple positive rational numbers to solve one-step equations.

MA 5.3.3.a Explain the addition property of equality (e.g., if a = b, then a + c = b + c)

MA 5.3.3.b Use symbolic representations of the associative property (e.g., (2 + 3) + 4 = 2 + (3 + n), (2 * 3) * 4 = 2 * (3 * n))

MA 5.3.3.c Evaluate numerical expressions by using parentheses with respect to order of operations (e.g., 6 + (3 * 5))

MA 5.3.3.d Evaluate simple algebraic expressions involving addition and subtraction

MA 5.3.3.e Solve one-step addition and subtraction equations involving common positive rational numbers

MA 5.3.3.f Identify and explain the properties of equality used in solving one-step equations involving common positive rational numbers

MA 5.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 5.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

MA 5.4.1.a Represent data using line graphs

MA 5.4.1.b Represent the same set of data in different formats (e.g., table, pictographs, bar graphs, line graphs)

MA 5.4.1.c Draw conclusions based on a set of data

MA 5.4.1.d Find the mean, median, mode, and range for a set of whole numbers

MA 5.4.1.e Generate questions and answers from data sets and their graphical representations

MA 5.4.2 Predictions and Inferences: Students will construct predictions based on data.

MA 5.4.2.a Make predictions based on data to answer questions from tables, bar graphs, and line graphs

MA 5.4.3 Probability: Students will determine theoretical probabilities.

MA 5.4.3.a Perform and record results of probability experiments

MA 5.4.3.b Generate a list of possible outcomes for a simple event

MA 5.4.3.c Explain that the likelihood of an event that can be represented by a number from 0 (impossible) to 1 (certain)

Nebraska Mathematics Standards – Grade 6

MA 6.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 6.1.1 Number System: Students will represent and show relationships among positive rational numbers and integers.

MA 6.1.1.a Show equivalence among common fractions and non-repeating decimals and percents

MA 6.1.1.b Compare and order positive and negative integers

MA 6.1.1.c Identify integers less than 0 on a number line

MA 6.1.1.d Represent large numbers using exponential notation (e.g., $1{,}000 = 10^3$)

MA 6.1.1.e Identify the prime factorization of numbers (e.g., $12 = 2 \times 2 \times 3$ or $2^2 \times 3$)

MA 6.1.1.f Classify numbers as natural, whole, or integer

MA 6.1.2 Operations: Students will demonstrate the meaning of arithmetic operations with positive fractions and decimals.

MA 6.1.2.a Use drawings, words, and symbols to explain the meaning of addition and subtraction of fractions

MA 6.1.2.b Use drawings, words, and symbols to explain the meaning of addition and subtraction of decimals

MA 6.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 6.1.3.a Multiply and divide positive rational numbers

MA 6.1.3.b Select and apply the appropriate method of computation when problem solving (e.g., models, mental computation, paper-pencil, technology, divisibility rules)

MA 6.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 6.1.4.a Use appropriate estimation methods to check the reasonableness of solutions for problems involving positive rational numbers

MA 6.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 6.2.1 Characteristics: Students will compare and contrast properties among two-dimensional shapes and among three-dimensional objects.

MA 6.2.1.a Justify the classification of three dimensional objects

MA 6.2.2 Coordinate Geometry: Students will label points using coordinate geometry.

MA 6.2.2.a Identify the ordered pair of a plotted point in the coordinate plane

MA 6.2.3 Transformations: Students will use and describe results of transformations on geometric shapes.

MA 6.2.3.a Perform and describe positions and orientation of shapes under single transformations (translation, rotation, reflection) not on a coordinate plane

MA 6.2.4 Spatial Modeling: Students will use visualization of geometric models to solve problems.

MA 6.2.4.a Identify two-dimensional drawings of three-dimensional objects

MA 6.2.5 Measurement: Students will apply appropriate procedures, tools, and formulas to determine measurements.

MA 6.2.5.a Estimate and measure length with customary and metric units to the nearest 1/16 inch and mm

MA 6.2.5.b Measure volume/capacity using the metric system

MA 6.2.5.c Convert length, weight (mass), and liquid capacity from one unit to another within the same system

MA 6.2.5.d Determine the perimeter of polygons

MA 6.2.5.e Determine the area of parallelograms and triangles

MA 6.2.5.f Determine the volume of rectangular prisms

MA 6.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 6.3.1 Relationships: Students will represent, analyze, and use relationships to make generalizations.

MA 6.3.1.a Describe and create simple algebraic expressions (e.g., one operation, one variable) from words and tables

MA 6.3.1.b Use a variable to describe a situation with an equation (e.g., one-step, one variable)

MA 6.3.1.c Identify relationships as increasing, decreasing, or constant

MA 6.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

MA 6.3.2.a Model contextualized problems using various representations (e.g., graphs, tables)

MA 6.3.2.b Represent a variety of quantitative relationships using symbols and words

MA 6.3.3 Procedures: Students will apply properties to solve equations.

MA 6.3.3.a Explain the multiplication property of equality (e.g., if a = b, then ac = bc)

MA 6.3.3.b Evaluate numerical expressions containing multiple operations with respect to order of operations (e.g., 2 + 4 x 5)

MA 6.3.3.c Evaluate simple algebraic expressions involving multiplication and division

MA 6.3.3.d Solve one-step equations involving positive rational numbers

MA 6.3.3.e Identify and explain the properties of equality used in solving one-step equations (e.g., addition, subtraction, division)

MA 6.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 6.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

MA 6.4.1.a Represent data using stem and leaf plots, histograms, and frequency charts

MA 6.4.1.b Compare and interpret data sets and their graphical representations

MA 6.4.1.c Find the mean, median, mode, and range for a set of data

MA 6.4.1.d Compare the mean, median, mode, and range from two sets of data

MA 6.4.2 Predictions and Inferences: Students will construct predictions based on data.

MA 6.4.2.a Make predictions based on data and create questions to further investigate the quality of the predictions

MA 6.4.3 Probability: Students will apply basic concepts of probability.

MA 6.4.3.a Describe the theoretical probability of an event using a fraction, percentage, decimal, or ratio

MA 6.4.3.b Compute theoretical probabilities for independent events

MA 6.4.3.c Find experimental probability for independent events

Nebraska Mathematics Standards – Grade 7

MA 7.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 7.1.1 Number System: Students will represent and show relationships among rational numbers.

MA 7.1.1.a Show equivalence among fractions, decimals, and percents

MA 7.1.1.b Compare and order rational numbers (e.g., fractions, decimals, percents)

MA 7.1.1.c Represent large numbers using scientific notation

MA 7.1.1.d Classify numbers as natural, whole, integer, or rational

MA 7.1.1 e Find least common multiple and greatest common divisor given two numbers

MA 7.1.2 Operations: Students will demonstrate the meaning of arithmetic operations with positive fractions, decimals, and integers.

MA 7.1.2.a Use drawings, words, and symbols to explain the meaning of multiplication and division of fractions (e.g., 2/3 x 6 as two-thirds of six, or 6 x 2/3 as 6 groups of two-thirds, or 6 ÷ 2/3 as how many two-thirds there are in six.)

MA 7.1.2.b Use drawings, words, and symbols to explain the meaning of multiplication and division of decimals

MA 7.1.2.c Use drawings, words, and symbols to explain the addition and subtraction of integers

MA 7.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 7.1.3.a Compute accurately with integers

MA 7.1.3.b Select, apply, and explain the method of computation when problem solving using integers and positive rational numbers (e.g., models, mental computation, paper-pencil, technology, divisibility rules)

MA 7.1.3.c Solve problems involving percent of numbers (e.g., percent of, % increase, % decrease)

MA 7.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 7.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving integers and positive rational numbers

MA 7.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 7.2.1 Characteristics: Students will describe, compare, and contrast characteristics, properties, and relationships of geometric shapes and objects.

MA 7.2.1.a Identify and describe similarity of two-dimensional shapes using side and angle measurements

MA 7.2.1.b Name line, line segment, ray, and angle (e.g., $\overleftrightarrow{AB}$, $\overrightarrow{PR}$ < LMN)

MA 7.2.2 Coordinate Geometry: Students will specify locations and describe relationships using coordinate geometry.

MA 7.2.2.a Plot the location of an ordered pair in the coordinate plane

MA 7.2.2.b Identify the quadrant of a given point in the coordinate plane

MA 7.2.2.c Find the distance between points along horizontal and vertical lines of a coordinate plane (e.g., what is the distance between (0, 3) and (0, 9))

MA 7.2.3 Transformations: Students will use transformations and symmetry to analyze geometric shapes.

MA 7.2.3.a Identify lines of symmetry for a reflection

MA 7.2.3.b Perform and describe positions and orientation of shapes under a single transformation (e.g., translation, rotation, reflection) on a coordinate plane

MA 7.2.4 Spatial Modeling: Students will use visualization to create geometric models in solving problems.

MA 7.2.4.a Identify the shapes that make up the three-dimensional object

MA 7.2.4.b Create two-dimensional representations of three-dimensional objects to visualize and solve problems (e.g., perspective drawing of surface area)

MA 7.2.4.c Draw angles to given degree

MA 7.2.5 Measurement: Students will select and apply appropriate procedures, tools, and formulas to determine measurements.

MA 7.2.5.a Measure angles to the nearest degree

MA 7.2.5.b Determine the area of trapezoids and circles, and the circumference of circles

MA 7.2.5.c Recognize the inverse relationship between the size of a unit and the number of units used when measuring

MA 7.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 7.3.1 Relationships: Students will represent and analyze relationships using algebraic symbols.

MA 7.3.1.a Describe and create algebraic expressions from words, tables, and graphs

MA 7.3.1.b Use a variable to describe a situation with an inequality (e.g., one-step, one variable)

MA 7.3.1.c Recognize and generate equivalent forms of simple algebraic expressions

MA 7.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

MA 7.3.2.a Model contextualized problems using various representations (e.g., one-step/variable expressions, one-step/variable equations)

MA 7.3.2.b Represent a variety of quantitative relationships using algebraic expressions and one-step equations

MA 7.3.3 Procedures: Students will apply properties to solve equations and inequalities.

MA 7.3.3.a Explain additive inverse of addition (e.g., $7 + -7 = 0$)

MA 7.3.3.b Use symbolic representation of the distributive property (e.g., $2(x + 3) = 2x + 6$)

MA 7.3.3.c Given the value of the variable(s), evaluate algebraic expressions with respect to order of operations

MA 7.3.3.d Solve two-step equations involving integers and positive rational numbers

MA 7.3.3.e Solve one-step inequalities involving positive rational numbers

MA 7.3.3.f Identify and explain the properties used in solving two-step equations (e.g., addition, subtraction, multiplication and division)

MA 7.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 7.4.1 Display and Analysis: Students will formulate questions that can be addressed with data and then organize, display, and analyze the relevant data to answer their questions.

MA 7.4.1.a Analyze data sets and interpret their graphical representations

MA 7.4.1.b Find and interpret mean, median, mode, and range for sets of data

MA 7.4.1.c Explain the difference between a population and a sample

MA 7.4.1.d List biases that may be created by various data collection processes

MA 7.4.1.e Formulate a question about a characteristic within one population that can be answered by simulation or a survey

MA 7.4.2 Predictions and Inferences: Students will evaluate predictions and make inferences based on data.

MA 7.4.2.a Determine if data collected from a sample can be used to make predictions about a population

MA 7.4.3 Probability: Students will apply and interpret basic concepts of probability.

MA 7.4.3.a Find the probability of independent compound events (e.g., tree diagram, organized list)

MA 7.4.3.b Compare and contrast theoretical and experimental probabilities

Nebraska Mathematics Standards – Grade 8

MA 8.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 8.1.1 Number System: Students will represent and show relationships among real numbers.

MA 8.1.1.a Compare and order real numbers

MA 8.1.1.b Demonstrate relative position of real numbers on the number line (e.g., square root of 2 is left of 1.5)

MA 8.1.1.c Represent small numbers using scientific notation

MA 8.1.1.d Classify numbers as natural, whole, integer, rational, irrational, or real

MA 8.1.2 Operations: Students will demonstrate the meaning of arithmetic operations with integers.

MA 8.1.2.a Use drawings, words, and symbols to explain the meaning of addition, subtraction, multiplication, and division of integers.

MA 8.1.2.b Use words and symbols to explain the zero property of multiplication (e.g., if ab = 0 then a or b or both must be zero)

MA 8.1.2.c Use words and symbols to explain why division by zero is undefined

MA 8.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 8.1.3.a Compute accurately with rational numbers

MA 8.1.3.b Evaluate expressions involving absolute value of integers

MA 8.1.3.c Calculate squares of integers, the square roots of perfect squares, and the square roots of whole numbers using technology

MA 8.1.3.d Select, apply, and explain the method of computation when problem solving using rational numbers (e.g., models, mental computation, paper-pencil, technology, divisibility rules)

MA 8.1.3.e Solve problems involving ratios and proportions (e.g., $\frac{x}{5} = \frac{10}{17}$)

MA 8.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 8.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving rational numbers

MA 8.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 8.2.1 Characteristics: Students will describe, compare, and contrast characteristics, properties, and relationships of geometric shapes and objects.

MA 8.2.1.a Identify and describe similarity of three-dimensional objects

MA 8.2.1.b Compare and contrast relationships between similar and congruent objects

MA 8.2.1.c Identify geometric properties of parallel lines cut by a transversal and related angles (e.g., perpendicular and parallel lines with transversals) and angles (e.g., corresponding, alternate interior, alternate exterior)

MA 8.2.1.d Identify pairs of angles (e.g., adjacent, complementary, supplementary, vertical)

MA 8.2.1.e Examine the relationships of the interior angles of a triangle (e.g., the sum of the angles is 180 degrees)

MA 8.2.2 Coordinate Geometry: Students will specify locations and describe relationships using coordinate geometry.

MA 8.2.2.a Use coordinate geometry to represent and examine the properties of rectangles and squares using horizontal and vertical segments

MA 8.2.3 Transformations: Students will perform transformations and use them to analyze the orientation and size of geometric shapes.

MA 8.2.3.a Identify the similarity of dilated shapes

MA 8.2.3.b Perform and describe positions and sizes of shapes under dilations (e.g., scale factor, ratios)

MA 8.2.4 Spatial Modeling: Students will use visualization, spatial reasoning, and geometric modeling to solve problems.

MA 8.2.4.a Draw geometric objects with specified properties (e.g., parallel sides, number of sides, angle measures, number of faces)

MA 8.2.5 Measurement: Students will select and apply appropriate procedures, tools, and formulas to determine measurements.

MA 8.2.5.a Use strategies to find the perimeter and area of complex shapes

MA 8.2.5.b Determine surface area and volume of three-dimensional objects (e.g., rectangular prisms, cylinders)

MA 8.2.5.c Apply the Pythagorean theorem to find missing lengths in right triangles and to solve problems

MA 8.2.5.d Use scale factors to find missing lengths in similar shapes

MA 8.2.5.e Convert between metric and standard units of measurement, given conversion factors (e.g., meters to yards)

MA 8.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 8.3.1 Relationships: Students will represent and analyze relationships using algebraic symbols.

MA 8.3.1.a Represent and analyze a variety of patterns with tables, graphs, words, and algebraic equations

MA 8.3.1.b Describe relationships using algebraic expressions, equations, and inequalities (e.g., two-step, one variable)

MA 8.3.1.c Identify constant slope from tables and graphs

MA 8.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

MA 8.3.2.a Model contextualized problems using various representations (e.g., two-step/one variable equations)

MA 8.3.2.b Represent a variety of quantitative relationships using algebraic expressions and two-step/one variable equations

MA 8.3.3 Procedures: Students will apply properties to solve equations and inequalities.

MA 8.3.3.a Explain the multiplicative inverse (e.g., 4 * ¼= 1)

MA 8.3.3.b Evaluate numerical expressions containing whole number exponents (e.g., if $x = 4$, then $(x + 3)^2 + 5x = ?$)

MA 8.3.3.c Solve multi-step equations involving rational numbers

MA 8.3.3.d Solve two-step inequalities involving rational numbers

MA 8.3.3.e Identify and explain the properties used in solving two-step inequalities and multi-step equations

MA 8.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 8.4.1 Display and Analysis: Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.

MA 8.4.1.a Represent data using circle graphs and box plots with and without the use of technology

MA 8.4.1.b Compare characteristics between sets of data or within a given set of data

MA 8.4.1.c Find, interpret, and compare measures of central tendency (mean, median, mode) and the quartiles for sets of data

MA 8.4.1.d Select the most appropriate unit of central tendency for sets of data

MA 8.4.1.e Identify misrepresentation and misinterpretation of data represented in circle graphs and box plots

MA 8.4.2 Predictions and Inferences: Students will evaluate predictions and make inferences based on data.

MA 8.4.2.a Evaluate predictions to formulate new questions and plan new studies

MA 8.4.2.b Compare and contrast two sets of data to make inferences

MA 8.4.3 Probability: Students will apply and interpret basic concepts of probability.

MA 8.4.3.a Identify complementary events and calculate their probabilities

MA 8.4.3.b Compute probabilities for independent compound events

Nebraska Mathematics Standards – Grade 12

MA 12.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 12.1.1 Number System: Students will represent and show relationships among real numbers.

MA 12.1.1.a Demonstrate multiple equivalent forms of irrational numbers (e.g., $\sqrt{8} = 8^{1/2} = 2\sqrt{2}$)

MA 12.1.1.b Compare, contrast and apply the properties of numbers and the real number system, including rational, irrational, imaginary, and complex numbers

MA 12.1.2 Operations: Students will demonstrate the meaning and effects of arithmetic operations with real numbers.

MA 12.1.2.a Use drawings, words, and symbols to explain the effects of such operations as multiplication and division, and computing positive powers and roots on the magnitude of quantities (e.g., if you take the square root of a number, will the result always be smaller than the original number? (e.g., $\sqrt{1/4} = 1/2$)

MA 12.1.2.b Use drawings, words, and symbols to explain that the distance between two numbers on the number line is the absolute value of their difference

MA 12.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

MA 12.1.3.a Compute accurately with real numbers

MA 12.1.3.b Simplify exponential expressions (e.g., powers of -1, 0, ½, $3^2 * 3^2 = 3^4$)

MA 12.1.3.c Multiply and divide numbers using scientific notation

MA 12.1.3.d Select, apply, and explain the method of computation when problem solving using real numbers (e.g., models, mental computation, paper-pencil, or technology)

MA 12.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 12.1.4.a Use estimation methods to check the reasonableness of real number computations and decide if the problem calls for an approximation or an exact number (e.g., 10 π (pi) is approximately 31.4, square and cube roots)

MA 12.1.4.b Distinguish relevant from irrelevant information, identify missing information and either find what is needed or make appropriate estimates

MA 12.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 12.2.1 Characteristics: Students will analyze characteristics, properties, and relationships among geometric shapes and objects.

MA12.2.1.a Identify and explain the necessity of and give examples of definitions and theorems

MA 12.2.1.b Analyze properties and relationships among classes of two and three dimensional geometric objects using inductive reasoning and counterexamples

MA 12.2.1 c State and prove geometric theorems using deductive reasoning (e.g., parallel lines with transversals, congruent triangles, similar triangles)

MA 12.2.1.d Apply geometric properties to solve problems (e.g., parallel lines, line transversals, similar triangles, congruent triangles, proportions)

MA 12.2.1.e Identify and apply right triangle relationships (e.g., sine, cosine, tangent, special right triangles, converse of Pythagorean Theorem)

MA 12.2.1.f Recognize that there are geometries, other than Euclidean geometry, in which the parallel postulate is not true

MA12.2.1.g Know the definitions and basic properties of a circle and use them to prove basic theorems and solve problems

MA 12.2.2 Coordinate Geometry: Student will use coordinate geometry to analyze and describe relationships in the coordinate plane.

MA 12.2.2.a Use coordinate geometry to analyze geometric situations (e.g., parallel lines, perpendicular lines, circle equations)

MA 12.2.2.b Apply the midpoint formula

MA 12.2.2.c Apply the distance formula

MA 12.2.2.d Prove special types of triangles and quadrilaterals (e.g., right triangles, isosceles trapezoid, parallelogram, rectangle, square)

MA 12.2.3 Transformations: Students will apply and analyze transformations.

MA 12.2.3.a Explain and justify the effects of simple transformations on the ordered pairs of two-dimensional shapes

MA 12.2.3.b Perform and describe multiple transformations

MA 12.2.4 Spatial Modeling: Students will use visualization, spatial reasoning, and geometric modeling to solve problems.

