

Elementary

Keyboarding



Building A Strong Foundation

Nebraska Department of Education
301 Centennial Mall South, Lincoln, NE 68509
<http://www.education.ne.gov/BMIT/curriculum/keyboarding.html>

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SUGGESTED CURRICULUM DESIGN

Grades 1 - 3 Function Keys and Alphabet Key Locations

These students can learn the use of function keys, learn that the keyboard is divided into a left-hand side and right-hand side and alphabet key locations. Teach which keys are the home row, which finger strikes a specific alphabet key and that left hand fingers strike keys on the left hand side of the keyboard and right hand fingers strike keys on the right hand side of the keyboard. Teach students to strike, not press the keys.

Grade 4 Touch Keyboarding Skill and Basic Word Processing Skill

Teach students to keyboard by touch. Students who learn correctly at this age will gain a lifetime skill. Also, teach the initial word processing commands to aid in developing language arts skills. Basic file maintenance—save, open, close—should be taught as basic computer components. The topic of appropriate computer ethics should be introduced.

Grade 5 Language Arts Integration with Word Processing

Encourage students to use their touch keyboarding and word processing skills in as many of their assignments as possible. Additional file maintenance—delete, copy, list/directory—and computer components and peripherals should be taught. Continue to emphasize appropriate computer ethics.

Grade 6 Total Integration of Keyboarding and Word Processing Skills

Students' use of the computer, word processing and touch keyboarding should be automatic. Composing, inputting, proofreading, editing and printing a perfect copy for production assignments from every subject discipline should be normal procedure. Emphasize appropriate computer ethics.

KEYBOARDING INSTRUCTION DELIVERY METHODS

Two common delivery methods are used when teaching elementary keyboarding: a stand-alone class and an integrated approach. A stand-alone class is a set class period where keyboarding is emphasized. An integrated approach integrates short keyboarding lessons into the existing class day.

If you plan to develop a stand-alone class, use the guidelines in the secondary school division of this booklet and modify them to your elementary school needs.

If you plan to develop integrated lessons, consider the following suggestions:

1. Write a lesson plan for each day's lesson and keep each lesson 20 to 30 minutes in length.
2. Present one new key at a time; two new keys per lesson. Normally, you can present the entire alphabet in about 13 to 14 days.

3. Present word processing commands, computer parts, or file maintenance on a need-to-know basis.
4. Present basic theory on a need-to-know basis.
5. Emphasize correct technique: correct body position, correct hand position, touch keyboarding and correct use of function keys. APPENDIX A presents more detail on technique and how to evaluate them.
6. Do not measure keyboarding speed or accuracy until after all the alphabet keys have been learned—remember, emphasize technique, how they keyboard, rather than speed/accuracy and what they keyboard.
7. If you measure speed at some later point in your class, use gross words per minute to measure speed. GWAM is the total number of five-stroke words a student keys in one minute. All keyboarding textbooks mark their material to aid you in figuring GWAM.
8. When a student keys for less than one minute, keyboarding speed equals total words keyed times the fraction of one minute. A 12-second timing is one-fifth of a minute; therefore, you multiply the number of words keyed in 12 seconds by 5 to get the speed; for a 30-second timing, you multiply the total number of words keyed by 2.
9. If you measure accuracy at some later point in your class, count the number of errors in a timing and record that number separately from speed. **DO NOT SUBTRACT ERRORS FROM THE SPEED!** Research shows this to be unreliable and invalid.
10. To ensure valid and reliable measures, students must score their work accurately and consistently.

NOTE: Only one error is charged to any one word, no matter how many misstrokes the word contains.

When counting errors, use these rules to identify an error:

- a. Any incorrect stroke.
- b. Any incorrect punctuation or omitted punctuation.
- c. Incorrect spacing after a word or punctuation.
- d. Omitted word.
- e. Repeated word.
- f. Transposed letters or words.
- g. Incorrect vertical spacing or indentions.



11. Begin simple composition immediately after you have taught all the alphabetic keys.
12. Only a few good computer-based keyboarding tutorials are available. The others on the market are marginally effective and pedagogically incorrect.
13. Call your local business educator for help, materials, and advice.
14. Have students use their keyboarding and word processing skills every day, but do insist on correct technique and touch keyboarding—the habits they learn now will stay with them for life.