MA 12.2.4.a Sketch and draw appropriate representations of geometric objects using ruler, protractor, or technology

MA 12.2.4.b Use geometric models to visualize, describe, and solve problems (e.g., find the height of a tree; find the amount of paint needed for a room; scale model)

MA 12.2.5 Measurement: Students will apply the units, systems, and formulas to solve problems.

MA 12.2.5.a Use strategies to find surface area and volume of complex objects

MA 12.2.5.b Apply appropriate units and scales to solve problems involving measurement

MA 12.2.5.c Convert between various units of area and volume, such as square feet to square yards

MA 12.2.5.d Convert equivalent rates (e.g., feet/second to miles/hour)

MA 12.2.5.e Find arc length and area of sectors of a circle

MA 12.2.5.f Determine surface area and volume of three-dimensional objects (e.g., spheres, cones, pyramids)

MA12.2.5.g Know that the effect of a scale factor k on length, area and volume is to multiply each by k, k^2 and k^3, respectively

MA 12.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 12.3.1 Relationships: Students will generalize, represent, and analyze relationships using algebraic symbols.

NON LINEAR FUNCTIONS INCLUDE: QUADRATIC, ABSOLUTE VALUE, SQUARE ROOT, EXPOTENTIAL

MA 12.3.1.a Represent, interpret, and analyze functions with graphs, tables, and algebraic notation and convert among these representations (e.g., linear, non-linear)

MA 12.3.1.b Identify domain and range of functions represented in either symbolic or graphical form (e.g., linear, non-linear)

MA 12.3.1.c Identify the slope and intercepts of a linear relationship from an equation or graph

MA 12.3.1.d Identify characteristics of linear and non-linear functions

MA 12.3.1.e Graph linear and non-linear functions

MA 12.3.1.f Compare and analyze the rate of change by using ordered pairs, tables, graphs, and equations

MA 12.3.1.g Graph and interpret linear inequalities

MA 12.3.1.h Represent, interpret, and analyze functions and their inverses

MA 12.3.1.i Determine if a relation is a function

MA 12.3.2 Modeling in Context: Students will model and analyze quantitative relationships.

CONTEXTUALIZED PROBLEM – A MATHEMATICAL SITUATION PLACED IN A PARTICULAR CONTEXT (E.G., USING WORDS, DIAGRAMS, TABLES, DRAWINGS, ETC.)

MA 12.3.2.a Model contextualized problems using various representations (e.g., graphs, tables, one variable equalities, one variable inequalities, linear equations in slope

intercept form, inequalities in slope intercept form, system of linear equations with two variables)

MA 12.3.2.b Represent a variety of quantitative relationships using linear equations and one variable inequalities

MA 12.3.2.c Analyze situations to determine the type of algebraic relationship (e.g., linear, nonlinear)

MA 12.3.2.d Model contextualized problems using various representations for non-linear functions (e.g., quadratic, exponential, square root, and absolute value)

MA 12.3.3 Procedures: Students will represent and solve equations and inequalities.

MA 12.3.3.a Explain/apply the reflexive, symmetric, and transitive properties of equality

MA 12.3.3.b Simplify algebraic expressions involving exponents (e.g., $(3x^4)^2$)

MA 12.3.3.c Add and subtract polynomials

MA 12.3.3.d Multiply and divide polynomials
(e.g., divide $x^3 – 8$ by $x – 2$, divide $x^4 – 5x^3 – 2x$ by x^2)

MA 12.3.3.e Factor polynomials

MA 12.3.3.f Identify and generate equivalent forms of linear equations

MA 12.3.3.g Solve linear equations and inequalities including absolute value

MA 12.3.3.h Identify and explain the properties used in solving equations and inequalities

MA 12.3.3.i Solve quadratic equations (e.g., factoring, graphing, quadratic formula)

MA 12.3.3.j Add, subtract, and simplify rational expressions

MA 12.3.3.k Multiply, divide, and simplify rational expressions

MA 12.3.3.l Evaluate polynomial and rational expressions and expressions containing radicals and absolute values at specified values of their variables

MA 12.3.3.m Derive and use the formulas for the general term and summation of finite arithmetic and geometric series

MA 12.3.3.n Combine functions by composition, as well as by addition, subtraction, multiplication, and division

MA 12.3.3.o Solve an equation involving several variables for one variable in terms of the others

MA 12.3.3.p Analyze and solve systems of two linear equations in two variables algebraically and graphically

MA 12.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 12.4.1 Display and Analysis: Students will formulate a question and design a survey or an experiment in which data is collected and displayed in a variety of formats, then select and use appropriate statistical methods to analyze the data.

MA 12.4.1.a Interpret data represented by the normal distribution and formulate conclusions

MA 12.4.1.b Compute, identify, and interpret measures of central tendency (mean, median, mode) when provided a graph or data set

MA 12.4.1.c Explain how sample size and transformations of data affect measures of central tendency

MA 12.4.1.d Describe the shape and determine spread (variance, standard deviation) and outliers of a data set

MA 12.4.1.e Explain how statistics are used or misused in the world

MA 12.4.1.f Create scatter plots, analyze patterns, and describe relationships in paired data

MA 12.4.1.g Explain the impact of sampling methods, bias, and the phrasing of questions asked during data collection and the conclusions that can rightfully be made

MA 12.4.1.h Explain the differences between randomized experiment and observational studies

MA 12.4.2 Predictions and Inferences: Students will develop and evaluate inferences to make predictions.

MA 12.4.2.a Compare data sets and evaluate conclusions using graphs and summary statistics

MA 12.4.2.b Support inferences with valid arguments

MA 12.4.2.c Develop linear equations for linear models to predict unobserved outcomes using regression line and correlation coefficient

MA 12.4.2.d Recognize when arguments based on data confuse correlation with causation

MA 12.4.3 Probability: Students will apply and analyze concepts of probability.

MA 12.4.3.a Construct a sample space and a probability distribution

MA 12.4.3.b Identify dependent and independent events and calculate their probabilities

MA 12.4.3.c Use the appropriate counting techniques to determine the probability of an event (e.g., combinations, permutations)

MA 12.4.3.d Analyze events to determine if they are mutually exclusive

MA 12.4.3.e Determine the relative frequency of a specified outcome of an event to estimate the probability of the outcome

~~GENERAL INFORMATION~~

~~Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.~~

~~Scope and Application of this Appendix. This Appendix provides science model academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 of the Revised Statutes of Nebraska (R.R.S.)), and the requirements of this Chapter.~~

~~Example Indicators. Following each standard is a set of example indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the standards are repeated in whole or in part at different grade levels, the example indicators show progression and increased expectations throughout the grades. Although the example indicators are not an exhaustive list of what can be done to meet the standards, they are representative of the content for each standard at each grade level.~~

~~Investigate and Understand. Many of the *Nebraska K-12 Science Standards* contain the words investigate and understand. These words were chosen to communicate the range of rigorous science skills and knowledge levels embedded in each standard. Limiting a standard to one observable behavior, such as "describe" or "explain," would have narrowed the interpretation of the rich, highly rigorous, and inclusive content standard.~~

~~"Investigate" refers to scientific methodology and implies systematic use of the following inquiry skills:~~

- ~~Observing~~
- ~~Classifying and sequencing~~
- ~~Communicating~~
- ~~Measuring~~
- ~~Predicting~~
- ~~Hypothesizing~~
- ~~Inferring~~
- ~~Defining, controlling, and manipulating variables in experimentation~~
- ~~Designing, constructing, and interpreting models~~
- ~~Interpreting, analyzing, and evaluating data~~

~~"Understand" refers to various levels of knowledge application. In the *Nebraska K-12 Science Standards* these knowledge levels include the ability to:~~

- ~~Recall or recognize important information, key definitions, terminology, and facts.~~
-
- ~~Explain the information in one's own words, comprehend how the information is related to other key facts, and suggest additional interpretations of its meaning or importance.~~
-
- ~~Apply the facts and principles to new problems or situations, recognize what information is required for a particular situation, explain new phenomena with the information, and determine when there are exceptions.~~
-
- ~~Analyze the underlying details of important facts and principles, and recognize the key relations and patterns that are not always readily visible.~~
-
- ~~Arrange and combine important information, facts, and principles to produce a new idea, plan, procedure, or product.~~
-
- ~~Make judgments about information in terms of accuracy, precision, consistency, or effectiveness.~~

~~The level of achievement in investigation and understanding will vary based on the average developmental level of students in grades 1, 4, 8, and 12. This also allows flexibility in establishing the scope and sequence of investigative skills and understanding.~~

~~Therefore, the use of "investigate" and "understand" allows each content standard to become the basis for a broad range of teaching objectives, which the local school will develop and refine to meet the intent of the *Nebraska K-12 Science Standards*.~~

~~Unifying Concepts and Processes~~

~~Systems, Order, and Organization~~

~~*Systems*-A system is an organized group of related objects or components that form a whole. Systems can consist, for example, of organisms, machines, fundamental particles, galaxies, ideas, numbers, transportation, and education. The goal is to help students think and analyze in terms of systems.~~

~~*Order* Order is the behavior of units of matter, objects, organisms, or events in the universe. The goal is to help students develop knowledge about factors influencing objects, organisms, systems, or events.~~

~~*Organization* Organization is a hierarchic and systematic way of thinking about the world. The goal is to help students describe physical and living systems at different levels of organization.~~

~~Evidence, Models, and Explanation~~

~~*Evidence* Evidence consists of observations and data on which to base scientific explanations. The goal is to help students use evidence to understand interactions and predict changes.~~

~~*Models* Models are tentative schemes or structures that correspond to real objects, events, or classes of events, and that have explanatory power. The goal is to help students learn how to make and use many models, including physical objects, plans, mental constructs, mathematical equations, and computer simulations.~~

~~*Explanations* Explanations provide interpretation, meaning, or sense to objects, organisms, or events. Explanations incorporate existing scientific knowledge and new evidence from observations, experiments, or models into internally consistent, logical statements, such as hypotheses, laws, principles, and theories. The goal is to help students create explanations which incorporate a scientific knowledge base, logic, and higher levels of analysis.~~

~~Constancy, Change, and Measurement~~

~~*Constancy* Constancy is uniformity in nature, value, and extent. The goal is to help students recognize those conditions or values that cannot change or be changed.~~

~~*Change* Change denotes making something different. Changes in systems vary in rate, scale, and pattern, including trends and cycles. The goal is for students to identify and measure changes in properties of materials, positions of objects, motion, and form and function of systems.~~

~~*Measurement* Measurement makes quantitative observations about objects, events, or systems. The goal is to help students use tools of measurement and measurement systems and to achieve understandings of scales and rates.~~

~~Form and Function~~

~~*Form* Form is the shape of an object. The goal is for students to use form to explain function.~~

~~*Function* Function is the normal or characteristic action of anything. The goal is for students to use function to explain form.~~

~~Evolution and Equilibrium~~

~~*Evolution* Evolution is a series of changes, some gradual and some sporadic, that account for the present form and function of objects, organisms, and natural and designed systems. The goal is for students to recognize that objects and systems change over time.~~

~~*Equilibrium* Equilibrium is the physical state in which forces and changes occur in opposite and off-setting directions. The goal is for students to recognize systems that are in equilibrium.~~

~~Coordination with Mathematics. Science requires the use of mathematics in the collection and treatment of data and in the reasoning used to develop concepts, laws, and theories. The mathematics that students should understand and use in the study of science are listed below.~~

~~First Grade~~

~~1. Measure, collect, and organize data.~~

~~2. Recognize and describe patterns.~~

~~3. Develop skills of estimation and judgment.~~

~~Fourth Grade~~

~~1. Measure, collect, and organize data.~~

~~2. Recognize and describe patterns.~~

~~3. Develop skills of estimation and judgment.~~

~~4. Explore chance.~~

~~5. Use variables to express relationships.~~

~~Eighth Grade~~

~~1. Represent situations verbally, numerically, graphically, geometrically, or symbolically.~~

~~2. Use estimations.~~

~~3. Identify and use functional relationships.~~

~~4. Develop and use tables, graphs, and rules to describe situations.~~

~~5. Use statistical methods to describe, analyze, evaluate, and make decisions.~~

~~6. Use geometry in solving problems.~~

~~7. Create experimental and theoretical models of situations involving probabilities.~~

~~Twelfth Grade~~

~~1. Develop ability to use realistic applications and modeling in trigonometry.~~

~~2. Understand connections within a problem situation, its model as a function in symbolic form, and the graph of that function.~~

~~3. Use functions that are constructed as models of real-world problems.~~

~~4. Know how to use statistics and probability.~~

~~FIRST GRADE. In the primary grades, students should learn science at their developmental level. Young children develop concepts, vocabulary, and inquiry skills by observing common materials and organisms. When engaged in science inquiry, they develop the ability to ask questions, investigate the world around them, and use their observations to create reasonable explanations for their questions.~~

~~1.1 Unifying Concepts and Processes - Unifying concepts and processes help students think about and integrate a range of basic ideas which builds an understanding of the natural world.~~

~~1.1.1 By the end of first grade, students will develop an understanding of systems, order, and organization.~~

~~Example indicators:~~

- ~~Use one or more of the five senses to observe and describe objects~~
- ~~Sort objects by their characteristics.~~

~~1.1.2 By the end of first grade, students will develop an understanding of evidence, models, and explanation.~~

~~Example indicator:~~

- ~~Describe how a model (photos, maps, globes, illustrations, stuffed animals, toys, and building blocks) can represent an object, living thing, or an event.~~

~~1.1.3 By the end of the first grade, students will develop an understanding of change, constancy, and measurement.~~

~~Example indicators:~~

- ~~Observe and measure change.~~
- ~~Describe how things change in some ways and stay the same in others.~~
- ~~Compare two or more objects using direct comparisons of measurement (shorter, longer, taller, heavier, and lighter).~~
- ~~Use both standard units of measurement (inches and centimeters) and nonstandard units of measurement (string and paper clips).~~
- ~~Use appropriate measurement systems for different purposes.~~

~~1.1.4 By the end of first grade, students will develop an understanding of form and function.~~

~~Example indicators:~~

- ~~Demonstrate how the shape of a tool is related to its use.~~
- ~~Explain how specific characteristics of living things influence how they interact with their environment (how the long neck of the giraffe and webbed feet on a duck help them to reach their food).~~

~~1.2 Science as Inquiry - Science as inquiry requires students to combine processes and scientific knowledge with scientific reasoning and critical thinking to develop their understanding of science.~~

~~1.2.1 By the end of first grade, students will develop the abilities needed to do scientific inquiry.~~

~~Example indicators:~~

- ~~Ask questions about their surroundings.~~
- ~~Collect scientific information from careful observation.~~
- ~~Use simple equipment and tools (rulers and magnifiers) to extend the senses.~~
- ~~Share findings with classmates, families, or community members.~~

~~1.3 Physical Science - Physical science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~1.3.1 By the end of first grade, students will develop an understanding of the characteristics of materials.~~

~~Example indicators:~~

- ~~Observe and describe characteristics of common materials (paper, wood, metal, and wool).~~
- ~~Observe and describe properties of common materials (how they will float, sink, mix, dissolve, or not dissolve in various liquids).~~
- ~~Observe and classify materials as a solid, liquid, or gas.~~

~~1.4 Life Science - Life science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~1.4.1 By the end of first grade, students will develop an understanding of the characteristics of living things.~~

~~Example indicators:~~

- ~~Differentiate between living and nonliving things.~~
- ~~Investigate how living things need food, water, and air to survive.~~
- ~~Describe how roots, stems, and leaves serve different functions for plants.~~

- ~~Compare and contrast animals by specific characteristics (body covering, diet, and locomotion).~~

- ~~Observe and match organisms to their distinct habitats.~~

~~1.4.2 By the end of first grade, students will develop an understanding of the life cycles of organisms.~~

~~Examples indicators:~~

- ~~Describe how living things change as they grow.~~

- ~~Describe how offspring resemble their parents.~~

~~1.5 Earth and Space Science - Earth and space science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~1.5.1 By the end of first grade, students will develop an understanding of the characteristics of earth materials.~~

~~Example indicators:~~

- ~~Observe and identify a variety of materials (rock, soils, and water) that makes up the earth's surface.~~
- ~~Identify materials of earth (water) support life.~~

~~1.5.2 By the end of first grade, students will develop an understanding of the objects in the sky.~~

~~Example indicators:~~

- ~~Recognize objects in the sky (the sun, moon, and stars).~~

- ~~Investigate that the sun provides heat and light.~~

~~1.5.3 By the end of first grade, students will develop an understanding of the changes in the earth and sky.~~

~~Example indicators:~~

- ~~Describe and record daily weather changes.~~

- ~~Describe and record seasonal weather changes.~~

~~1.6 Science and Technology - An understanding of science and technology establishes connections between the natural and designed world, linking science and technology.~~

~~1.6.1 By the end of first grade, students will develop an understanding of technological design.~~

~~Example indicator:~~

- ~~Explain how the use of common household tools is determined by their design.~~

~~1.6.2 By the end of first grade, students will develop an understanding of science and technology.~~

~~Example indicators:~~

- ~~Use various tools (magnifiers, thermometers, or rulers) to improve observations and measurements.~~
- ~~Identify the technology used in different occupations.~~

~~1.7 Science in Personal and Social Perspectives - A personal and social perspective of science helps a student to understand and act on personal and social issues. This perspective builds a foundation for future decision making.~~

~~1.7.1 By the end of first grade, students will develop an understanding of personal health.~~

~~Example indicators:~~

- ~~Identify safety rules for home and school.~~
- ~~Engage in personal care that will maintain and improve health.~~
- ~~Describe a healthy diet.~~
- ~~Explain that substances can benefit or damage the way the body functions.~~

~~1.7.2 By the end of first grade, students will develop an understanding of resources.~~

~~Example indicator:~~

- ~~Observe and describe how reducing, reusing, and recycling help our environment.~~

~~1.8 History and Nature of Science - The history and nature of science illustrates different aspects of scientific inquiry, the human aspects of science, and the role that science has played in the development of various cultures.~~

~~1.8.1 By the end of first grade, students will develop an understanding of science as a human endeavor.~~

~~Example indicators:~~

- ~~Recognize the contributions to science made by men and women from many places.~~
- ~~Conduct an investigation as part of a team.~~

~~FOURTH GRADE. In the intermediate grades, students learn science concepts, vocabulary, and inquiry skills at their developmental level. Students should develop knowledge and process skills while engaged in science inquiry. They should ask simple questions, design and conduct investigations (in the form of a "fair" test), and present their results to others.~~

~~4.1 Unifying Concepts and Processes - Unifying concepts and processes help students think about and integrate a range of basic ideas which builds an understanding of the natural world.~~

~~4.1.1 By the end of fourth grade, students will develop an understanding of systems, order, and organization.~~

~~Example indicators:~~

- ~~Describe the parts that make up a system.~~
- ~~Relate how the parts of a system affect the whole system.~~

~~4.1.2 By the end of fourth grade, students will develop an understanding of evidence, models, and explanation.~~

~~Example indicators:~~

- ~~Use evidence gathered from an investigation to develop a scientific explanation.~~
- ~~Create a model, graph, or illustration that represents an object, living thing, or an event.~~

- ~~Explain and answer questions about a model and how it represents an object, living thing, or an event.~~

- ~~Explain procedures or ideas in more than one way (sketches, charts, and graphs).~~

~~4.1.3 By the end of fourth grade, students will develop an understanding of change, constancy, and measurement.~~

~~Example indicators:~~

- ~~Describe observable change (speed, pattern, shape, position, and size).~~

- ~~Measure a change using appropriate tools and units of measurement.~~

~~4.1.4 By the end of fourth grade, students will develop an understanding of form and function.~~

~~Example indicator:~~

- ~~Construct a device to perform a simple task and explain how it works.~~

~~4.2 Science As Inquiry – Science as inquiry requires students to combine processes and scientific knowledge with scientific reasoning and critical thinking to develop their understanding of science.~~

~~4.2.1 By the end of fourth grade, students will develop the abilities needed to do scientific inquiry.~~

~~Example indicators:~~

- ~~Ask a question about objects, organisms, and events in their surroundings.~~

- ~~Plan and conduct a simple investigation.~~

- ~~Use simple equipment and tools (thermometers and scales) to gather data and extend the senses.~~

- ~~Use data to develop reasonable explanations.~~

- ~~Communicate procedures, results, and explanations of an investigation.~~

~~4.3 Physical Science – Physical science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~4.3.1 By the end of fourth grade, students will develop an understanding of the characteristics of objects and materials.~~

~~Example indicators:~~

- ~~Classify objects by observable characteristics (shape, size, and color).~~
- ~~Compare and contrast characteristics of common materials using tools (rulers, scales, thermometers, microscopes, and hand lenses).~~
- ~~Demonstrate that materials can change from solid to liquid to gas by heating and from gas to liquid to solid by cooling.~~

~~4.3.2 By the end of fourth grade, students will develop an understanding of the position and motion of objects.~~

~~Example indicators:~~

- ~~Use reference points to describe the position of an object.~~
- ~~Describe an object's motion by tracing its position over time.~~
- ~~Demonstrate that the position and motion of objects can be changed by pushing or pulling.~~
- ~~Demonstrate how sound is produced when objects vibrate.~~
- ~~Change the pitch of sound by changing the rate of vibration.~~

~~4.3.3 By the end of fourth grade, students will develop an understanding of light, heat, electricity, and magnetism.~~

~~Example indicators:~~

- ~~Distinguish between reflection and refraction of light.~~

- ~~Identify ways in which heat can be produced (burning, rubbing, or mixing one substance with another).~~
- ~~Demonstrate heat can flow from one object to another by conduction.~~
- ~~Use electricity to produce heat, sound, or magnetic effects.~~
- ~~Demonstrate electrical circuits require a complete loop through which an electrical current can pass.~~
- ~~Describe the physical properties of magnets.~~

~~4.4 Life Science – Life science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~4.4.1 By the end of fourth grade, students will develop an understanding of the characteristics of living things.~~

~~Example indicators:~~

- ~~Describe the differences between plants and animals.~~
- ~~Describe the various structures of plants and animals necessary for survival, and reproduction.~~
- ~~Describe how internal stimuli (hunger) and external stimuli (changes in the environment) affect behavior of living things.~~

~~4.4.2 By the end of fourth grade, students will develop an understanding of the life cycles of living things.~~

~~Example indicators:~~

- ~~Describe the life cycle of an organism.~~
- ~~Identify inherited characteristics of living things (color and number of eyes).~~
- ~~Identify learned characteristics of living things (language or hunting for food).~~

~~4.4.3 By the end of fourth grade, students will develop an understanding of living things and environments.~~

~~Example indicators:~~

- ~~Diagram a food chain.~~
- ~~Explain how environmental changes affect behavior and survival of living things.~~
- ~~Describe how humans and other living things cause both positive and negative changes in their environment.~~

~~4.5 Earth and Space Science – Earth and space science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~4.5.1 By the end of fourth grade, students will develop an understanding of the characteristics of earth materials.~~

~~Example indicators:~~

- ~~Identify characteristics of soils, minerals, rocks, water, and the atmosphere.~~
- ~~List earth materials that are used by humans (water, fossil, fuels, ores, soils).~~
- ~~Select the best earth material for a specific human use (marble-buildings, clay-pottery, coal-heat).~~
- ~~Describe an ancient environment based on fossil evidence.~~

~~4.5.2 By the end of fourth grade, students will develop an understanding of objects in the sky.~~

~~Example indicator:~~

- ~~Observe and describe how objects move in patterns (sun, moon, stars, and clouds).~~

~~4.5.3 By the end of fourth grade, students will develop an understanding of the changes in the earth and sky.~~

~~Example indicators:~~

- ~~Describe how slow processes (erosion) and rapid processes (earthquakes) change the earth's surface.~~
- ~~Describe and measure changes in weather (temperature, precipitation, and wind direction and speed).~~

~~4.6 Science and Technology – An understanding of science and technology establishes connections between the natural and designed world, linking science and technology.~~

~~4.6.1 By the end of fourth grade, students will develop an understanding of technological design.~~

~~Example indicators:~~

- ~~Identify a simple problem.~~
- ~~Propose a solution to a simple problem.~~
- ~~Implement the proposed solution.~~
- ~~Evaluate the implementation.~~
- ~~Communicate the problem, design, and solution.~~

~~4.6.2 By the end of fourth grade, students will develop an understanding of science and technology.~~

~~Example indicators:~~

- ~~Identify tools or techniques that use scientific knowledge to solve problems.~~
- ~~Identify, investigate, and solve a problem in the home or school.~~

~~4.6.3 By the end of fourth grade, students will develop an understanding of the abilities to distinguish between natural objects and objects made by humans.~~

~~Example indicator:~~

- ~~Classify an object as either natural or manufactured.~~

~~4.7 Science in Personal and Social Perspectives - A personal and social perspective of science helps a student understand and act on personal and social issues. This perspective builds a foundation for future decision making.~~

~~4.7.1 By the end of fourth grade, students will develop an understanding of personal health.~~

~~Example indicators:~~

- ~~Explain how the body uses food and how various foods contribute to health.~~
- ~~Describe how different substances (tobacco, alcohol, and drugs) can damage the body and alter how it functions.~~

~~4.7.2 By the end of fourth grade, students will develop an understanding of the types of resources.~~

~~Example indicators:~~

- ~~List examples of resources which are basic materials (air, water, and soil).~~
- ~~List examples of resources produced from basic materials (food, fuel, and building materials).~~
- ~~List examples of resources which are intangible materials (beauty, security, and quiet places).~~
- ~~Research and report on the supply of various resources.~~

~~4.7.3 By the end of fourth grade, students will develop an understanding of environmental changes.~~

~~Example indicator:~~

- ~~Distinguish between natural environmental changes and human influenced environmental changes.~~

~~4.7.4 By the end of fourth grade, students will develop an understanding of how science and technology helps communities resolve problems.~~
~~Example indicator:~~

- ~~Research and explain how science and technology affect the quality of life.~~

~~4.8 History and Nature of Science – The history and nature of science illustrates different aspects of scientific inquiry, the human aspects of science, and the role that science has played in the development of various cultures.~~

~~4.8.1 By the end of fourth grade, students will develop an understanding of science as a human endeavor.~~

~~Example indicators:~~

- ~~Research and report on the contributions to science and technology throughout history by men and women scientists of diverse cultures.~~
- ~~Research and report on how science is used in different careers.~~
- ~~Research and report on how current scientific discoveries illustrate that science is an ongoing process.~~

~~EIGHTH GRADE. At the middle school level, students expand their scientific inquiry skills through knowledge, observation, ideas, and questions. Middle school students will begin to recognize the relationships between explanation and evidence. They understand that background knowledge and theories guide the design of investigations, the types of observations made, and the interpretations of data. Student investigations will shape and modify students' background knowledge.~~

~~8.1 Unifying Concepts and Processes – Unifying concepts and processes help students think about and integrate a range of basic ideas which builds an understanding of the natural world.~~

~~8.1.1 By the end of eighth grade, students will develop an understanding of systems, order, and organization.~~

~~Example indicators:~~

- ~~Recognize and describe key parts and functions of any system.~~
- ~~Analyze and predict the interactions within a system and between systems.~~
- ~~Create and use classification schemes.~~
- ~~Interpret cause and effect relationships within and between systems.~~

~~8.1.2 By the end of eighth grade, students will develop an understanding of evidence, models, and explanation.~~

~~Example indicators:~~

- ~~Collect, manipulate, and analyze data from an experiment.~~
- ~~Observe and develop models (physical, mathematical, mental, and computer simulations).~~
- ~~Interpret and explain results of experimentation.~~
- ~~Analyze whether or not investigative procedures and conclusions are reasonable.~~

~~8.1.3 By the end of eighth grade, students will develop an understanding of change, constancy, and measurement.~~

~~Example indicators:~~

- ~~Select and use appropriate measurement units.~~
- ~~Quantify changes in systems (magnitude, direction, and rate).~~
- ~~Apply English and metric systems of measurements.~~
- ~~Investigate and describe changes in terms of scale, rate, and pattern.~~

~~8.1.4 By the end of eighth grade, students will develop an understanding of form and function.~~

~~Example indicator:~~

- ~~Demonstrate how the design of an object makes it possible for that object to perform a specialized task (a bicycle or an artificial heart).~~

~~8.2 Science as Inquiry – Science as inquiry requires students to combine processes and scientific knowledge with scientific reasoning and critical thinking to develop their understanding of science.~~

~~8.2.1 By the end of eighth grade, students will develop the abilities needed to do scientific inquiry.~~

~~Example indicators:~~

- ~~Identify questions and form hypotheses that can be examined through scientific investigations.~~
- ~~Design and conduct a scientific investigation.~~
- ~~Use appropriate tools and techniques to gather, analyze, and interpret data.~~
- ~~Given evidence, develop descriptions, explanations, predictions, and models.~~
- ~~Show the relationship between evidence and explanations.~~
- ~~Recognize and analyze alternative explanations and predictions.~~
- ~~Communicate scientific procedures and explanations.~~
- ~~Use mathematics in scientific inquiry.~~

~~8.3 Physical Science – Physical science focuses on science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~8.3.1 By the end of eighth grade, students will develop an understanding of properties and changes of properties in matter.~~

~~Example indicators:~~

- ~~Investigate and demonstrate that characteristic properties of a substance (density, boiling point, and solubility) do not depend on the amount of the substance.~~
- ~~Observe, describe, and measure physical and chemical properties of matter.~~
- ~~Explain that all matter is composed of elements which may combine in a variety of ways to form compounds.~~
- ~~Investigate and explain that in chemical reactions new properties are created and total mass is conserved.~~

~~8.3.2 By the end of eighth grade, students will develop an understanding of motion and forces.~~

~~Example indicators:~~

- ~~Investigate and describe the motion of an object by its position, direction of motion, and speed.~~
- ~~Investigate and demonstrate that the speed and/or direction of an object changes when a force is applied to that object.~~

~~8.3.3 By the end of eighth grade, students will develop an understanding of the forms of energy and how energy is transferred.~~

~~Example indicators:~~

- ~~Investigate and describe the transfer of light energy.~~
- ~~Investigate and demonstrate how energy is transferred using simple machines.~~
- ~~Investigate and describe how heat is transferred from a warmer object to a cooler object until both reach the same temperature.~~
- ~~Investigate and describe the properties and transfer of sound energy.~~
- ~~Investigate and describe the transfer of energy from electrical and magnetic sources to different energy forms (heat, light, sound, and chemical).~~

~~8.4 Life Science – Life science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~8.4.1 By the end of eighth grade, students will develop an understanding of the structure and function in living systems.~~

~~Example indicators:~~

- ~~Investigate and describe the levels of organizations: cells, tissues, organs, organ systems, whole organisms, and ecosystems.~~
- ~~Investigate and demonstrate that all living things are composed of cells.~~

- ~~Investigate and explain how cells sustain life through functions (growth and nutrition).~~

- ~~Investigate and describe the specialized function performed by specialized cells (muscular and skeletal), in multicellular organisms.~~

- ~~Investigate and describe the human body systems and how they interact.~~

- ~~Investigate and explain how disease affects the structure and/or function of an organism.~~

~~8.4.2 By the end of eighth grade, students will develop an understanding of reproduction and heredity.~~

~~Example indicators:~~

- ~~Investigate and describe how all organisms reproduce through sexual or asexual reproduction.~~

- ~~Investigate and describe that in many species, offspring receive hereditary information from the female (eggs) and male (sperm).~~

- ~~Investigate and explain that chromosomes contain genes which influence heredity.~~

- ~~Investigate and describe the effects of inherited traits and environmental influences on an organism's characteristics.~~

~~8.4.3 By the end of eighth grade, students will develop an understanding of regulation and behavior.~~

~~Example indicators:~~

- ~~Investigate and explain how organisms' behaviors enhance their abilities to obtain and use resources, grow, and reproduce.~~

- ~~Investigate and examine how an organism senses change in its internal or external environment and responds to keep conditions within a required range.~~

- ~~Investigate and explain how behavior is a response to internal and external stimuli determined by heredity and experience.~~

- ~~Investigate and explain how an organism's behavior evolves through environmental adaptation.~~

~~8.4.4 By the end of eighth grade, students will develop an understanding of populations and ecosystems.~~

~~Example indicators:~~

- ~~Investigate and describe that a population consists of all individuals of a species at a given place and time.~~

- ~~Investigate and analyze the living and nonliving factors that determine the number of organisms an ecosystem can support.~~

- ~~Describe an organism by the function it serves in an ecosystem (producer, consumer, and decomposer).~~
- ~~Investigate and explain how energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and that energy then passes from organism to organism in food webs.~~

~~8.4.5 By the end of eighth grade, students will develop an understanding of diversity and adaptations of organisms.~~

~~Example indicators:~~

- ~~Explain how internal structures, similarity of chemical processes, (photosynthesis and respiration) and evidence of common ancestry demonstrate unity among organisms.~~

- ~~Investigate and explain how organisms adapt to living and nonliving factors in a biome.~~

- ~~Investigate and explain how environmental changes created by nature and by humans may cause species extinction.~~

~~8.5 Earth and Space Science – Earth and space science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~8.5.1 By the end of eighth grade, students will develop an understanding of structure of the earth.~~

~~Example indicators:~~

- ~~Investigate and describe the crust, mantle, and core of the earth.~~
- ~~Investigate and describe how a combination of constructive and destructive forces create land forms.~~
- ~~Investigate and describe the composition of soils.~~
- ~~Investigate and describe the water cycle.~~
- ~~Investigate and describe the composition of the atmosphere at different altitudes.~~
- ~~Investigate and describe the influence of topography, location, and oceans on climate.~~
- ~~Investigate and describe the effect of living organisms on weathering and the atmosphere.~~

~~8.5.2 By the end of eighth grade, students will develop an understanding of the earth's history.~~

~~Example indicators:~~

- ~~Investigate and describe how earth processes that occur today (volcanism, weather, and erosion) are similar to those that occurred in the past.~~
- ~~Investigate and use the fossil record to provide evidence and explain how environmental conditions have changed.~~

~~8.5.3 By the end of eighth grade, students will develop an understanding of the earth in the solar system.~~

~~Example indicators:~~

- ~~Investigate and list the components of the solar system.~~
- ~~Investigate and describe the motion of objects in the solar system that support the concepts of day, year, eclipses, and phases of the moon.~~

- ~~Investigate and describe the influence of gravity on objects in the solar system.~~
- ~~Investigate and describe the sun as the major source of energy that influences the atmosphere and the earth's surface.~~
- ~~Investigate and describe the effect of the tilt of the earth's axis on seasons.~~

~~8.6 Science and Technology – An understanding of science and technology establishes connections between the natural and designed world, linking science and technology.~~

~~8.6.1 By the end of eighth grade, students will develop an understanding of technological design.~~

~~Example indicators:~~

- ~~Identify problems for technological design.~~
- ~~Design a solution or product.~~
- ~~Implement a proposed design.~~
- ~~Evaluate completed technological designs or products.~~
- ~~Communicate the process of technological design.~~

~~8.6.2 By the end of eighth grade, students will develop an understanding of science and technology.~~

~~Example indicators:~~

- ~~Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems).~~
- ~~Describe how science and technology are reciprocal.~~
- ~~Assess the avoidable and unavoidable limits of a technological design.~~
- ~~Recognize that solutions have intended and unintended consequences.~~

~~8.7 Science in Personal and Social Perspectives - A personal and social perspective of science helps a student understand and act on personal and social issues. This perspective builds foundation for future decision making.~~

~~8.7.1 By the end of eighth grade, students will develop an understanding of personal health.~~

~~Example indicators:~~

- ~~Identify and research substances harmful to human beings in the natural environment (radon, lead, and nitrates).~~
- ~~Investigate and explain how personal choices can directly affect a person's health (exercise, nutrition, and use of drugs).~~

~~8.7.2 By the end of eighth grade, students will develop an understanding of relationships among populations, resources, and environments.~~

~~Example indicators:~~

- ~~Investigate and describe how population levels affect resources and the environment.~~
- ~~Investigate and understand that the causes of environmental degradation and resource depletion vary locally and globally.~~

~~8.7.3 By the end of eighth grade, students will develop an understanding of natural hazards.~~

~~Example indicators:~~

- ~~Investigate and describe the effect of natural hazards on the environment (earthquakes, landslides, wildfires, floods, and storms).~~
- ~~Investigate and describe human activities (urban growth, land use, and waste disposal) which can accelerate many natural changes.~~

~~8.7.4 By the end of eighth grade, students will develop an understanding of risks and benefits.~~

~~Example indicators:~~

- ~~Analyze a type of hazard (natural, chemical, or biological) to evaluate the options for reducing or eliminating human risk.~~

- ~~Describe how perceptions of risks and benefits influence personal and social decision (seat belt usage and waste disposal procedures).~~

~~8.7.5 By the end of eighth grade, students will develop an understanding of science and technology in society.~~

~~Example indicators:~~

- ~~Explain that the effect of science on society is neither entirely beneficial nor entirely detrimental.~~

- ~~Describe how societal challenges and priorities influence research priorities.~~

- ~~Explain why science cannot answer all questions and technology cannot solve all human problems or meet all human needs.~~

~~8.8 History and Nature of Science – An understanding of the history and nature of science illustrates different aspects of scientific inquiry, the human aspects of science, and the role that science has played in the development of various cultures.~~

~~8.8.1 By the end of eighth grade, students will develop an understanding of science as a human endeavor.~~

~~Example indicators:~~

- ~~Investigate and understand that women and men of various social and ethnic backgrounds, working alone or in teams, engage in the activities of science, engineering, and related fields.~~

- ~~Investigate and understand that science requires different abilities based on the type of inquiry and relies upon basic human qualities and scientific habits of mind.~~

- ~~Explain the need for ethical codes followed by scientists (humane treatment of animals and truth in reporting).~~

~~8.8.2 By the end of eighth grade, students will develop an understanding of the nature of science.~~

~~Example indicators:~~

- ~~Formulate and test a hypothesis using observations, experiments, and models.~~
- ~~Use questioning, response to criticism, and open communication when defending a conclusion.~~
- ~~Evaluate the results of scientific investigations, experiments, observations, theoretical models, and the explanations proposed by other scientists.~~
- ~~Understand that scientific theories are based on observations, governed by rules of reasoning, and used to predict events.~~

~~8.8.3 By the end of eighth grade, students will develop an understanding of the history of science.~~

~~Example indicator:~~

- ~~Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted.~~

~~TWELFTH GRADE. Senior high students should be able to understand scientific inquiry at increasingly higher levels of sophistication. Questions and issues relevant to students should form the basis of investigations. An adequate knowledge base and an understanding of the concepts that guide inquiry are needed to assure success. Students should learn how to analyze evidence and evaluate their own explanations and those of scientists.~~

~~12.1 Unifying Concepts and Processes - Unifying concepts and processes help students think about and integrate a range of basic ideas which builds an understanding of the natural world.~~

~~12.1.1 By the end of the twelfth grade, students will develop an understanding of systems, order, and organization.~~

~~Example indicators:~~

- ~~Predict and evaluate how change within a system affects that system.~~
- ~~Design solutions to problems identified within a system.~~

~~12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.~~

~~Example indicators:~~

- ~~Create a physical, mental, or mathematical model to show how objects and processes are connected.~~
- ~~Test the usefulness of a model by comparing its predictions to actual observations.~~
- ~~Understand that the way data are displayed affects interpretation.~~
- ~~Evaluate the reasonableness of answers to problems.~~
- ~~Understand that larger well-chosen samples produce more accurate estimates of the characteristics of the total population.~~
- ~~Understand that a correlation between two variables doesn't mean that either one causes the other.~~

~~12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.~~

~~Example indicators:~~

- ~~Use powers of ten to represent large and small numbers.~~
- ~~Compare data for two groups by using averages and ranges of values.~~
- ~~Understand that measurement errors may affect results of calculations.~~
- ~~Describe rate of change by comparing one measured quantity to another measured quantity.~~
- ~~Investigate and describe how different characteristics, properties, or relationships within a system change as their dimensions increase or decrease.~~

~~12.1.4 By the end of twelfth grade, students will develop an understanding of form and function.~~

~~Example indicator:~~

- ~~Explain function by referring to form and explain form by referring to function.~~

~~12.1.5 By the end of twelfth grade, students will develop an understanding of change over a period of time.~~

~~Example indicators:~~

- ~~Identify the series of changes that occur in objects, organisms, and natural and human designed systems.~~
- ~~Explain how a system at equilibrium is affected by change.~~

~~12.2 Science as Inquiry – Science as inquiry requires students to combine processes and scientific knowledge with scientific reasoning and critical thinking to develop their understanding of science.~~

~~12.2.1 By the end of twelfth grade, students will develop the abilities needed to do scientific inquiry.~~