WHAT RESEARCH AND RELATED LITERATURE SAYS ABOUT KEYBOARDING INSTRUCTION

1. According to Bruce Alper of Certiport (the company that does all the Microsoft certification testing materials), Microsoft did a survey and concluded that about 80 percent of inefficient computer usage is due to poor keyboarding skills. (Alper, 2005)
2. The goal for keyboarding students in elementary schools is to be able to key 25-30 words a minute in the third grade, with gradual improvement through the sixth grade. Keyboarding effectively requires more skill than stroking the keys at 25-30 words a minute. Highly skilled people in industry are able to key at 70-100 words a minute. (Bartholomew, 2003). The goal for elementary keyboarding is a rate that is faster than average handwriting speed (7-10 wpm for grades 4-6).
3. Keyboarding covers are used to prevent students from watching their fingers and can be used occasionally during drill and practice. However, students should be allowed to look at the keyboard when first learning a key. Insisting that students never look at the keyboard or covering the keyboard early in the learning process is detrimental to skill development. (Crews, North, & Erthal, 2006)
4. Expectations for productivity expound as the average worker spends 49 minutes per day and top managers spend four hours per day on email messages, according to O'Rourke (2004). Those who can touch keyboard are more likely to complete work in a timely and accurate manner and are less likely to suffer health problems related to improper keyboard use. (*Business Education Forum*, April 2009).
5. Keyboarding is a motor skill. It requires the fingers to be trained to respond correctly and quickly. Just as athletes' practice over and over again for his/her sport, this is necessary with keyboarding (Starr, 2001).
6. Keyboarding speed measured in words a minute (WAM) should be an assessment benchmark for students who are enrolled in a keyboarding class at least one semester in length. Keyboarding students below the sixth grade should not be graded on speed. At the 7th- and 8th-grade level, students generally should be expected to key at least 30 words a minute with 5 or less errors for 3 minutes. At the high school level, students should be expected to key at least 40 words a minute on a 3-minute timing with 3 errors or less. (Erthal & Bailey, 2004)
7. Third, fourth and fifth graders will need 20-30 hours of instruction if they are to type as quickly as they can write by pencil. However, these students will regress in their touch typing skills if they do not utilize their touch typing at intervals throughout the year. (Wetzel, 1985)
8. Erthal (2002) found that third graders do not possess the manual dexterity to keyboard. She feels it is better left to students age 10 to 12. Stating that fourth through sixth graders exhibit greater "smoothness and command of small muscle expression." Erthal (2002) also found that software can enhance a keyboarding curriculum but it should not take the place of the instructor.
9. Current technologies include speech recognition; scanners; and other handheld devices such as digital pens. While touch keyboarding techniques remain a viable foundation for entering and manipulating text and data, other skills include composing, editing, enunciating, manipulating text and formatting documents. Educators must provide instruction on a variety of input technologies for successful academic, professional and personal applications. (Speech Recognition Teacher Methods, 2006) Speeds of 150 words a minute with accuracy rates above 90 % are achievable by many students with only 3 clock hours of instruction and practice. (DPE Journal, spring/summer, 2010)
10. Limit intensive practice to 15 minutes. Practicing longer than 15 minutes at a time produces diminishing returns. Stretch, shake and rest! Students should rest their hands, using proper stretching, shaking and relaxation techniques at the end of each section of typing, every minute or so. (Karl Barksdale, 2003)