~~Example indicators:~~

- ~~Formulate questions and identify concepts that guide scientific investigations.~~
- ~~Design and conduct scientific investigations.~~
- ~~Use technology and mathematics to improve investigations and communications.~~
- ~~Formulate and revise scientific explanations and models using logic and evidence.~~
- ~~Recognize and analyze alternative explanations and models.~~
- ~~Communicate and defend a scientific argument.~~

~~12.3 Physical Science – Physical science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.~~

~~Example indicators:~~

- ~~Investigate and describe the structure of atoms, focusing on properties of subatomic particles.~~

- ~~Investigate and explain the types of nuclear reactions.~~

- ~~Investigate and describe the effect of electrical and nuclear forces which hold atoms together.~~

~~12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.~~

~~Example indicators:~~

- ~~Investigate and understand that atoms interact with one another by transferring or sharing electrons.~~

- ~~Investigate and explain the periodic table of elements in terms of repeating patterns of physical and chemical properties.~~

- ~~Investigate and describe how the structure of an atom determines the chemical properties of an element.~~

- ~~Investigate and explain how the interactions among the molecules of a compound determine its physical and chemical properties.~~

- ~~Investigate and use changes in energy to explain the differences among the states of matter.~~
- ~~Investigate and describe the bonding of carbon atoms in chains and rings to produce compounds essential to life.~~

~~12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.~~

~~Example indicators:~~

- ~~Investigate and describe common chemical reactions.~~

- ~~Investigate and describe the change of energy as a result of chemical reactions.~~

- ~~Investigate and describe how electrons are involved in bond formation during chemical reactions.~~

- ~~Investigate and describe the factors influencing the rates of chemical reactions, including catalysts.~~

~~12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.~~

~~Example indicators:~~

- ~~Investigate and understand the effect of forces on the motion of objects.~~
- ~~Investigate and understand gravity as an attractive force that each mass exerts on any other mass.~~
- ~~Investigate and understand electrical force as a force that exists between any two charged objects.~~
- ~~Investigate and describe an electric field, magnetic field, and the interaction between them.~~

~~12.3.5 By the end of twelfth grade, students will develop an understanding of the conservation of energy and increase in disorder.~~

~~Example indicators:~~

- ~~Understand that the total energy in the universe is constant and can never be destroyed.~~
- ~~Investigate and distinguish between kinetic energy and potential energy.~~
- ~~Investigate and describe heat transfer in terms of conduction, convection, and radiation.~~
- ~~Investigate and give examples of how systems tend to become more disorderly over time.~~

~~12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.~~

~~Example indicators:~~

- ~~Investigate and understand that all waves possess and transfer energy.~~

- ~~Understand that electromagnetic waves result when a charged object accelerates.~~

- ~~Investigate and illustrate how wavelength and frequency of waves are inversely related.~~

- ~~Investigate and understand that the energy of waves can be changed into other forms of energy, just as other forms of energy can be transformed into wave energy.~~

- ~~Investigate and understand that atoms or molecules can be identified by spectral analysis.~~

- ~~Investigate and describe how the composition and temperature of a material affects electron flow.~~

~~12.4 Life Science – Life science focuses on science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~12.4.1 By the end of twelfth grade, students will develop an understanding of the cell.~~
~~Example indicators:~~

- ~~Investigate and describe the form and function of subcellular structures that regulate cell activities.~~

- ~~Investigate and describe cell functions (e.g., photosynthesis, respiration, cell division).~~

- ~~Investigate and understand that complex multicellular organisms are formed as highly organized arrangements of differentiated cells.~~

~~12.4.2 By the end of twelfth grade, students will develop an understanding of the molecular basis of heredity.~~

~~Example indicators:~~

- ~~Investigate and describe how DNA carries the genetic code.~~

- ~~Investigate and understand that genetic variation occurs when genetic information is transmitted during sexual reproduction.~~

- ~~Investigate and explain how some mutations could help, harm or have no effect on individual organisms.~~

- ~~Investigate and explain how mutations in sex cells, but not in body cells, could be passed on to offspring.~~

~~12.4.3 By the end of twelfth grade, students will develop an understanding of the theory of biological evolution.~~

~~Example indicators:~~

- ~~Understand that the concept of biological evolution is a theory which explains the consequence of the interactions of: (1) the potential for a species to increase its numbers; (2) the genetic variability of offspring due to mutation and recombination of genes; (3) a finite supply of the resources of life; and, (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring.~~

- ~~Investigate and use the theory of biological evolution to explain diversity of life.~~

- ~~Investigate whether natural selection provides a scientific explanation of the fossil record and the molecular similarities among the diverse species of living organisms.~~

- ~~Investigate and use biological classifications based on similarities.~~

~~12.4.4 By the end of twelfth grade, students will develop an understanding of the interdependence of organisms.~~

~~Example indicators:~~

- ~~Investigate and understand that atoms and molecules cycle among living and nonliving components of the biosphere.~~

- ~~Investigate and describe the flow of energy through ecosystems, in one direction, from producers to herbivores to carnivores and decomposers.~~

- ~~Investigate and cite examples of organisms cooperating and competing in ecosystems.~~

- ~~Investigate and understand that interactions among organisms are affected by the conflict between an organism's capacity to produce infinite populations and the finite amount of resources.~~

- ~~Investigate and describe how humans modify the ecosystem as a result of population growth, technology, and consumption.~~

~~12.4.5 By the end of twelfth grade, students will develop an understanding of matter, energy, and organization in living systems.~~

~~Example indicators:~~

- ~~Investigate and understand that living systems require a constant input of energy to maintain their chemical and physical organization.~~

- ~~Investigate and understand that producers use solar energy to combine molecules of carbon dioxide and water into organic compounds.~~

- ~~Investigate and explain how distribution and abundance of different organisms in ecosystems are limited by the availability of matter and energy and the ability of the ecosystem to recycle materials.~~

~~12.4.6 By the end of twelfth grade, students will develop an understanding of the behavior of organisms.~~

~~Example indicators:~~

- ~~Investigate and describe how nervous systems function in multicellular animals.~~

- ~~Investigate and describe how organisms respond to internal changes and external stimuli.~~

- ~~Investigate and explain how the behavioral patterns of organisms have evolved through natural selection.~~

- ~~Investigate and understand that behavioral biology relates to humans since it provides links to psychology, sociology, and anthropology.~~

~~12.5 Earth and Space Science – Earth and space science focuses on the science facts, concepts, principles, theories, and models that are important for all students to know, understand, and use.~~

~~12.5.1 By the end of twelfth grade, students will develop an understanding of energy in the earth system.~~

~~Example indicators:~~

- ~~Investigate and distinguish between internal sources of energy (radioactive decay and gravitational energy) and external sources of energy (the sun) and explain how both provide energy to the earth systems.~~
- ~~Investigate and explain how the outward transfer of earth's internal heat drives convection in the mantle that propels the plates comprising the earth's surface.~~
- ~~Investigate and explain how global climate is determined by energy transfer from the sun and is influenced by dynamic processes (cloud formation and the earth's rotation) and static conditions (the position of mountain ranges and oceans).~~

~~12.5.2 By the end of twelfth grade, students will develop an understanding of geochemical cycles.~~

~~Example indicator:~~

- ~~Investigate and diagram how elements and compounds on earth move among reservoirs in the solid earth, oceans, atmosphere, and organisms as part of geochemical cycles.~~

~~12.5.3 By the end of twelfth grade, students will develop a scientific understanding of the origin of the earth system.~~

~~Example indicators:~~

- ~~Contrast the early earth with the planet we live on today.~~
- ~~Investigate and estimate geologic time by observing rock sequences and using fossils to correlate the sequences at various locations.~~
- ~~Predict when rocks were formed by using known decay rates of radioactive isotopes in rocks.~~

- ~~Investigate and relate how the interactions among the solid earth, oceans, atmosphere, and organisms affect the ongoing evolution of the earth.~~

~~12.5.4 By the end of twelfth grade, students will develop a scientific understanding of the origin of the universe.~~

~~Example indicators:~~

- ~~Describe and analyze various theories on the origin of the universe.~~
- ~~Describe various theories on the formation of galaxies.~~
- ~~Describe the life cycle of a star.~~

~~12.6 Science and Technology – An understanding of science and technology establishes connections between the natural and designed world, linking science and technology.~~

~~12.6.1 By the end of twelfth grade, students will develop an understanding of technological design.~~

~~Example indicators:~~

- ~~Propose designs and choose between alternative solutions of a problem.~~
- ~~Implement the selected solution.~~
- ~~Evaluate the solution and its consequences.~~
- ~~Communicate the problem, process, and solution.~~

~~12.6.2 By the end of twelfth grade, students will develop an understanding about science and technology.~~

~~Example indicators:~~

- ~~Explain how science advances with the introduction of new technology.~~
- ~~Understand creativity, imagination, and a good knowledge base are all needed to advance the work of science and engineering.~~

- ~~Contrast the reasons for the pursuit of science and the pursuit of technology.~~

- ~~Contrast the reporting of scientific knowledge and the reporting of technical knowledge.~~

~~12.7 Science in Personal and Social Perspectives – A personal and social perspective of science helps a student understand and act on personal and social issues. This perspective builds a foundation for future decision making.~~

~~12.7.1 By the end of twelfth grade, students will develop an understanding of personal and community health.~~

~~Example indicators:~~

- ~~Investigate and describe the effect of nutritional balance on growth, development, and personal well-being.~~

- ~~Investigate and explain how diseases are prevented, controlled, and cured.~~

- ~~Investigate and explain how genetic traits affect a person's health.~~

- ~~Investigate and analyze risks and benefits in making decisions about personal and community health.~~

~~12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.~~

~~Example indicators:~~

- ~~Investigate and identify causes of population growth or decline.~~

- ~~Investigate and explain how various factors influence birth rates and death rates.~~

- ~~Investigate and predict how population may change impact resource use and environments.~~

~~12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.~~

~~Example indicators:~~

- ~~Investigate and explain how human populations use environmental resources to maintain and improve their existence.~~
- ~~Investigate and understand that the earth has renewable and finite resources.~~
- ~~Investigate and understand the limitations of natural systems to renew and recycle resources.~~

~~12.7.4 By the end of twelfth grade, students will develop an understanding of environmental quality.~~

~~Example indicators:~~

- ~~Investigate and describe how the positive and negative consequences of human intervention or nonintervention impact the ecosystem.~~
- ~~Investigate and explain factors which may influence environmental quality.~~

~~12.7.5 By the end of twelfth grade, students will develop an understanding of natural and human-induced hazards.~~

~~Example indicators:~~

- ~~Investigate and describe how human activities increase or reduce the potential for hazards.~~
- ~~Investigate and distinguish between slowly and rapidly occurring natural hazards and their impact on the environment.~~

~~12.7.6 By the end of twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.~~

~~Example indicators:~~

- ~~Understand that knowledge of basic concepts about scientific and technological challenges should precede active debate.~~

- ~~Investigate and understand that social issues and challenges may affect advancements in science and technology.~~

- ~~Understand that science and technology are essential social enterprises that indicate what could happen, but not what should happen.~~

~~12.8 History and Nature of Science - The history and nature of science illustrates different aspects of scientific inquiry, the human aspects of science, and the role that science has played in the development of various cultures.~~

~~12.8.1 By the end of twelfth grade, students will develop an understanding of science as a human endeavor.~~

~~Example indicators:~~

- ~~Demonstrate ethical scientific practices (informing research subjects about risks and benefits, humane treatment of animals, truthful reporting, public disclosure of work, and peer review).~~

- ~~Examine and understand the societal, cultural, and personal beliefs that influence scientists.~~

- ~~Recognize science as one way of answering questions and explaining the natural world.~~

~~12.8.2 By the end of twelfth grade, students will develop an understanding of the nature of scientific knowledge.~~

~~Example indicators:~~

- ~~Demonstrate the use of empirical standards, logical arguments, and skepticism in science.~~

- ~~Create scientific explanations consistent with experimental and observational evidence; make accurate predictions, strive to be logical; respect the rules of evidence; accept criticism; report methods and procedures; and make knowledge public.~~

- ~~Understand that all scientific knowledge is, in principle, subject to change as new evidence becomes available.~~

~~12.8.3 By the end of twelfth grade, students will develop an understanding of the history of science.~~

~~Example indicators:~~

- ~~Investigate and describe the contributions of diverse cultures to scientific knowledge and technological inventions.~~
- ~~Understand that changes in scientific knowledge evolve over time and almost always build on earlier knowledge.~~
- ~~Understand that some advancements in science and technology have long-lasting effects on society.~~

The State Board of Education adopted these Science Standards on October 6, 2010, pursuant to the requirements of 79-760.01 R.R.S.

GENERAL INFORMATION

Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.

Scope and Application of this Appendix. This Appendix provides science (inquiry and the nature of science, physical, life, and earth and space sciences) state academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 R.R.S.), and the requirements for this Chapter.

K-12 Comprehensive Content Standards. The comprehensive content standards identify broad K-12 learning standards related to inquiry and the nature of science, physical, life, and earth and space sciences.

Grade Level Standards. The science standards have been written for the grade spans of K-2, 3-5, 6-8, and 9-12. The grade level standards represent the critical content for students to know and be able to do by the end of the grade listed at the end of each span.

Curricular Indicators. Following each grade level standard is a set of curricular indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the grade level standards are repeated in whole or in part at different grade levels, the curricular indicators show progression and increased expectations throughout the grades. Although the curricular indicators are not an exhaustive list of what can be done to meet the grade level standards, they are representative of the content for each standard at each grade level.

NEBRASKA SCIENCE STANDARDS – Grades K-2

SC 1: INQUIRY, THE NATURE OF SCIENCE, AND TECHNOLOGY

Students will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence.

1.1. Abilities to do Scientific Inquiry

2.1.1 Students will ask questions and conduct investigations that lead to observations and communication of findings.

Scientific Questioning

2.1.1.a Ask questions that relate to a science topic

Scientific Investigations

2.1.1.b Conduct simple investigations

Scientific Tools

2.1.1.c Select and use simple tools appropriately

Scientific Observations

2.1.1.d Describe objects, organisms, or events using pictures, words, and numbers

Scientific Data Collection

2.1.1.e Collect and record observations

Scientific Communication

2.1.1.f Use drawings and words to describe and share observations with others

Mathematics

2.1.1.g Use appropriate mathematics in all aspects of scientific inquiry

SC 2: PHYSICAL SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Physical Sciences to make connections with the natural and engineered world.

2.1. Matter

2.2.1 Students will observe and describe properties of objects and their behavior.

Properties and Structure of Matter

2.2.1.a Observe physical properties of objects (freezing and melting, sinking and floating, color, size, texture, shape, weight)

2.2.1.b Separate and sort objects by physical attributes

2.2.1.c Measure objects using standard and non-standard units

States of Matter

2.2.1.d Identify solids and liquids and recognize that liquids take the shape of their container

2.2. Force and Motion

2.2.2 Students will compare relative position and motion of objects.

Motion

2.2.2.a State location and/or motion relative to another object or its surroundings (in front of, behind, between, over, under, faster, slower, forward and backward, up and down)

2.2.2.b Describe how objects move in many different ways (straight, zigzag, round and round, back and forth, and fast and slow)

SC 3: LIFE SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Life Sciences to make connections with the natural and

engineered world.

3.1. Structure and Function of Living Systems

2.3.1 Students will investigate the characteristics of living things.

Characteristics of Life

2.3.1.a Differentiate between living and nonliving things

Characteristics of Living Organisms

2.3.1.b Identify the basic needs of living things (food, water, air, space, shelter)

2.3.1.c Identify external parts of plants and animals

2.3.1.d Observe and match plants and animals to their distinct habitats

3.2. Heredity

2.3.2 Students will recognize changes in living things.

Inherited Traits

2.3.2.a Describe how offspring resemble their parents

Reproduction

2.3.2.b Describe how living things change as they grow

3.4. Biodiversity

2.3.4 Students will recognize changes in organisms

Biological Adaptations

2.3.4.a Recognize seasonal changes in animals and plants

SC 4: EARTH AND SPACE SCIENCES

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of Earth and Space Sciences to make connections with the natural and engineered world.

4.1. Earth in Space

2.4.1 Students will observe and identify objects of the sky.

Objects in the Sky and Universe

2.4.1.a Identify objects in the sky (the Sun, the Moon, the stars) and when they are observable

Motion of Objects in the Solar System

2.4.1.b Identify objects that appear to move in the sky (the Sun, the Moon, stars)

4.2. Earth Structures and Processes

2.4.2 Students will observe, identify, and describe characteristics of Earth's materials.

Properties of Earth Materials

2.4.2.a Describe Earth materials (sand, soil, rocks, water)

Use of Earth Materials

2.4.2.b Recognize ways in which individuals and families can conserve Earth's resources by reducing, reusing, and recycling

4.3. Energy in Earth's Systems

2.4.3 Students will observe simple patterns of change on Earth.

Energy Sources

2.4.3.a Observe that the Sun provides heat and light

Weather and Climate

2.4.3.b Observe and describe simple daily changes in weather

2.4.3.c Describe simple seasonal weather indicators and how they impact student choices (activities, clothing)

NEBRASKA SCIENCE STANDARDS – GRADES 3-5

SC 1: INQUIRY, THE NATURE OF SCIENCE, AND TECHNOLOGY

Students will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence.

1.1. Abilities to do Scientific Inquiry

5.1.1 Students will plan and conduct investigations that lead to the development of explanations.

Scientific Questioning

5.1.1.a Ask testable scientific questions

Scientific Investigations

5.1.1.b Plan and conduct investigations and identify factors that have the potential to impact an investigation

Scientific Tools

5.1.1.c Select and use equipment correctly and accurately

Scientific Observations

5.1.1.d Make relevant observations and measurements

Scientific Data Collection

5.1.1.e Collect and organize data

Scientific Interpretations, Reflections, and Applications

5.1.1.f Develop a reasonable explanation based on collected data

Scientific Communication

5.1.1.g Share information, procedures, and results with peers and/or adults

5.1.1.h Provide feedback on scientific investigations

Mathematics

5.1.1.i Use appropriate mathematics in all aspects of scientific inquiry

1.2. Nature of Science

5.1.2 Students will describe how scientists go about their work.

Scientific Knowledge

5.1.2.a Recognize that scientific explanations are based on evidence and scientific knowledge

Science and Society

5.1.2.b Recognize that new discoveries are always being made which impact scientific knowledge

Science as a Human Endeavor

5.1.2.c Recognize many different people study science

1.3. Technology

5.1.3 Students will solve a simple design problem.

Abilities to do Technical Design

5.1.3.a Identify a simple problem

5.1.3.b Propose a solution to a simple problem

5.1.3.c Implement the proposed solution

5.1.3.d Evaluate the implementation

5.1.3.e Communicate the problem, design, and solution

SC 2: PHYSICAL SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Physical Sciences to make connections with the natural and engineered world.

2.1. Matter

5.2.1 Students will explore and describe the physical properties of matter and its changes

Properties and Structure of Matter

5.2.1.a Identify mixtures and pure substances

5.2.1.b Identify physical properties of matter (color, odor, elasticity, weight, volume)

5.2.1.c Use appropriate metric measurements to describe physical properties

States of Matter

5.2.1.d Identify state changes caused by heating and cooling solids, liquids, and gases

2.2. Force and Motion

5.2.2 Students will identify the influence of forces on motion.

Motion

5.2.2.a Describe motion by tracing and measuring an object's position over a period of time (speed)

Forces/Newton's 2nd law

5.2.2.b Describe changes in motion due to outside forces (push, pull, gravity)

Universal Forces

5.2.2.c Describe magnetic behavior in terms of attraction and repulsion

2.3. Energy

5.2.3 Students will observe and identify signs of energy transfer.

Sound/Mechanical Waves

5.2.3.a Recognize that sound is produced from vibrating objects; the sound can be changed by changing the vibration

Light

5.2.3.b Recognize that light travels in a straight line and can be reflected by an object (mirror)

5.2.3.c Recognize that light can travel through certain materials and not others (transparent, translucent, opaque)

Heat

5.2.3.d Identify ways to generate heat (friction, burning, incandescent light bulb)

5.2.3.e Identify materials that act as thermal conductors or insulators

Electricity/Magnetism

5.2.3.f Recognize that the transfer of electricity in an electrical circuit requires a closed loop

SC 3: LIFE SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Life Sciences to make connections with the natural and engineered world.

3.1. Structure and Function of Living Systems

5.3.1 Students will investigate and compare the characteristics of living things.

Characteristics of Life

5.3.1.a Compare and contrast characteristics of living and nonliving things

Characteristics of Living Organisms

5.3.1.b Identify how parts of plants and animals function to meet basic needs (e.g., leg of an insect helps an insect move, root of a plant helps the plant obtain water)

3.2. Heredity

5.3.2 Students will identify variations of inherited characteristics and life cycles.

Inherited Traits

5.3.2.a Identify inherited characteristics of plants and animals

Reproduction

5.3.2.b Identify the life cycle of an organism

3.3. Flow of Matter and Energy in Ecosystems

5.3.3 Students will describe relationships within an ecosystem.

Flow of Energy

5.3.3.a Diagram and explain a simple food chain beginning with the Sun

5.3.3.b Identify the role of producers, consumers, and decomposers in an ecosystem

Ecosystems

5.3.3.c Recognize the living and nonliving factors that impact the survival of organisms in an ecosystem

Impact on Ecosystems

5.3.3.d Recognize all organisms cause changes, some beneficial and some detrimental, in the environment where they live

3.4. Biodiversity

5.3.4 Students will describe changes in organisms over time.

Biological Adaptations

5.3.4.a Describe adaptations made by plants or animals to survive environmental changes

SC 4: EARTH AND SPACE SCIENCES

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of Earth and Space Sciences to make connections with the natural and engineered world.

4.1. Earth in Space

5.4.1 Students will observe and describe characteristics, patterns, and changes in the sky.

Objects in the Sky and Universe

5.4.1.a Recognize that the observed shape of the Moon changes from day to day during a one month period

Motion of Objects in the Solar System

5.4.1.b Recognize the motion of objects in the sky (the Sun, the Moon, stars) change over time in recognizable patterns

4. 2. Earth Structures and Processes

5.4.2 Students will observe and describe Earth's materials, structure, and processes.

Properties of Earth Materials

5.4.2.a Describe the characteristics of rocks, minerals, soil, water, and the atmosphere

Earth's Processes

5.4.2.b Identify weathering, erosion, and deposition as processes that build up or break down Earth's surface

Use of Earth Materials

5.4.2.c Identify how Earth materials are used (fuels, building materials, sustaining plant life)

4.3. Energy in Earth's Systems

5.4.3 Students will observe and describe the effects of energy changes on Earth.

Energy Sources

5.4.3.a Describe the Sun's warming effect on the land and water

Weather and Climate

5.4.3.b Observe, measure, and record changes in weather (temperature, wind direction and speed, precipitation)

5.4.3.c Recognize the difference between weather, climate, and seasons

4.4. Earth's History

5.4.4 Students will describe changes in Earth.

Past/Present Earth

5.4.4.a Describe how slow processes (erosion, weathering, deposition) and rapid processes (landslides, volcanic eruptions, earthquakes) change Earth's surface

NEBRASKA SCIENCE STANDARDS – Grades 6-8

SC 1: INQUIRY, THE NATURE OF SCIENCE, AND TECHNOLOGY

Students will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence.

1.1. Abilities to do Scientific Inquiry

8.1.1 Students will design and conduct investigations that will lead to descriptions of relationships between evidence and explanations.

Scientific Questioning

8.1.1.a Formulate testable questions that lead to predictions and scientific investigations

Scientific Investigations

8.1.1.b Design and conduct logical and sequential investigations including repeated trials

Scientific Controls and Variables

8.1.1.c Determine controls and use dependent (responding) and independent (manipulated) variables

Scientific Tools

8.1.1.d Select and use equipment appropriate to the investigation, demonstrate correct techniques

Scientific Observations

8.1.1.e Make qualitative and quantitative observations

Scientific Data Collection

8.1.1.f Record and represent data appropriately and review for quality, accuracy, and relevancy

Scientific Interpretations, Reflections, and Applications

8.1.1.g Evaluate predictions, draw logical inferences based on observed patterns/relationships, and account for non-relevant information

Scientific Communication

8.1.1.h Share information, procedures, results, and conclusions with appropriate audiences

8.1.1.i Analyze and provide appropriate critique of scientific investigations

Mathematics

8.1.1.j Use appropriate mathematics in all aspects of scientific inquiry

1.2. Nature of Science

8.1.2 Students will apply the nature of science to their own investigations.

Scientific Knowledge

8.1.2.a Recognize science is an ongoing process and the scientific community accepts and uses explanations until they encounter new experimental evidence not matching existing explanations

Science and Society

8.1.2.b Describe how scientific discoveries influence and change society

Science as a Human Endeavor

8.1.2.c Recognize scientists from various cultures have made many contributions to explain the natural world

1.3. Technology

8.1.3 Students will solve a design problem which involves one or two science concepts.

Abilities to do Technical Design

8.1.3.a Identify problems for technical design

8.1.3.b Design a solution or product

8.1.3.c Implement the proposed design

8.1.3.d Evaluate completed technological designs or products

8.1.3.e Communicate the process of technical design

Understanding of Technical Design

8.1.3.f Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems)

8.1.3.g Describe how science and technology are reciprocal

8.1.3.h Recognize that solutions have intended and unintended consequences

8.1.3.i Compare and contrast the reporting of scientific knowledge and the reporting of technological knowledge

SC 2: PHYSICAL SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Physical Sciences to make connections with the natural and engineered world.

2.1. Matter

8.2.1 Students will identify and describe the particulate nature of matter including physical and chemical interactions.

Properties and Structure of Matter

8.2.1.a Compare and contrast elements, compounds, and mixtures

8.2.1.b Describe physical and chemical properties of matter

States of Matter

8.2.1.c Recognize most substances can exist as a solid, liquid, or gas depending on temperature

8.2.1.d Compare and contrast solids, liquids, and gases based on properties of these states of matter

Physical and Chemical Changes

8.2.1.e Distinguish between physical and chemical changes (phase changes, dissolving, burning, rusting)

8.2.1.f Recognize conservation of matter in physical and chemical changes

Classification of Matter

8.2.1.g Classify substances into similar groups based on physical properties

2.2. Force and Motion

8.2.2 Students will investigate and describe forces and motion.

Motion

8.2.2.a Describe motion of an object by its position and velocity

Inertia/Newton's 1st law

8.2.2.b Recognize an object that is not being subjected to a force will continue to move at a constant speed in a straight line or stay at rest (Newton's 1st law)

Forces/Newton's 2nd law

8.2.2.c Compare the motion of objects related to the effects of balanced and unbalanced forces

Universal Forces

8.2.2.d Recognize that everything on or around Earth is pulled towards Earth's center by gravitational force

2.3. Energy

8.2.3 Students will identify and describe how energy systems and matter interact.

Sound/Mechanical Waves

8.2.3.a Recognize that vibrations set up wave-like disturbances that spread away from the source (sound, seismic, water waves)

8.2.3.b Identify that waves move at different speeds in different materials

Light

8.2.3.c Recognize that light interacts with matter by transmission (including refraction), absorption, or scattering (including reflection)

8.2.3.d Recognize that to see an object, light from the surface of the object must enter the eye; the color seen depends on the properties of the surface and the color of the available light sources

Heat

8.2.3.e Recognize that heat moves from warmer objects to cooler objects until both reach the same temperature

Conservation

8.2.3.f Describe transfer of energy from electrical and magnetic sources to different energy forms (heat, light, sound, chemical)

8.2.3.g Recognize all energy is neither created nor destroyed

SC 3: LIFE SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Life Sciences to make connections with the natural and engineered world.

3.1. Structure and Function of Living Systems

8.3.1 Students will investigate and describe the structure and function of living organisms.

Characteristics of Life

8.3.1.a Recognize the levels of organization in living organisms (cells, tissues, organs, organ systems, organisms)

Cellular Composition of Organisms

8.3.1.b Recognize that all organisms are composed of one or many cells; that these cells must grow, divide, and use energy; and that all cells function similarly

8.3.1.c Recognize specialized cells perform specialized functions in multicellular organisms

8.3.1.d Identify the organs and functions of the major systems of the human body and describe ways that these systems interact with each other

Behavior

8.3.1.e Describe how plants and animals respond to environmental stimuli

3.2. Heredity

8.3.2 Students will investigate and describe the relationship between reproduction and heredity.

Inherited Traits

8.3.2.a Recognize that hereditary information is contained in genes within the chromosomes of each cell

Reproduction

8.3.2.b Compare and contrast sexual and asexual reproduction

3.3. Flow of Matter and Energy in Ecosystems

8.3.3 Students will describe populations and ecosystems.

Flow of Energy

8.3.3.a Diagram and explain the flow of energy through a simple food web

8.3.3.b Compare the roles of producers, consumers, and decomposers in an ecosystem

Ecosystems

8.3.3.c Recognize that producers transform sunlight into chemical energy through photosynthesis

8.3.3.d Determine the biotic and abiotic factors that impact the number of organisms an ecosystem can support

8.3.3.e Recognize a population is all the individuals of a species at a given place and time

8.3.3.f Identify symbiotic relationships among organisms

Impact on Ecosystems

8.3.3.g Identify positive and negative effects of natural and human activity on an ecosystem

3.4. Biodiversity

8.3.4 Students will identify characteristics of organisms that help them survive.

Biological Adaptations

8.3.4.a Describe how an inherited characteristic enables an organism to improve its survival rate

Biological Evolution

8.3.4.b Recognize the extinction of a species is caused by the inability to adapt to an environmental change

8.3.4.c Use anatomical features of an organism to infer similarities among other organisms

SC 4: EARTH AND SPACE SCIENCES

Students will integrate and communicate the information, concepts, principles, processes,

theories, and models of Earth and Space Sciences to make connections with the natural and engineered world.

4.1. Earth in Space

8.4.1 Students will investigate and describe Earth and the solar system.

Objects in the Sky and Universe

8.4.1.a Describe the components of the solar system (the Sun, planets, moons, asteroids, comets)

Motion of Objects in the Solar System

8.4.1.b Describe the relationship between motion of objects in the solar system and the phenomena of day, year, eclipses, phases of the Moon and seasons

Gravitational Effects

8.4.1.c Describe the effects of gravity on Earth (tides) and the effect of gravity on objects in the solar system

4.2. Earth Structures and Processes

8.4.2 Students will investigate and describe Earth's structure, systems, and processes.

Properties of Earth Materials

8.4.2.a Describe the layers of Earth (core, mantle, crust, atmosphere)

8.4.2.b Describe the physical composition of soil

8.4.2.c Describe the mixture of gases in Earth's atmosphere and how the atmosphere's properties change at different elevations

8.4.2.d Describe evidence of Earth's magnetic field

Earth's Processes

8.4.2.e Compare and contrast constructive and destructive forces (deposition, erosion, weathering, plate motion causing uplift, volcanoes, earthquakes) that impact Earth's surface

8.4.2.f Describe the rock cycle

8.4.2.g Describe the water cycle (evaporation, condensation, precipitation)

Use of Earth Materials

8.4.2.h Classify Earth materials as renewable or nonrenewable

4.3. Energy in Earth's Systems

8.4.3 Students will investigate and describe energy in Earth's systems.

Energy Sources

8.4.3.a Describe how energy from the Sun influences the atmosphere and provides energy for plant growth

Weather and Climate

8.4.3.b Identify factors that influence daily and seasonal changes on Earth (tilt of the Earth, humidity, air pressure, air masses)

8.4.3.c Describe atmospheric movements that influence weather and climate (air masses, jet stream)

4.4. Earth's History

8.4.4 Students will use evidence to draw conclusions about changes in Earth.

Past/Present Earth

8.4.4.a Recognize that Earth processes we see today are similar to those that occurred in the past (uniformity of processes)

8.4.4.b Describe how environmental conditions have changed through use of the fossil record

NEBRASKA SCIENCE STANDARDS – Grades 9-12

SC 1: INQUIRY, THE NATURE OF SCIENCE, AND TECHNOLOGY

Students will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence.

1.1. Abilities to do Scientific Inquiry

12.1.1 Students will design and conduct investigations that lead to the use of logic and evidence in the formulation of scientific explanations and models.

Scientific Questioning

12.1.1.a Formulate a testable hypothesis supported by prior knowledge to guide an investigation

Scientific Investigations

12.1.1.b Design and conduct logical and sequential scientific investigations with repeated trials and apply findings to new investigations

Scientific Controls and Variables

12.1.1.c Identify and manage variables and constraints

Scientific Tools

12.1.1.d Select and use lab equipment and technology appropriately and accurately

Scientific Observations

12.1.1.e Use tools and technology to make detailed qualitative and quantitative observations

Scientific Data Collection

12.1.1.f Represent and review collected data in a systematic, accurate, and objective manner

Scientific Interpretations, Reflections, and Applications

12.1.1.g Analyze and interpret data, synthesize ideas, formulate and evaluate models, and clarify concepts and explanations

12.1.1.h Use results to verify or refute a hypothesis

12.1.1.i Propose and/or evaluate possible revisions and alternate explanations

Scientific Communication

12.1.1.j Share information, procedures, results, conclusions, and defend findings to a scientific community (peers, science fair audience, policy makers)

12.1.1.k Evaluate scientific investigations and offer revisions and new ideas as appropriate

Mathematics

12.1.1.l Use appropriate mathematics in all aspects of scientific inquiry

1.2. Nature of Science

12.1.2 Students will apply the nature of scientific knowledge to their own investigations and in the evaluation of scientific explanations.

Scientific Knowledge

12.1.2.a Recognize that scientific explanations must be open to questions, possible modifications, and must be based upon historical and current scientific knowledge

Science and Society

12.1.2.b Describe how society influences the work of scientists and how science, technology, and current scientific discoveries influence and change society

Science as a Human Endeavor

12.1.2.c Recognize that the work of science results in incremental advances, almost always building on prior knowledge, in our understanding of the world

12.1.2.d Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted

1.3. Technology

12.1.3 Students will solve a complex design problem.

Abilities to do Technical Design

12.1.3.a Propose designs and choose between alternative solutions of a problem

12.1.3.b Assess the limits of a technical design

12.1.3.c Implement the selected solution

12.1.3.d Evaluate the solution and its consequences

12.1.3.e Communicate the problem, process, and solution

Understanding of Technical Design

12.1.3.f Compare and contrast the reasons for the pursuit of science and the pursuit of technology

12.1.3.g Explain how science advances with the introduction of new technology

12.1.3.h Recognize creativity, imagination, and a good knowledge base are all needed to advance the work of science and engineering

SC 2: PHYSICAL SCIENCE

Students will integrate and communicate the information, concepts, principles, processes,

theories, and models of the Physical Sciences to make connections with the natural and engineered world.

2.1. Matter

12.2.1 Students will investigate and describe matter in terms of its structure, composition and conservation.

Properties and Structure of Matter

12.2.1.a Recognize bonding occurs when outer electrons are transferred (ionic) or shared (covalent)

States of Matter

12.2.1.b Describe the energy transfer associated with phase changes between solids, liquids, and gases

12.2.1.c Describe the three normal states of matter (solid, liquid, gas) in terms of energy, particle arrangement, particle motion, and strength of bond between molecules

Physical and Chemical Changes

12.2.1.d Recognize a large number of chemical reactions involve the transfer of either electrons (oxidation/reduction) or hydrogen ions (acid/base) between reacting ions, molecules, or atoms

12.2.1.e Identify factors affecting rates of chemical reactions (temperature, particle size, surface area)

Atomic Structure

12.2.1.f Recognize the charges and relative locations of subatomic particles (neutrons, protons, electrons)

12.2.1.g Describe properties of atoms, ions, and isotopes

Classification of Matter

12.2.1.h Describe the organization of the periodic table of elements with respect to patterns of physical and chemical properties

2.2. Force and Motion

12.2.2 Students will investigate and describe the nature of field forces and their interactions with matter.

Motion

12.2.2.a Describe motion with respect to displacement and acceleration

Inertia/Newton's 1st law

12.2.2.b Describe how the law of inertia (Newton's 1st law) is evident in a real-world event

Forces/Newton's 2nd law

12.2.2.c Make predictions based on relationships among net force, mass, and acceleration (Newton's 2nd law)

Newton's 3rd law

12.2.2.d Recognize that all forces occur in equal and opposite pairs (Newton's 3rd law)

12.2.2.e Describe how Newton's 3rd law of motion is evident in a real-world event

Universal Forces

12.2.2.f Describe gravity as a force that each mass exerts on another mass, which is proportional to the masses and the distance between them

12.2.2.g Recognize that an attractive or repulsive electric force exists between two charged particles and that this force is proportional to the magnitude of the charges and the distance between them

2.3. Energy

12.2.3 Students will describe and investigate energy systems relating to the conservation and interaction of energy and matter.

Sound/Mechanical Waves

12.2.3.a Describe mechanical wave properties (speed, wavelength, frequency, amplitude) and how waves travel through a medium

12.2.3.b Recognize that the energy in waves can be changed into other forms of energy

Light

12.2.3.c Recognize that light can behave as a wave (diffraction and interference)

Heat

12.2.3.d Distinguish between temperature (a measure of the average kinetic energy of atomic or molecular motion) and heat (the quantity of thermal energy that transfers due to a change in temperature)

12.2.3.e Compare and contrast methods of heat transfer and the interaction of heat with matter via conduction, convection, and radiation

Electricity/Magnetism

12.2.3.f Recognize that the production of electromagnetic waves is a result of changes in the motion of charges or by a changing magnetic field

12.2.3.g Compare and contrast segments of the electromagnetic spectrum (radio, micro, infrared, visible, ultraviolet, x-rays, gamma) based on frequency and wavelength

Nuclear

12.2.3.h Recognize that nuclear reactions (fission, fusion, radioactive decay) convert a fraction of the mass of interacting particles into energy, and this amount of energy is much greater than the energy in chemical interactions

Conservation

12.2.3.i Interpret the law of conservation of energy to make predictions for the outcome of an event

Mechanical Energy

12.2.3.j Identify that all energy can be considered to be either kinetic, potential, or energy contained by a field (e.g. electromagnetic waves)

Chemical Energy

12.2.3.k Identify endothermic and exothermic reactions

SC 3: LIFE SCIENCE

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of the Life Sciences to make connections with the natural and engineered world.

3.1. Structure and Function of Living Systems

12.3.1 Students will investigate and describe the chemical basis of the growth, development, and maintenance of cells.

Characteristics of Life

12.3.1.a Identify the complex molecules (carbohydrates, lipids, proteins, nucleic acids) that make up living organisms

Cellular Composition of Organisms

12.3.1.b Identify the form and function of sub-cellular structures that regulate cellular activities

12.3.1.c Describe the cellular functions of photosynthesis, respiration, cell division, protein synthesis, transport of materials, and energy capture/release

Behavior

12.3.1.d Describe how an organism senses changes in its internal or external environment and responds to ensure survival

3.2. Heredity

12.3.2 Students will describe the molecular basis of reproduction and heredity.

Inherited Traits

12.3.2.a Identify that information passed from parents to offspring is coded in DNA molecules

12.3.2.b Describe the basic structure of DNA and its function in genetic inheritance

12.3.2.c Recognize how mutations could help, harm, or have no effect on individual organisms

Reproduction

12.3.2.d Describe that sexual reproduction results in a largely predictable, variety of possible gene combinations in the offspring of any two parents

3.3. Flow of Matter and Energy in Ecosystems

12.3.3 Students will describe, on a molecular level, the cycling of matter and the flow of energy between organisms and their environment.

Flow of Energy

12.3.3.a Explain how the stability of an ecosystem is increased by biological diversity

Ecosystems

12.3.3.b Recognize that atoms and molecules cycle among living and nonliving components of the biosphere

12.3.3.c Explain how distribution and abundance of different organisms in ecosystems are limited by the availability of matter and energy and the ability of the ecosystem to recycle materials

Impact on Ecosystems

12.3.3.d Analyze factors which may influence environmental quality

3.4. Biodiversity

12.3.4 Students will describe the theory of biological evolution.

Biological Adaptations

12.3.4.a Identify different types of adaptations necessary for survival (morphological, physiological, behavioral)

Biological Evolution

12.3.4.b Recognize that the concept of biological evolution is a theory which explains the consequence of the interactions of: (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring

12.3.4.c Explain how natural selection provides a scientific explanation of the fossil record and the molecular similarities among the diverse species of living organisms

12.3.4.d Apply the theory of biological evolution to explain diversity of life over time

SC 4: EARTH AND SPACE SCIENCES

Students will integrate and communicate the information, concepts, principles, processes, theories, and models of Earth and Space Sciences to make connections with the natural and engineered world.