11. Teaching proper keying/sitting position, curved fingers and floating techniques. While ergonomically correct techniques alone will not prevent injuries from happening, they can minimize the impact of typing and clicking on the human body. See explanations of each at www.speakingsolutions.com/news. (Karl Barksdale, 2003)
12. Keyboarding should be integrated with language arts and other subject areas, such as social studies and science. Word processing of projects in academic subjects is easier when children possess a usable keyboarding skill (Rogers, Laehn, Lang, O’Leary, & Sommers, 2003)
13. Develop maximum response speed in keyboard stroking and manipulation through:
 - Pacing techniques for forcing rate of response and for developing response chaining.
 - Massing and distributing practice for maximum gain effect.
 - Establishing individual, intermediate response rate goals.
 - Selecting appropriate copy.
14. Integrate and sequence technique, speed and accuracy goals. Schedule keyboard technique and speed and accuracy reinforcement activities after achieving intensive initial stroking goals.
15. Develop response accuracy in keyboard stroking and manipulation through:
 - Response (stroke) differentiation.
 - Speed response to copy difficulty.
 - Focusing concentration on a specific technique.
 - Teach neutral wrist and arm position
 - Demand proper sitting position and keyboard height
 - Provide each student with an adjustable chair
 - Tell students to use a light touch
 - Emphasize curved fingers
 - Allow hands to float to the upper and lower reaches
 - Never let students rest their hands on the keyboard or the table
 - Enter numeric data from top row and keypad.
16. Students used to writing on the computer perform better when tested on a computer than on paper/pencil tests. In math, science and language arts tests using both short-answer and extended-answer items, the effects were so large that “when students wrote on paper, only 30 percent performed at a passing level; when they wrote on the computer, 67 percent passed.” (The Gap between Testing and Technology in Schools by Michael Russell and Walter Haney, National Board on Educational Testing and Public Policy, Vol. 1, No. 2, January 2000)
17. Keyboarding instruction in Grades 3 -5 is typically 6-12 weeks per year with intervals of 1-2 hours per week, for a minimum 3 times per week. Speed expectations vary, but the *Elementary/Middle School Keyboarding Strategies Guide* indicates that speeds typically correspond to the table below:

Hours of Instruction	Speed Expectations
15-18 hours	10-15 wpm
30-35 hours	23-30 wpm
45-60 hours	30-40 wpm

KEYBOARDING STRATEGIES

1. Keyboarding instruction should be integrated into the elementary language arts program as an enabling skill for manipulating data and ideas, thus allowing students to discover, record, arrange and communicate information in a way never before possible.
2. Students should be provided instruction in basic keyboarding techniques at the grade level in which they are first expected to use the electronic keyboard in learning situations requiring efficient input, retrieval and manipulation of words, symbols and data.
3. Instruction should focus on correct fingering techniques from home row locations, with emphasis on accuracy, rather than speed. Grades on speed, accuracy or production work should not be given. Evaluation of technique should be stressed.
4. Sequential and cumulative introduction of new keys with opportunities for practice and application are essential for students to learn effective keyboarding fundamentals (no more than two keys per lesson).
5. Brief, frequent, scheduled instruction is more beneficial than random, sporadic and lengthy practice sessions. Appropriate length is about 20 minutes per practice session. To alleviate a higher risk for injury, limit intensive practice to 15 minutes.
6. Keyboards should be readily available for students to use independently for practice and application of new skills they learn during instructional time.
7. Furniture and equipment should be adjustable to accommodate a range of pupil sizes.
8. Instructional materials should be appropriate for the developmental level of the students. Materials should be written at an appropriate reading grade level, and techniques should be illustrated graphically with drawings or photographs as well as words.
9. Elementary classroom teachers should have adequate training in the instructional goals, objectives and methodology of keyboarding instruction.
10. Order of new-key presentation should be based on sound criteria, including ease of operation and frequency of use in combination with other keys.
11. Frequent review/reinforcement lessons with no new learning should be provided.
12. Goals of practice should be identified clearly, and the structure of copy should increase students' chances of reaching those goals.
13. Business education teachers should be called upon to assist in the development of keyboarding curricula, inservice training and selection of materials and methodology.



THE ROLE OF THE KEYBOARDING TEACHER

As a keyboarding teacher your job is to:

1. Teach keyboarding by touch.
2. Teach the proper technique necessary for successful and safe keyboarding.
3. Inform students and parents about repetitive stress injuries (RSIs) and teach correct posture and work station adjustments so that the risks of RSIs are minimized.
4. Promote the lifelong value of keyboarding skill to other teachers and administrators so that:
 - Appropriate time is scheduled for keyboarding.
 - Funds are available for computer equipment, adjustable chairs and tables.
 - Students' achievements are recognized by the school.