4.1. Earth in Space

12.4.1 Students will investigate and describe the known universe.

Objects in the Sky and Universe

12.4.1.a Describe the formation of the universe using the Big Bang Theory

12.4.1.b Recognize that stars, like the Sun, transform matter into energy by nuclear reactions which leads to the formation of other elements

12.4.1.c Describe stellar evolution

4.2. Earth Structures and Processes

12.4.2 Students will investigate the relationships among Earth's structure, systems, and processes.

Properties of Earth Materials

12.4.2.a Recognize how Earth materials move through geochemical cycles (carbon, nitrogen, oxygen) resulting in chemical and physical changes in matter

Earth's Processes

12.4.2.b Describe how heat convection in the mantle propels the plates comprising Earth's surface across the face of the globe (plate tectonics)

Use of Earth Materials

12.4.2.c Evaluate the impact of human activity and natural causes on Earth's resources (groundwater, rivers, land, fossil fuels)

4.3. Energy in Earth's Systems

12.4.3 Students will investigate and describe the relationships among the sources of energy and their effects on Earth's systems.

Energy Sources

12.4.3.a Describe how radiation, conduction, and convection transfer heat in Earth's systems

12.4.3.b Identify internal and external sources of heat energy in Earth's systems

12.4.3.c Compare and contrast benefits of renewable and nonrenewable energy sources

Weather and Climate

12.4.3.d Describe natural influences (Earth's rotation, mountain ranges, oceans, differential heating) on global climate

4.4. Earth's History

12.4.4 Students will explain the history and evolution of Earth.

Past/Present Earth

12.4.4.a Recognize that in any sequence of sediments or rocks that has not been overturned, the youngest sediments or rocks are at the top of the sequence and the oldest are at the bottom (law of superposition)

12.4.4.b Interpret Earth's history by observing rock sequences, using fossils to correlate the sequences at various locations, and using data from radioactive dating methods

12.4.4.c Compare and contrast the physical and biological differences of the early Earth with the planet we live on today

GENERAL INFORMATION

Purpose of These Standards. The State Board of Education adopts these standards to identify what students should know and be able to do and what teachers should teach.

Scope and Application of this Appendix. This Appendix provides social studies/history model academic content standards for use under the provisions of, and pursuant to, the Quality Education Accountability Act (Sections 79-757 to 79-762 of the Revised Statutes of Nebraska (R.R.S.)), and the requirements of this Chapter.

Example Indicators. Following each standard is a set of example indicators, which are written in clear and specific language to aid in understanding the meaning of the standards. Since a number of the standards are repeated in whole or in part at different grade levels, the example indicators show progression and increased expectations throughout the grades. Although the example indicators are not an exhaustive list of what can be done to meet the standards, they are representative of the content for each standard at each grade level.

K-12 Social Studies. Social studies promotes civic competence through the integrated study of the social sciences and humanities. The primary purpose of social studies is to help young people make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.

Nebraska schools teach social studies/history in kindergarten through grade 12. Social studies blends history, geography, civics, economics, and government in one class, perhaps called "social studies," or into a social studies department with discipline-based classes, which might be called "United States History" or "World Geography." A social studies/history education encourages students to develop a core of business knowledge and a way of thinking drawn from many academic disciplines. Students are encouraged to analyze this core of knowledge and to become participating and informed citizens.

Core Content Areas. A traditional curriculum concentrates on the following social core content subjects: history, geography, civics, economics, and government.

History - focuses on the great record of human experience, revealing how individuals and societies resolved their problems and disclosing the consequences of their choices. By studying the choices and decisions of the past, students can confront today's problems and choices with a deeper awareness of their alternatives and the likely consequences. This content area typically appears in courses and units focusing on Nebraska history, United States history, world history, and social studies.

Geography - helps students answer questions about the world around them, about where things are and how they got there. These answers can be discovered by using skills, such as asking geographic questions, acquiring geographic information, organizing geographic information, analyzing geographic information, and answering geographic questions. This content area typically appears in courses and units dealing with geography, world geography, and social studies.

Civics, Economics, and Government - gives students a basic understanding of civic life, politics, and government. It helps students understand the workings of their political system and that of others as well as the relationship of American politics and government to world affairs. The goals of civics and government is to develop informed, competent, and responsible citizens who are active politically and committed to the fundamental values and principles of American constitutional democracy. Economics provides students with an understanding of how individuals, communities, states, and nations allocate their scarce resources. A clear understanding of economics enables students to comprehend the economic forces that affect them every day and helps them to identify and evaluate the consequences of personal decisions and public policies. Students will understand how a democratic market economy functions, which better prepares them to be producers, consumers, and citizens. This content area typically appears in courses and units dealing with civics, political science, American government, law, economics, and social studies.

Goals of Social Studies. Nebraska schools must provide a strong course offering in these core content areas. Students need a solid basis in history, geography, civics, economics, and government to live and work in their communities today and beyond. The key goal of social studies needs is "promoting civic competence." The core content areas are:

- Builds an understanding of human history.
- Builds an understanding of a citizen's role.
- Develops a sense of the social studies disciplines and the connections across them.

Suggested Course Outline for Social Studies Grades 9-12

United States History.

- Colonization and Settlement.
- Revolution and the New Nation.
- Expansion and Reform.
- Civil War and Reconstruction.
- The Settlement and Development of Nebraska.
- The Emergence of Modern America.
- The Great Depression and World War II.
- Postwar United States.
- Contemporary United States.

World History.

- The Beginnings of Human Society.
- Expanding Regions of Exchange and Encounter (300-1000).
- The Emergence of the First Global Age (1450-1770).
- An Age of Revolutions (1750-1914).
- A Half-Century of Crisis and Achievement (1900-1945).
- The 20th Century Since 1945.

Geography.

- The world in spatial terms.
- Places and regions.
- Physical systems.
- Human systems.
- Environment and society.
- The uses of geography.

Civics, Economics, and Government.

- Civic life, politics and government.
- Foundations of the American political system.
- The basic principles, structure, and operation of the American economy.
- How does the government established by the Constitution embody the purposes, values, and principles of American democracy?
- The relationship of the United States to other nations and to world affairs.
- The roles of the citizen in American democracy.

Other Areas. In addition to the traditional social studies curriculum, many Nebraska school districts offer students a complete complement of supporting social studies subject areas. These subject areas might include archaeology, anthropology, psychology, sociology, philosophy, and religion.

FIRST GRADE

Social Studies - United States History, Geography, Civics/Government, Economics

1.1 Students will demonstrate an understanding that history relates to events and people of other times and places.

Example indicators:

Use calendars and timelines to show sequence and change.

Identify past events and people in legends, historical fiction, and biographies, e.g., Johnny Appleseed, Betsy Ross, etc.

Describing the people and events honored in commemorative holidays.

Compare school and community life in America in different places and times.

Recognize that people, places, and things change over time.

1.2 Students will compare and contrast the past and present contributions of cultures to school and family.

Example indicators:

Explain the past and the present through pictures, oral history, letters, or journals.

Students will identify ways that people grow and change over time.

1.3 Students will compare the relative location of people, places, and things.

Example indicators:

Use objects to show position, e.g., near/far, up/down, left/right, behind/in front.

Identify map symbols, e.g., legend references to land, water, roads, and cities.

Name community symbols, e.g. traffic signs, traffic lights, and street and highway markers.

Locate land and water on simple maps, globes, or other models using cardinal directions and map symbols.

Recognize the physical shape of our state and nation.

1.4 Students will recognize that climate, location, and physical surroundings affect the lives of people.

Example indicators:

Discuss how the environment influences their food, clothing, shelter, transportation, and recreation.

Recognize that Nebraska's seasons vary from other places in the United States and the world.

1.5 Students will identify uses of technology, such as transportation and communication.

Example indicators:

Identify what inventions are.

Describe a helpful invention.

Explain why they are important.

1.6 Students will identify basic economic concepts.

Example indicators:

Recognize the difference between basic needs and wants, e.g., food, clothing, shelter, and affection.

Explain differences between buyers and sellers/good and services.

1.7 Students will explain how families and individuals earn, spend, and save.

Example indicators:

Match simple descriptions of work that people do with the names of those jobs.

Recognize the importance of work.

Demonstrate the exchange of money for goods and services.

Identify ways to save money.

1.8 Students will recognize good citizenship and its importance.

Example indicators:

Explain why it is important to show respect for self, family, and others, e.g., taking care of his/her own things and respecting what belongs to others.

Identify examples of honesty, courage, patriotism, and other admirable character traits seen in American history.

Identify how choices and actions affect themselves and others, e.g., making class rules, participating in classroom chores.

Identify community groups of which students are members, e.g., family, school, church, girl/boy scouts, and classroom.

Participate in classroom elections.

Name the President or other elected leaders.

1.9 Students will identify patriotic symbols and actions.

Example indicator:

Name those associated with the United States, e.g., the flag, the Pledge of Allegiance, etc.

FOURTH GRADE

Social Studies - United States History, Nebraska History, Geography, Civics/Government, Economics

4.1 Students will compare communities and describe how United States and Nebraska communities changed physically and demographically over time.

Example indicators:

Identify and describe cultural holidays and events in their communities, Nebraska, and United States.

Identify changes in daily life past and present, e.g., roles, jobs, communication, technology, schools, and cultural traditions.

4.2 Students will describe the contributions from the cultural and ethnic groups that made up our national heritage: Native Americans, Hispanic Americans, African Americans, European Americans, and Asian Americans.

Example indicators:

Identify regional characteristics, e.g., Navaho, Amish, and Polynesian.

Identify important men and women from different cultural and ethnic groups.

Identify famous inventors.

Identify contributions of special groups, e.g., labor unions, buffalo soldiers, and farmers' co-op.

4.3 Students will describe social and economic development of Nebraska in the 20th century.

Example indicators:

Identifying the accomplishments of 20th century Nebraskans.

Explain the impact of advance in transportation, communication, immigration, and economic development.

4.4 Students will describe the interaction between Native Americans and their environment on the plains prior to European contact.

Example indicators:

Explain how Native Americans used the resources for daily living.

Identify different types of shelters used by Native Americans.

Describe the daily life of a Native American.

4.5 Students will describe Nebraska's history, including geographic factors, from European contact to statehood.

Example indicators:

Explain how historic and geographic factors affected the expansion and development of Nebraska.

Locate on a map, forts, missions, settlements, trails, cities, transportation routes, and migration patterns.

Describe the exploration of the Great Plains.

Describe the impact of westward expansion on tribal nations.

Describe Spanish, French, and English settlements.

4.6 Students will identify significant individuals, historical events and symbols in their community and in Nebraska and explain their importance.

Example indicators:

Identify and describe the past and present contributions of Native Americans, Hispanic Americans, African Americans, European Americans, and Asian Americans.

Identify members of Nebraska's Hall of Fame.

Identify accomplishments of prominent Nebraskans, e.g., Black Elk, Malcom X, and Evelyn Sharp.

Identify groups that have impacted Nebraska's history, e.g., buffalo soldiers, cowboys, and sodbusters and immigrant settlers.

Identify symbols associated with Nebraska, e.g., the flag, tree, and bird.

4.7 Student will use higher level thinking processes to evaluate and analyze primary sources and other resources.

Example indicators:

Identify, analyze, and make generalizations using primary sources, e.g., artifacts, diaries, letters, photographs, art, and newspapers.

Compare documentary sources on historical figures, events, with fictionalized characters and events to distinguish fact from fiction.

4.8 Students will describe characteristics of a market economic system and the interactions of consumers and producers.

Example indicators:

Describe the concepts of scarcity, choice, and the use of limited natural, capital, and human resources in an economic system.

Explain the specialization and interdependence of producers and consumers involved in producing goods and services.

Demonstrate how markets and prices help consumers buy and producers supply products and services in an economic system.

Identify how changing modes of transportation and communication by entrepreneurs have changed the economic system of the United States and Nebraska.

Explain the purpose of taxes and their use and collection in an economic system.

4.9 Student will demonstrate an understanding of money and the financial system used in the United States.

Example indicators:

Identify the concepts of earning, saving, spending, and checking accounts and credit used by financial institutions and consumers.

Describe the functions of money in an economic system.

4.10 Students will identify and use essential map elements.

Example indicators:

Distinguish between longitude and latitude.

Use the equator and prime meridian to identify the hemisphere.

Use the grid system to find locations.

Use cardinal directions.

Understand map keys, e.g., scale, symbols, compass rose.

4.11 Students will use maps and globes to acquire information about people, places, and environments.

Example indicators:

Locate and identify on maps and globes his/her local city or county, Nebraska, the United States, the seven continents, and four oceans.

Sketch maps to illustrate places described in a narrative or a description, e.g., neighborhoods, rooms, routes, regions, states, countries, continents.

Explain how physical characteristics, transportation routes, climate, and specialization influenced the variety of crops, products, industries, and the general patterns of economic growth in Nebraska.

Illustrate how Nebraska communities differ in physical features, e.g., land use, population density, architecture, services, and transportation.

Construct physical maps and three-dimensional models that include the essential map elements, political areas, and the geographic regions of Nebraska and the United States, e.g., Coastal Plains, Appalachian Mountains, Interior Lowlands, Great Plains, Rocky Mountains, Basin and Ridge, and Costal Range.

Explain the directional flow of rivers.

4.12 Students will identify the geographic and human characteristics of the regions of the United States and Nebraska.

Examples indicators:

Name the major geographic regions of the United States.

Identify the states within each region.

Identify capital cities and major cities.

Identify mountains, lakes, and rivers in each region.

Name the countries and bodies of water, which border the United States.

Identify geographic and historic features unique to each region.

4.13 Students will describe the process of making laws, carrying out laws, and determining if laws have been violated.

Example indicators:

Describe the constitutional rights and responsibilities of being a citizen.

Explain the role of citizenship in the promotion of laws.

Describe the election process.

Identify the consequences of violating the law.

Identify local, county, and state representatives.

Explain the process of contacting a representative.

4.14 Students will identify the uniqueness of the Nebraska Unicameral compared with other state legislatures.

Example indicators:

Describe the difference between bicameral and unicameral legislatures.

Identify the contribution of George Norris.

4.15 Students will identify and describe the responsibilities of the elected mayor, governor, and president on the local, state, and federal level.

Example indicator:

Name of your mayor, governor, and the President of the United States and list several responsibilities of each.

EIGHTH GRADE

Social Studies - United States History, World History, Nebraska History, Geography, Civics/Government, Economics

8.1 United States History

8.1.1 Students will analyze major cultures in the Americas before the 17th century.

Example indicators:

Describe the regional culture groups of early Native Americans in North America, e.g., the Northern, Northwestern, Plains, Mound Builders, Eastern Woodlands, and Southwestern Native Americans, etc.

Describe selected civilizations in Central and South Americas, e.g., the Mayan, Olmecs, Aztec, Incas, Chibchas, and Toltecs.

Explain how geography and climate influenced the way Early American cultural groups lived.

8.1.2 Students will analyze the major people, events, and ideas that led to the exploration and settlement of the Americas by Europeans.

Example indicators:

Explain the motivations, obstacles, and accomplishments of sponsors and leaders of key expeditions from Spain, France, Portugal, and England.

Identify the political, economic, and social impact of the encounter between European and early cultures in the Americas.

Identify the economic, ideological, religious, and nationalist forces that led to competition among European powers for control of the Americas.

Identify explorers, e.g., Columbus, Leif Ericsson, Amerigo Vespucci, Champlain, and Hudson.

Describe Spanish, French, and English settlements.

8.1.3 Students will describe key people, events, and ideas from colonial America.

Example indicators:

Explain the factors that led to the founding of the colonies, e.g., the escape from religious persecution, economic opportunity, release from prison, and military adventure.

Describe geographic, political, economic, and social contrasts in the three regions of New England, the mid-Atlantic, and the South.

Describe life in the colonies in the 18th century from the perspectives of Native Americans, large landowners, farmers, artisans, women, and slaves.

Explain the principal economic and political connections between the colonies and England.

Describe sources of dissatisfaction that led to the American Revolution.

Identify key individuals and events in the American Revolution, e.g., King George, Lord North, Lord Cornwallis, John Adams, Samuel Adams, Paul Revere, Benjamin Franklin, George Washington, Thomas Jefferson, Patrick Henry, and Thomas Paine.

Explain major military campaigns of the Revolutionary War and reasons why the colonies were able to defeat the British.

8.1.4 Students will analyze challenges faced by the new United States government.

Example indicators:

Explain the writing of a new Constitution in 1787 and the struggles over ratification and the addition of a Bill of Rights.

Describe major issues facing Congress and the first four presidents.

Explain conflicts between Thomas Jefferson and Alexander Hamilton that resulted in the emergence of two political parties.

8.1.5 Students will describe growth and change in the United States from 1801 to 1861.

Example indicators:

Describe territorial exploration, expansion, and settlement, e.g., Lewis and Clark, Louisiana Purchase, and acquisition of southern and western territories.

Describe how the physical geography and various incentives influenced the movement of people, goods, and services.

Describe the political relationships between the Americas and Europe, which led to the Monroe Doctrine.

Describe the impact of inventions, e.g., the cotton gin, McCormick reaper, etc.

8.1.6 Students will identify and analyze causes, key events, and the effects of the Civil War and Reconstruction.

Example indicators:

Describe economic and philosophical differences between the North and South, as exemplified by men such as Daniel Webster and John C. Calhoun.

Identify key events leading to secession and war.

Identify key people during this period, e.g., Abraham Lincoln, Ulysses S. Grant, Jefferson Davis, Robert E. Lee, Frederick Douglas, William Lloyd Garrison, Harriet Tubman, Harriet Beecher Stowe, John Brown, and Clara Barton, etc.

Identify key events during the Civil War, e.g., major battles, the Emancipation Proclamation, and Lee's surrender at Appomattox.

Describe life on the battlefield and on the homefront from multiple perspectives.

Explain the basic provisions and postwar impact of the 13th, 14th, and 15th Amendments to the United State Constitution.

Describe the impact of Reconstruction policies on the South.

8.1.7 Students will explain post Civil War changes in the United States, and the role of the United States in world affairs through World War I.

Example indicators:

Describe federal policies of expansion and how they affected various culture groups and individuals, e.g., Native Americans, Asian Americans, etc.

Explain why people immigrated to the United States describing their obstacles and contributions.

Describe the growth of American cities and the impact on societies.

Describe the United States' participation in key world events, e.g., the Spanish-American War, World War I, etc.

8.1.8 Students will describe key, social, economic and cultural developments from WWI through the Great Depression.

Example indicators:

Describe the arts in the United States, e.g., the Harlem Renaissance, the works of F. Scott Fitzgerald, Louis Armstrong, etc.

Describe the social changes, e.g., women's suffrage, prohibition, etc.

Describe the economic factors that led to the Great Depression.

Describe the extent and depth of business and farm failures, unemployment, and poverty.

Describe the New Deal and the Depression and the future role of government in the economy.

Identify key people of the period, e.g., Eleanor and Franklin Roosevelt, Charles Lindbergh, etc.

8.1.9 Students will describe key people, events, and ideas since World War II.

Example indicators:

Explain segregation, desegregation, and the Civil Rights Movement.

Describe the changing role of women in America.

Describe the technology revolution and its impact on communication, transportation, and new industries.

Describe the consumer economy and increasing global markets.

Describe the increases in violent crime and illegal drugs.

Explain the effects of increased immigration.

Describe political leaders of the period, trends in national elections, and differences between the two major political parties.

8.2 World History to 1000 A.D.

8.2.1 Students will describe human culture in the Paleolithic and Neolithic Eras.

Example indicators:

Describe how archeological discoveries change our knowledge of early peoples.

Compare the characteristics of Paleolithic and Neolithic societies and the adaptation to physical geography of various areas had on those groups.

Describe how tool making, use of fire, agricultural revolution, and other technological and social advancements improved life for early people.

8.2.2 Students will describe the ancient river valley civilizations (Mesopotamia, Egypt, India and China), on the development of world cultures.

Example indicators:

Describe the geography and history of each civilization.

Describe the location in time and place.

Identify social, political, and economic institutions.

Describe religious traditions and written languages.

Identify significant contributions and legacies.

8.2.3 Students will describe the impact of history, culture, and geography of Greece and Rome on later civilizations.

Example indicators:

Describe the influence of physical geography, climate, and soils on the Greek economic, social, and political development and the impact on the commerce of the Mediterranean regions.

Describe the development of Greek democracy.

Identify and describe the contributions of Greek culture, e.g., mythology and philosophy.

Describe important Greek military campaigns, e.g., the Persian Wars and conquests by the Macedonians.

Describe the influence of geography on Roman economic, social, and political development.

Relate Roman mythology and religion.

Describe the development of the Roman government.

Describe important Roman military campaigns, e.g., military domination of the Mediterranean and Western Europe.

Describe the fall of the Republic and the rise of imperial monarchs.

Describe the impact and spread of Christianity and Judaism.

Describe, analyze, and evaluate the history of the Byzantine Empire from about 300 BCE to 1000 C.E., e.g., Constantinople, Codification of Roman law, Greek Orthodox churches, and Byzantine art and architecture.

8.2.4 Students will describe the development and cultural impact of major religions.

Example indicators:

Describe the origins, customs, beliefs, and spread of the major religions.

Identify the theological and cultural differences and similarities among the major religions.

Describe the effect of religious, political, and economic competition.

Identify the historical turning points that affected the spread and influence of these religious cultures.

8.2.5 Students will describe the impact of life in Medieval Europe on later civilizations.

Example indicators:

Describe the structure of feudal society and identify economic, social, and political effects.

Describe the Age of Charlemagne.

Describe the impact of Magyars and the Vikings.

Analyze the influence of Christianity throughout Europe.

8.2.6 Students will describe the impact of selected civilizations in Asia and Africa on the development of later cultures.

Example indicators:

Describe chronology, location, geography, social structures, forms of government, economy, and religion of each civilization.

Identify key characteristics of the kingdoms of Kush and (Axum) Aksum in Ethiopia.

Describe how geography of Africa shaped the various cultures of trading empires in Western Africa.

Describe the culture and contributions of ancient Arabia.

Identify cultural characteristics of Japan's feudal system.

Identify various Chinese dynasties and their legacies to later generations.

Describe the role of geographic factors in limiting or encouraging the movement of people and ideas.

8.3 Civics and Economics

8.3.1 Students will explain and compare the structures, functions, and powers of the three branches of government at the national, state, and local levels.

Example indicators:

Explain the election and appointment of officials.

Describe the division and sharing of powers among and within levels of government.

Chart the separation and sharing of powers within levels of government.

Describe the process of amending the United States and Nebraska Constitution.

Outline the powers granted to Congress, the President, the Supreme Court, and those reserved to the states.

8.3.2 Student will compare the election process at the local, state, and national levels of government.

Example indicators:

Explain nomination and promotion of candidates for elective office.

Describe similarities and differences between the major political parties.

Describe voter turnout.

Evaluate the accuracy of campaign advertising.

Discuss bias and identify how media reports, analysis, and editorials are different.

8.3.3 Students will compare the policy-making process at the local, state, and national levels of government.

Example indicators:

Chart the basic law-making process within the respective legislative bodies.

Explain the interaction between the chief executives and the legislative bodies.

Explain the functions of departments, agencies, and regulatory bodies.

Describe the roles of political parties at the state and national levels.

Explain the ways that individuals and cultural, ethnic, and other interest groups can influence government policy makers.

Describe the impact of the media on public opinion and policy makers.

8.3.4 Student will distinguish between the judicial systems established by the Nebraska Constitution and United States Constitution.

Example indicators:

Diagram the organization and jurisdiction of Nebraska and United States courts.

Describe the exercise of the power of judicial review.

Describe the process of bringing and resolving criminal and civil cases in Nebraska's judicial system.

Describe the function and process of the juvenile justice system in Nebraska.

8.3.5 Student will explain the structure and operation of the United States economy and the role of citizens as producers and consumers.

Example indicators:

Define the concepts of scarcity, choice, trade-offs, specialization, entrepreneurship, productivity, inflation, profits, markets, supply and demand, inflation, and unemployment and incentives.

Analyze the effect of producer and consumer behavior on markets.

Describe the role of individuals and businesses as consumers, saver, investor, and borrowers.

Explain how various institutions help individuals and groups accomplish economic goals.

Describe common forms of credit, saving, investments, purchases, and the contractual agreements, e.g., warranties and guarantees.

Analyze sills necessary for career opportunities, e.g., individual abilities, skills, and education, and the changing supply and demand for those skills in the economy.

Describe the development of money, savings, and credit.

8.3.6 Students will compare the United States economic system to systems in other countries.

Example indicators:

Describe the government's role in the United States economy, e.g., provision of public goods and services, protection of consumer rights, and the promotion of competition.

Describe the impact of government policies, on individuals and businesses, taxation, and government borrowing.

Explain how the government addresses third-party costs and benefits, e.g., pollution and medical research.

Explain the differences between traditional command and market economics.

Analyze the costs and benefits of instituting different degrees of market, command, and traditional characteristics into mixed economic systems.

8.3.7 Students will summarize the rights and responsibilities of United States citizens.

Example indicators:

Describe ways individuals participate in the political process, e.g., registering and voting, communicating with government officials, participating in political campaigns, and serving on juries and in voluntary appointed positions.

Identify the way individuals of cultural, ethnic, and other interest groups can influence governments.

Describe the election process and appointment of officials.

Describe the impact of the media on public opinion and policy.

Compare the election process at the local, state, and national levels of government, e.g., nomination and promotion of candidates for elective office similarities and differences between the major political parties; voter turnout;

evaluate the accuracy of campaign advertising; and recognize bias and identify how media reports, analysis, and editorials are different.

8.3.8 Students will describe the purpose and function of the United States Constitution, including the Bill of Rights.

Example indicators:

What are inalienable rights?

What does "life, liberty, and the pursuit of happiness," mean?

What is the rule of law, justice, and equality under the law?

Describe the Native American heritage, e.g., Iroquois Five National Confederacy, "Great Binding Law."

Explain the British and American heritage, e.g., the Magna Carta, the English Bill of Rights, the Mayflower Compact, the Articles of Confederation.

Explain the philosophy of government expressed in the Declaration of Independence.

8.4 Skills

8.4.1 Students will explain the meaning of patriotic slogans and excerpts from notable speeches and documents.

Example indicators:

Explain the statement, "Give me liberty or give me death."

Explain the meaning of "E Pluribus Unum."

Discuss the importance of the Gettysburg Address.

Explain the Preamble to the Constitution.

Explain the Declaration of Independence.

Who said ". . . December 7, 1941, a date which will live in infamy"?

Explain the statement, "Ask not what your country can do for you. . ."

Who said, "Mr. Gorbachev, tear down this wall!"?

8.4.2 Students will demonstrate skills for historical analysis.

Example indicators:

Identify, analyze, and interpret primary sources, e.g., artifacts, diaries, letters, photographs, art, documents, newspapers, and contemporary media, e.g., television, movies, and computer information systems to better understand events and life in United States history to 1877.

Identify characters, settings, and events from narratives of Nebraska, America, and world history.

Construct various time lines of American history from pre-Columbian times to 1877, highlighting landmark dates, technological changes, major political and military events, and major historical figures.

Locate on a United States map major physical features, bodies of water, exploration and trade routes; the states that entered the Union up to 1877; and, identify the states that formed the Confederacy during the Civil War.

Identify, analyze, and interpret primary sources, e.g., artifacts, diaries, letters, photographs, art, documents, newspapers, contemporary media, and computer information systems, making generalizations about events and life in United States history since 1877.

Recognize and explain nationalism, race, religion, and ethnicity have influenced different points of view.

Distinguish fact from fiction by examining documentary sources.

Construct various time lines of United States history since 1877, e.g., landmark dates, technological and economic changes, social movements, military conflicts, and presidential elections.

Locate on a United States map all 50 states, the original 13 states, the states that formed the Confederacy, and states which entered the Union after 1877.

8.4.3 Students will develop skills in discussion, debate, and persuasive writing by analyzing historical situations and events.

Example indicators:

Explain the historical perspectives of people, e.g., Native Americans, Hispanic Americans, African Americans, European Americans, and Asian Americans; settlers, slaves, and slave holders; Patriots and Tories; Federalists and Anti-Federalists; Confederates and Yankees; Republicans and Democrats; and rural and urban.

Describe the causes, costs, and benefits of major events in American history up to 1877, e.g., American Revolution, the Constitutional Convention, the Civil Water, and Reconstruction.

8.4.4 Students will evaluate different assessments of the causes, costs, and benefits of major events in recent American history to develop discussion, debate, and persuasive writing skills.

8.4.5 Students will interpret economic and political issues as expressed in various visuals.

8.4.6 Student will improve their skills in historical research and geographical analysis.

Example indicators:

Identify, analyze, and interpret primary sources and secondary sources to make generalizations about events and life in world history up to 1000 A.D.

Identify, analyze, and interpret global population distribution in the Middle Ages.

Identify and compare contemporary national political boundaries with the location of civilizations, empires, and kingdoms from 4000 B.C. to 1000 A.D.

Identify and compare the distribution of major religious culture in the contemporary world with the origin and spread of Judaism, Christianity, Islam, Hinduism, and Buddhism up to 1000 A.D.

TWELFTH GRADE

Social Studies - United States History, World History, Geography, Civics/Government, Economics

12.1 United States History

12.1.1 Students will analyze and explain the causes and effects of the Age of Discovery, contacts between Native Americans and European settlers, and the creation of the American colonies.

Example indicators:

Explain the economic and cultural characteristics of the groups.

Summarize the motives and strategies of the explorers and settlers.

Explain the impact of European settlement on the Native Americans.

Relate the legacies of contact, cooperation, and conflict from that period.

Explain the motivation of ethnic and religious groups, and how immigrants influenced the settlement of colonies.

Summarize the economic activity.

Describe the political developments.

Compare the social customs, the arts, and religious beliefs.

12.1.2 Students will analyze and explain the events and ideas of the Early National Period.

Example indicators:

Relate changes in British policies that provoked the American colonists.

Discuss the debate within America concerning separation from Britain.

Compare the Declaration of Independence and “Common Sense.”

Describe the roles played by the individual leaders.

Summarize key battles, military turning points, and key strategic decisions.

Compare The Articles of Confederation and the Declaration of Independence.

Discuss the issues and policies affecting relations among existing and future states, e.g., the Northwest Ordinance.

Explain the Constitutional Convention, e.g., the leadership of James Madison and George Washington.

Compare and contrast the struggle for ratification of the Constitution, the Federalist Papers, and Anti-Federalists arguments.

Explain the addition of the Bill of Rights to the Constitution.

Relate the organization of the national government under the new Constitution.

Explain the major domestic and foreign affairs issues facing the first presidents and Congress.

Summarize the development of political parties.

Explain how the impact of Supreme Court cases, e.g., Marbury v. Madison and McCulloch v. Maryland, affected the interpretation of the Constitution.

Explain foreign relations and conflicts, e.g., the War of 1812 and the Monroe Doctrine.

Discuss the Louisiana Purchase and the acquisition of Florida.

Summarize the economic development, trade, tariffs, taxation, and trends in the national debt.

12.1.3 Students will analyze the causes and effects of major events of the Civil War and Reconstruction.

Example indicators:

Discuss the causes and effects of slavery.

Explain the States' Rights Doctrine.

Discuss tariffs and trade.

Describe the settlement of the Western United States.

Explain Secession.

Compare and contrast the military advantages of the Union and the Confederacy.

Explain the threat of foreign intervention.

Discuss the economic and political impact of the war.

Explain the roles played by the individual leaders.

Relate the impact of Reconstruction policies on the South.

12.1.4 Students will analyze the impact of immigration on American life, identifying factors.

Example indicators:

Contributions of Native Americans, Hispanic Americans, African Americans, European Americans, Asian Americans, and immigrant groups and individuals.

Ethnic conflict and discrimination.

The United States domestic policies.

12.1.5 Students will summarize causes and effects of the Industrial Revolution.

Example indicators:

Describe new inventions and industrial production methods.

Summarize new technologies in transportation and communication.

Explain incentives for capitalism and free enterprise.

Describe the impact of immigration on labor supply and the movement to organize workers.

Describe improvements in standards of living, life expectancy, and living conditions.

Explain child labor, working conditions, and the rise of organized labor.

Summarize government policies affecting trade, monopolies, taxation, and money supply.

Summarize muckraking literature and the rise of the Progressive Movement.

Describe women's suffrage and temperance movements, describing their impact on society.

Summarize political changes at the local, state, and national levels.

12.1.6 Students will analyze the origins and effects of World War I.

Example indicators:

Describe the end of the Ottoman Empire and the creations of new states in the Middle East.

Relate the declining role of Great Britain and the expanding role of the United States in world affairs.

Summarize the political, social, and economic change in Europe and the United States.

Explain the causes of World War I.

12.1.7 Students will analyze and explain the Great Depression.

Example indicators:

Explain the causes and effects of changes in business cycles.

Describe the weaknesses in key sectors of the economy in the late 1920's.

Summarize United States government's economic policies in the late 1920's.

Explain the causes and effects of the Stock Market Crash.

Describe the impact of the Depression on the American people.

Explain the impact of New Deal economic policies.

Explain the impact of the expanded role of government in the economy since the 1930's.

12.1.8 Students will recognize and explain the origins and effects of World War II.

Example indicators:

Describe the rise of and aggression of totalitarian regimes in Germany, Italy, and Japan.

Summarize the rise of Fascism, Nazism, and Communism in the 1930's and 1940's and the response of Europe and the United States.

Explain the role of the Soviet Union.

Explain appeasement, isolationism, and the war debates in Europe and the United States prior to the outbreak of war.

Relate the impact of mobilization for war, at home and abroad.

Summarize the major battles, military turning points, and key strategic decisions.

Explain the Holocaust and its impact.

Describe the reshaping of the United States' role in world fairs after the war.

Summarize the major changes in Eastern Europe, China, Southeast Asian, and Africa following the war.

12.1.9 Students will analyze and explain United States foreign policy since World War II.

Example indicators:

Summarize the origins of the Cold War and the foreign and domestic consequences.

Describe Communist containment policies in Europe, Latin America, and Asia.

Describe McCarthyism and the fear of communist influence within the United States.

Explain Strategic and economic factors in Middle East policy.

Describe the relations with South Africa and other African nations.

Describe the collapse of communism and the end of the Cold War.

Explain the new challenges to America's leadership role in the world.

Analyze the confrontations with the Soviet Union in Berlin and Cuba.

Explain NATO and other alliances and the United States role in the United Nations.

Describe nuclear weapons and the arms race.

Summarize the military conflicts in Korea, Vietnam, and the Middle East.

12.1.10 Students will evaluate developments in federal civil rights and voting rights since the 1950's.

Example indicators:

The Brown v. Board of Education decision and its impact on education.

Civil rights demonstrations and related activity leading to desegregation of public accommodations, transportation, housing, and employment.

The impact of reapportionment cases and voting rights legislation on political participation and representation.

Affirmative action.

12.1.11 Students will demonstrate an understanding of domestic policy issues in contemporary American society.

Example indicators:

Compare conservative and liberal economic strategies.

Compare the positions of political parties and interest groups on major issues.

12.1.12 Students will explain and demonstrate relationships between the geographical and the historical development of the United States by using maps, pictures, and computer databases.

Example indicators:

Locate and explain the location and expansion of the original colonies.

Trace the territorial expansion of the United States, explaining how the physical environment influenced it.

Locate new states as they were added to the Union.

Demonstrate an understanding of the settlement patterns, migration routes, and cultural influence of various racial, ethnic, and religious groups.

Compare patterns of agricultural and industrial development in different regions as they relate to natural resources, markets, and trade.

Analyze the political, social, and economic implications of demographic changes in the nation over time.

12.1.13 Students will develop skills for historical analysis.

Example indicators:

Analyze documents, records, and data, e.g., artifacts, diaries, letters, photographs, journals, newspapers, and historical accounts.

Evaluate the authenticity, authority, and credibility of sources.

Formulate historical questions and defend findings based on inquiry and interpretation.

Develop perspectives of time and place, such as the construction of various time lines of events, periods, and personalities in American history.

Communicate findings orally, in brief analytical essays, and in a comprehensive paper.

12.1.14 Students will demonstrate verbal and written skills that focus on enduring issues, divergent viewpoints, and excerpts from famous speeches and documents in United States history.

Example indicators:

Discuss civil disobedience v. the rule of law.

Analyze the role of government to the individual in economic planning and social programs.

Debate freedom of the press v. the right to a fair trial.

Analyze the tension between majority rule and minority rights.

Debate problems of intolerance toward racial, ethnic, and religious groups in American society.

Discuss the evolution of rights, freedoms, and protections through political and social movements.

Interpret aspects of “United States Constitution,” “Bill of Rights,” “Letter from Birmingham,” “Speak softly and carry an big stick. . . . ,” “Gettysburg Address,” etc.

12.2 World History: 1000 C.E. to the Present

12.2.1 Students will demonstrate an understanding of the state of the world about 1000 C.E.

Example indicators:

Summarize the institution of feudalism in Europe, Asia, and Africa.

Summarize the growth of trade between civilizations, e.g., silk trade, gold and salt trade.

Describe the location and leadership of major kingdoms in Europe, Africa, Asia, and Latin America.

Describe the location and culture of the Byzantine and Muslim empires.

Summarize the role religion in a civilization, e.g., the Roman Catholic Church, Buddhism, Islam, and animism.

Describe the conflict between religions, e.g., Crusades and Great Schism.

Summarize the technological advances in Asia and Latin America, e.g., calendars and metallurgy.

12.2.2 Students will analyze the patterns of social, economic, political change, and cultural achievement in the late Medieval period.

Example indicators:

Explain the emergence and distinctive political developments of nation-states, e.g., Spain, France, England, and Russia.

Describe the conflicts among Eurasian powers, e.g., the Crusades, the Mongol conquests, and the expansion of the Ottoman Turks.

Explain the patterns of crisis and recovery, e.g., the Black Death.

Explain the preservation of Greek and Roman philosophy, medicine, and science.

12.2.3 Students will analyze the historical developments of the Renaissance.

Example indicators:

Explain the economic foundations of the Renaissance, such as European interaction with Muslims, increased trade, role of the Medici's, and new economic practices.

Discuss the rise of Italian city-states.

Compare the artistic, literary, and intellectual creativity, e.g., Leonardo DaVinci, Michelangelo, and Shakespeare, as contrasted with the Medieval period.

Explain the Machiavelli's theory of government as described in The Prince.

Describe the differences between the Italian and the Northern Renaissance.

12.2.4 Students will analyze the historical developments of the Reformation.

Example indicators:

Explain the influence of religious conflicts on government actions, such as the Edict of Nantes in France.

Discuss the evolution of laws that reflect religious beliefs, cultural values, traditions, and philosophies, e.g., the beginnings of religious toleration and the growth of democracy.

12.2.5 Students will analyze the impact of European expansion into the Americas, Africa, and Asia.

Example indicators:

Discuss the roles and motivations of explorers/conquistadors.

Explain the migration, settlement patterns, and cultural diffusion.

Explain the exchange of technology, ideas, and agricultural practices.

Discuss the trade in slaves, tobacco, rum, furs, and gold.

Relate the introduction of new diseases.

Discuss the influence of Christianity.

Explain the economic and cultural transformations created by the emergence of plant-like tobacco and corn in new places and the arrival of the horse in the Americas.

Describe the competition for resources and the rise of Commercial Revolution and mercantilism.

Explain the cultural changes in indigenous societies.

12.2.6 Students will compare Judaism, Christianity, Islam, Buddhism, and Hinduism and Confucianism.

Example indicators:

Compare and contrast major leaders and events.

Compare and contrast sacred writings.

Compare and contrast traditions, customs, and beliefs.

Explain monotheistic versus polytheistic views.

Discuss geographic distribution at different times.

Compare and contrast political, social, and economic influences of each.

Discuss the long-standing religious conflicts and recent manifestations in places, e.g., Ireland, Middle East, and Bosnia.

12.2.7 Students will analyze the scientific, political, and economic changes of the 16th, 17th, 18th, and 19th centuries.

Example indicators:

Explain the impact of scientific ideas on political institutions, social movements, and religion.

Discuss the establishment of absolute monarchies by individuals, e.g., Louis XIV, Frederick the Great, and Peter the Great.

Compare and contrast the Glorious Revolution in England and the French Revolution.

Explain the ideas of significant people, such as Hobbes, Locke, Montesquieu, Rousseau, and Jefferson.

Explain the new scientific theories, e.g., those of Newton, Kepler, Copernicus, Galileo, Harvey, and Franklin.

Discuss how technological changes brought about social, political, and cultural changes in Europe, Asia, and the Americas.

Explain how the arts, philosophy, and literature were influenced by people, such as Voltaire, Diderot, Delacroix, Bach, and Mozart.

Discuss the influence of religious beliefs on art, politics, science, and commerce.

12.2.8 Students will describe 19th century political developments in Europe, and their impact on the world.

Example indicators:

Summarize the Congress of Vienna and its influence on the political geography of Europe.

Describe the attempts at expansion of democracy in Europe, e.g., Chartist Movement, British Reform Laws, and liberal revolutions.

Relate the growth of nationalism, e.g., unification of Germany and Italy.

Describe the scramble for empire in Europe, Africa, Asia and Latin America.

Address the feminist issues, e.g., divorce, property, and suffrage.

Outline the abolition of slavery and slave trade.

12.2.9 Students will analyze and explain the effects of the Industrial Revolution.

Example indicators:

Describe the rise of industrial economics and their link to imperialism and colonialism.

Explain how scientific and technological changes, e.g., the inventions of Watt, Bessemer, and Whitney, brought about massive social and cultural change.

Outline the responses to capitalism, e.g., utopianism, socialism, and communism.

Relate how the status of women and children reflected societal changes.

Explain the evolution of work and labor, e.g., the slave trade, mining and manufacturing, and the union movement.

Explain how Asia and Africa were transformed by European commercial power.

Summarize the dominance of global economic systems by European powers.

12.2.10 Students will analyze major 20th century historical events.

Example indicators:

Relate ethnic conflicts, e.g., Bosnia, Arab-Israeli conflict, Biafra and Rwanda, Northern Ireland and Kashmire, and Zapatistas and Mexico.

Compare trends in global populations, growth and distribution over time.

Differentiate the development of collective security organizations, e.g. League of Nations, the United Nations, NATO, and Warsaw Pact.

Differentiate the development of world economic associations, e.g., E.C., NAFTA, WTO, World Bank, IMF.

Discuss the extension of human rights, e.g., women and all nationalities.

Compare the causes and effects of World War I and World War II.

Summarize the Russian Revolution.

Relate the rise, aggression, and human costs of totalitarian regimes in the Soviet Union, Germany, Italy, and Japan.

Summarize the political, social, and economic impact of the 1930's worldwide depression.

Describe the Nazi Holocaust and other examples of genocide.

Explain how new technologies, e.g., atomic power, influenced patterns of conflict.

Discuss the economic and military power shifts since 1945, e.g., the rise of Germany and Japan as economic powers.

Relate the revolutionary movements in Asia and its leaders, e.g., Mao Tse-tung and Ho Chi Minh.

Explain how African and Asian countries achieved independence from European colonial rule, e.g., India under Gandhi and Kenya under Kenyatta, and how they have fared under self-rule.

Describe regional and political conflicts, e.g., Korea and Vietnam.

Summarize the end of the Cold War and the collapse of the Soviet Union.

12.2.11 Students will demonstrate historical research and geographical skills.

Example indicators:

Identify, analyze, and interpret primary and secondary sources and artifacts.

Validate sources as to their authenticity, authority, credibility, and possible bias.

Construct various time lines of key events, periods, and personalities since the 11th century.

Identify and analyze major shifts in national political boundaries in Europe since 1815.

Identify the distribution of major religious cultures in the contemporary world.

Apply geography to interpret the past by using maps of time, place events to put together the shifts in boundaries and culture/religious groups through time.

12.3 The Governments and Economics of the United States and Nebraska

12.3.1 Students will compare historical forms of democratic governments that influenced the United States Constitution of 1789.

Example indicators:

Describe forms of democracy that existed in ancient Greece and Rome.

Describe the constitutional monarchy in Great Britain.

Describe governments in early American colonies.

Describe governments in early United States in the 18th century.

12.3.2 Students will identify examples of fundamental United States political principles contained in the Declaration of Independence, Articles of Confederation, *Federalist Papers*, *Common Sense*, and the United States Constitution.

Example indicators:

Examine Locke, Hobbes, Montesqueu, Rousseau, Blackstone, Jefferson, Paine, and Machiavelli's theory of government as described in *The Prince*.

Describe constitutionalism, limited government, rule of law, republicanism, and democracy.

Identify how the political ideas of the Enlightenment and the ideas of religion affected the founders of the United States.

Define sovereignty and consent of the governed.

Describe separation of powers, federalism, and checks and balance.

Compare the Declaration of Independence and "Common Sense."

12.3.3 Students will analyze the significance of amendments to the United States Constitution.

Example indicators:

Identify factors, e.g., the conflicts they addressed and the reasons for their adoption.

Analyze fundamental liberties, rights, and values outlined by the United States Constitution.

Identify various factors addressed by the constitution, e.g., religion, speech, press, assembly and petition, due process, equality under the law, individual worth and dignity, and majority rule and minority rights.

12.3.4 Students will evaluate and summarize landmark Supreme Court interpretations of the United States Constitution and its amendments.

Example indicators:

Describe how Marbury v. Madison and McCulloch v. Maryland affected the Constitution.

Examine federal civil and voting rights since 1950's, e.g., Brown v. Board of Education, demonstrations leading to desegregation, reapportionment, and voting rights legislation.

Explain current patterns and evaluate the impact of Supreme Court decisions on domestic policy issues.

12.3.5 Students will analyze the fundamental concepts and challenges to democracy by using writing, discussion, and debate skills.

Example indicators:

Explain equality of all citizens under the law.

Examine worth and dignity of the individual.

Debate majority rule and minority rights.

Identify individual freedoms.

Explain the necessity of compromise.

Analyze individual rights v. public interests.

12.3.6 Students will analyze the structure, and function of the United States national governments and its relationship to state governments.

Example indicators:

Describe the organization, and authority of each branch.

Examine the principles of federalism, e.g., concurrent, delegated, and reserved powers.

Examine separation of powers, and checks and balances.

Explain procedures for constitutional amendment, e.g., Article IV.

Identify specific policies related to foreign affairs, civil rights, and economics and the budget.

Identify how political parties, interest groups, the media, individuals, and government institutions influence public policy.

Describe levels of taxation and the expectation of public services.

12.3.7 Students will analyze structure and function of Nebraska state and local governments.

Explain indicators:

Describe the organization and authority of each branch.

Explain procedures for state constitutional and local charter amendments.

Explain how Nebraska's legislative, executive, and judicial institutions make public policy, e.g., legislation, regulations, executive orders, and judicial review.

Compare Nebraska's unicameral with a bicameral form of government.

Identify and distinguish units of local governments in Nebraska, e.g., counties, cities, towns, and regional authorities by analyzing a local public issue.

Identify fundamental American political principles in Nebraska constitution, fundamental liberties, rights, and values, e.g., sovereignty, consent of the governed, separation of powers, federalism, and checks and balances.

Identify how political parties, interest groups, the media, individuals, and government institutions influence public policy.

Describe levels of taxation and the expectation of public services.

12.3.8 Students will describe and explain the election process in the national, state, and local governments.

Example indicators:

Describe the organization of political parties and role in the nominating process.

Explain campaign funding and spending.

Identify the influence of media coverage, campaign advertising, public opinion polls, and the use of propaganda techniques.

Explain demographic causes and political effects of reapportionment and redistricting, e.g., gerrymandering.

Describe voter turnout and constituencies of the major political parties.

Explain the development of political parties and Electoral College.

12.3.9 Students will explain the rights, freedoms, responsibilities, and benefits of citizenship in the United States.

Example indicator:

Participate in debates, discussions, and readings by analyzing public issues, communicating with candidates, and evaluating performance of public officials and candidates.

12.3.10 Students will compare the United States political and economic systems with those of major democratic and authoritarian nations.

Example indicators:

Compare the structures, functions, and powers of political and economic systems.

Describe the rights, responsibilities, and powers of the governed, e.g., grass roots citizens' movements.

Compare the relationship between economic and political freedom.

Explain the allocation of resources and its impact on productivity.

Describe the development and implementation of personal economic decision-making skills in a democratic society.

12.3.11 Students will analyze characteristics of the United States free market economy.

Example indicators:

Define labor, capital resources, and natural resources.

Describe the role of private ownership, private enterprise, profits, and entrepreneurship.

Compare the relationship between households, firms, and government.

Explain the labor and management relationships.

Discuss opportunity costs, scarcity, and balancing unlimited wants versus limited resources.

Explain supply and demand, and the formation of basic economic questions, including what to produce, how to produce, and for whom to produce.

12.3.12 Students will analyze the role of the national, state, and local government in the United States economy.

Example indicators:

Compare interstate commerce and trade policies.

Discuss promoting economic growth by providing favorable conditions for markets.

Compare providing public goods, services, and protection of the environment.

Explain the interrelationship of producers, consumers, and government in the United States economic system.

Discuss the impact of fiscal and monetary policy.

Identify the basic economic goals in a free market system, including growth, stability, full employment, and efficiency versus equity and justice.

12.3.13 Students will examine the basic economic indicators and fundamental of international trade.

Example indicators:

Define Gross Domestic Product.

Define Consumer Price Index, employment statistics, and other measure of economic conditions.

Explain comparative and absolute advantage.

Discuss exchange rates.

Explain international trade policies, and the United States relationship to the global economy.

12.4 World Geography

12.4.1 Students will demonstrate geographical skills.

Example indicators:

Recognize the different map projections and explain the effects of distortion.

Show how maps reflect particular historical and political perspectives.

Apply the concepts of scale, orientation, and latitude and longitude.

Create and compare political, physical, and thematic maps of countries and regions.

12.4.2 Students will analyze how selected physical and ecological processes impact the earth's surface.

Example indicators:

Identify natural hazards, describe the characteristics, explain their impact on physical and human systems, and assess efforts to manage their consequences in developed and less developed regions.

Identify regional climatic patterns and weather phenomena, relating them to events in the contemporary world.

Explain how humans influence and are influenced by the environment.

Relate how people's ideas and relationship to the environment change over time, particularly in response to new technologies.

12.4.3 Students will compare and contrast the distribution, growth rates, and characteristics of human population, e.g., settlement patterns and the location of natural and human resources.

Example indicators:

Analyze past and present migration trends.

Analyze the social, economic, political, and environmental factors that influence cultural interaction.

Analyze past and present trends in human migration and cultural interaction as they are influenced by social, economic, political, and environmental factors.

12.4.4 Students will analyze the patterns of urban development, such as site and situation; the function of towns and cities; and problems related to human mobility, social structure, and the environment.

12.4.5 Students will analyze the regional development of Asia, Africa, the Middle East, Latin America, and the Caribbean, such as physical, economic, and cultural characteristics and historical evolution from 1000 A.D. to the present.

Example indicators:

Analyze the patterns and networks of economic interdependence, e.g., formation of multinational economic unions; international trade; the theory of competitive advantage; job specialization; competition for resources; and access to labor, technology, transportation, and communications.

Locate and identify by name the major countries in each region, the world's major rivers, mountain ranges, and surrounding bodies of water.

Classify and describe the spatial distribution of major economic systems and evaluate their relative merits in terms of productivity and the social and economic well being of workers.

Explain how geographic regions change over time.

Explain how characteristics of regions have led to regional labels.

Explain how regional landscapes reflect the cultural characteristics of their inhabitants as well as historical events.

Explain how technical advances have led to increasing interaction among regions.

Distinguish between developed and developing countries, identifying and relating the level of economic development to the quality of life.

Analyze how certain cultural characteristics can link or divide regions, e.g., language, ethnic heritage, religion, political philosophy, shared history, and social and economic systems.

12.4.6 Students will analyze the forces of conflict and cooperation.

Example indicators:

Explain the way in which the world is divided among independent and dependent countries.

Describe disputes over borders, resources, and settlement areas.

Describe the historic and future ability of nations to survive and prosper.

Explain the role of multinational organizations.

12.4.7 Students will apply geography to interpret the past, understand the present, and plan the future.

Example indicators:

Explain the historical migration of people, expansion and disintegration of empires, and the growth of economic systems by using a variety of maps, charts, and documents.

Relate current events to the physical and human characteristics of places and regions.

Statewide System of Assessment and Reporting

Reporting Schedule ~~2009-~~2012-2015

~~On or before June 30 of each school year, school districts report according to the following schedule:~~

School Year	Assessment	Grade Levels
~~2009-2010~~	~~Local Mathematics Assessment* .....~~ ~~Local Science Assessment*.....~~ ~~Statewide Writing Assessment .....~~ ~~Statewide Reading Assessment .....~~ ~~National Assessment Instrument* .....~~	~~3-8, and at least one grade in High School~~ ~~4 or 5, 8, 11~~ ~~4, 8, 11~~ ~~3-8, 11~~ ~~Recommended 4, 8, 10~~
~~2010-2011~~	~~Local Science Assessment*.....~~ ~~Statewide Reading Assessment .....~~ ~~Statewide Mathematics Assessment.....~~ ~~Statewide Writing Assessment .....~~ ~~National Assessment Instrument* .....~~	~~4 or 5, 8, 11~~ ~~3-8, 11~~ ~~3-8, 11~~ ~~4, 8, 11~~ ~~Recommended 4, 8, 10~~
~~2011-2012~~ 2012-2013	Statewide Reading Assessment ..... Statewide Mathematics Assessment..... Statewide Science Assessment ..... Statewide Writing Assessment ..... National Assessment Instrument* + ...	3-8, 11 3-8, 11 5, 8, 11 4, 8, 11 Recommended 4, 8, 10
2013-2014	Statewide Reading Assessment ..... Statewide Mathematics Assessment..... Statewide Science Assessment ..... Statewide Writing Assessment ..... National Assessment Instrument* + ...	3-8, 11 3-8, 11 5, 8, 11 4, 8, 11 Recommended 4, 8, 10
2014-2015	Statewide Reading Assessment ..... Statewide Mathematics Assessment..... Statewide Science Assessment ..... Statewide Writing Assessment ..... National Assessment Instrument* + ...	3-8, 11 3-8, 11 5, 8, 11 4, 8, 11 Recommended 4, 8, 10

*Nonpublic school systems report to the head administrator or governing board.

+ Public school districts report to the Department of Education on or before June 30.

State Statute 79-724

American citizenship; committee on Americanism; created; duties; required instruction; patriotic exercises; duties of officers.

An informed, loyal, just, and patriotic citizenry is necessary to a strong, stable, just, and prosperous America. Such a citizenry necessitates that every member thereof be fully acquainted with the nation's history and that he or she be in full accord with our form of government and fully aware of the liberties, opportunities, and advantages of which we are possessed and the sacrifices and struggles of those through whose efforts these benefits were gained. Since youth is the time most susceptible to the acceptance of principles and doctrines that will influence men and women throughout their lives, it is one of the first duties of our educational system to conduct its activities, choose its textbooks, and arrange its curriculum in such a way that the love of liberty, justice, democracy, and America will be instilled in the hearts and minds of the youth of the state.

(1) Every school board shall, at the beginning of each school year, appoint from its members a committee of three, to be known as the committee on Americanism. The committee on Americanism shall:

(a) Carefully examine, inspect, and approve all textbooks used in the teaching of American history and civil government in the school. Such textbooks shall adequately stress the services of the men and women who achieved our national independence, established our constitutional government, and preserved our union and shall be so written to include contributions by ethnic groups as to develop a pride and respect for our institutions and not be a mere recital of events and dates;

(b) Assure themselves as to the character of all teachers employed and their knowledge and acceptance of the American form of government; and

(c) Take all such other steps as will assure the carrying out of the provisions of this section.

(2) All American history courses approved for grade levels as provided by this section shall include and adequately stress contributions of all ethnic groups (a) to the development and growth of America into a great nation, (b) to art, music, education, medicine, literature, science, politics, and government, and (c) to the war services in all wars of this nation.

(3) All grades of all public, private, denominational, and parochial schools, below the sixth grade, shall devote at least one hour per week to exercises or teaching periods for the following purpose:

(a) The recital of stories having to do with American history or the deeds and exploits of American heroes;

(b) The singing of patriotic songs and the insistence that every pupil memorize the Star-Spangled Banner and America; and

(c) The development of reverence for the flag and instruction as to proper conduct in its presentation.

(4) In at least two of the three grades from the fifth grade to the eighth grade in all public, private, denominational, and parochial schools, at least three periods per week shall be set aside to be devoted to the teaching of American history from approved textbooks, taught in such a way as to make the course interesting and attractive and to develop a love of country.

(5) In at least two grades of every high school, at least three periods per week shall be devoted to the teaching of civics, during which courses specific attention shall be given to the following matters:

(a) The United States Constitution and the Constitution of Nebraska;

(b) The benefits and advantages of our form of government and the dangers and fallacies of Nazism, Communism, and similar ideologies; and

(c) The duties of citizenship.

(6) Appropriate patriotic exercises suitable to the occasion shall be held under the direction of the superintendent in every public, private, denominational, and parochial school on Lincoln's birthday, Washington's birthday, Flag Day, Memorial Day, and Veterans Day, or on the day preceding or following such holiday, if the school is in session.

(7) Every school board, the State Board of Education, and the superintendent of each school district in the state shall be held directly responsible in the order named for carrying out this section, and neglect thereof by any employee or appointed official shall be considered a dereliction of duty and cause for dismissal.

Source:

Laws 1949, c. 256, § 19, p. 697; Laws 1969, c. 705, § 1, p. 2705; Laws 1971, LB 292, § 3; R.S.1943, (1994), § 79-213; Laws 1996, LB 900, § 398; Laws 1999, LB 272, § 86.

~~CRITERIA FOR RATING DISTRICTS ON STUDENT PERFORMANCE~~

~~The district rating is based on student performance information submitted to the Department as required in Section 003.08 of this Chapter and collected through local assessments according to the schedule in Appendix E. The rating is based upon the overall average percentage of assessed students meeting the standards in each subject area at each grade level reported.~~

~~The rating is determined by (1) calculating the percentage of assessed students in each subject of each grade level in the district who have met each standard, and then (2) calculating an overall percentage of students meeting the total set of standards in each subject area at each grade level. This overall average results in a district rating based on the scales below:~~

~~Reading:~~

~~Rating:~~	~~Unacceptable~~	~~Needs Improvement~~	~~Good~~	~~Very Good~~	~~Exemplary~~
~~Performance Range~~	~~0–29.99%~~	~~30.00%-49.99%~~	~~50.00%-66.99%~~	~~67.00%-84.99%~~	~~85.00% or higher~~

~~Mathematics:~~

~~Rating:~~	~~Unacceptable~~	~~Needs Improvement~~	~~Good~~	~~Very Good~~	~~Exemplary~~
~~Performance Range~~	~~0–29.99%~~	~~30.00%-49.99%~~	~~50.00%-67.99%~~	~~68.00%-79.99%~~	~~80.00% or higher~~

~~Required Written Plan for Low Performing School Districts In Accordance With Regulation 005.04A~~

~~The written plan to improve student performance to achieve the next higher rating in reading and/or mathematics will include the following:~~

- ~~An analysis of local data to determine student needs~~
- ~~Goals and objectives to address areas of low performance~~
- ~~Anticipated annual percentages of improvement in student performance~~
- ~~Plans for staff development to select and implement improvement strategies~~
- ~~Description of procedures for analyzing progress and making any needed modifications~~
- ~~Intent to host an annual consultation visit by a team selected by the Department~~
- ~~Intent to respond to recommendations of the consultation visit~~
- ~~Intent to report annual progress to the Department~~

~~Procedures For Low Performing School Districts~~
~~To Request An Extension In Time Due To Challenging Circumstances~~

~~A district not reaching the next higher rating may submit a request for an extension in time on or before July 15 of the third school year after receiving the initial low rating. The Board may grant a one- or two-year extension to the district if the district presents substantial evidence of the existence of challenging circumstances not under its control including, but not limited to:~~

1. ~~Sudden or extreme changes in demographics, finances, or school district organization; or~~

2. ~~Persistent conditions, not previously addressed, related to challenging demographics, finances, or school district organization; or~~

3. ~~Student numbers too small to provide statistically reliable information.~~

~~In order for an extension to be granted, the district also shows and the Board finds that a one- or two-year extension is in the best interests of the students.~~

~~Options For Documenting Improved Student Learning In The Areas Of Low Performance~~

~~A district requesting an extension in time may also request one of the following alternative options for documenting improved performance until the district is able to attain the next higher rating:~~

1. ~~An increase in percentage of students demonstrating proficiency on Nebraska standards compared to the baseline established in the improvement plan~~

2. ~~An increase in student performance in the low performance area as supported through other specific accountability indicators such as standardized norm-referenced assessment scores~~

3. ~~An increase in student performance as demonstrated on specific local assessments or specific norm-referenced assessments by the cohort of students that received the low rating~~

4. ~~An increase in performance of students in any one or more of the lower performance groups~~

5. ~~An increase in percentage of students having proficiency in the English language~~

6. ~~An increase in percentage of students enrolled in target area courses~~

~~The Board may permit the district to use an alternative option if the Board finds that the option requested is carefully designed to accurately document improved learning.~~