It is not an absolute necessity that you be a skilled typist to teach keyboarding. You can learn along with your students or improve your own skill as you teach them. What is important, however, is that you must firmly believe:

- The operation of a keyboard by touch is one of the more valuable skills your students will learn.
- Correct technique is of paramount importance in acquiring this skill.

Adapted from *How to Teach Keyboarding*, Cheryl Cerri-Llamas and Frances Henderson, Bytes of Learning

TEACHER TRAINING OPTIONS FOR KEYBOARDING

Since few teachers in grades 3-8 have had any preparation in the methods of teaching keyboarding, the implementation of keyboarding instruction at these levels is being approached in a variety of ways.

Keyboarding courses require a business education endorsement. The question on who should teach keyboarding occurs with units less than 18 weeks, especially in grades 3-8. The following suggestions are made in an attempt to give direction to the most desirable teaching environment for keyboarding. It is recognized, however, that there may be other teaching situations that offer effective keyboarding instruction.

Instructional possibilities, listed in order from greatest to least opportunity for success:

1. **Business educators:** Since most of these educators are already trained in the psychomotor and psychological principles of keyboarding, their expertise should be used. School divisions may find that a middle or high school business education teacher's schedule may be adjusted to allow them to teach keyboarding instructional units on a regular basis. Another solution may be to have a business educator dedicated to grades 3-8 keyboarding, which might include travel to more than one school.
2. **Team teaching:** (business educator/non-business educator). In this situation, a business teacher may initiate the keyboarding instruction but train the non-business teacher to conduct follow-up activities, including technique checkups.
3. **Non-business teachers with training:** (who already possess a touch keyboarding skill). Teachers who possess the touch keyboarding skill may be trained in the basic methodologies of teaching keyboarding. Materials are available that support this type of training in a one-day workshop.
4. **Non-business teachers with training:** (who do **NOT** possess a keyboarding skill). Teachers who do not possess a touch keyboarding skill should be given instruction in keyboarding as well as the methods of teaching keyboarding. Time frames for this type of training need to be tested, but current information indicates that 10-12 hours are necessary for adults to obtain a minimal keyboarding skill.





SOFTWARE PACKAGES

Multiple software packages that teach and refine elementary- and middle-level keyboarding skills are currently on the market. Publishing companies provide online reviews and/or 30-day free trial packages for your review. Just a few examples include:

EduTyping and EduTyping Jr., B.E. Publishing, <http://www.edotyping.com/ne>

EasyTech Keyboarding and Word Processing, learning.com, Chris Niemeyer, 480.510.4294
cniemeyer@learning.com

Glencoe Computer Applications and Keyboarding, Glencoe Publishing, <http://www.glencoe.com/>

Keyboarding and Computer Applications, Pearson Prentice Hall Publishing, <http://phschool.com/>

Keyboarding For Kids, Ellsworth Publishing, www.EllsworthPublishing.com, Visit <http://www.keyboardingonline.com> to see an online demo

MicroType 6.0, Cengage Learning (South-Western), www.cengage.com/school/k8.html; Kristin McDonald, kristin.mcdonald@cengage.com

Type to Learn 4, Sunburst Software, <http://www.sunburst.com>; James Hanson, jhanson@sunburst.com

QWERTY Town: Keys for Life, Second Nature Learning, LLC, qwertytown.com, Paul Garofano, paul@qwertytown.com, 646.522.4343

Opinions expressed by individuals presenting in this workshop are not to be construed as official policy by the Nebraska Department of Education.

ROADMAP FOR PREVIEWING KEYBOARDING SOFTWARE

Elementary Keyboarding Touch Typing Applications (4-6)

EduTyping Jr., B.E. Publishing, <http://www.edotyping.com/ne> - Web-based keyboarding software with no software to install, update or maintain. Compatible with PC, Mac, Linux and all major Internet browsers. Feature-rich Instructor Control Center for managing classes and students. Pricing is available for annual transferrable student licenses with renewal licenses receiving a 20 percent discount. Contact 888.781,6921 or sales@bepublishing.com.

MicroType 6.0 (Cengage South-Western), www.cengage.com, Spanish or English. An alphabetic, numeric, skill building and keypad program for students as they develop basic keyboarding skills. **Micro Pace Pro** can be purchased to supplement Micro Type. It provides error analysis and skill building.

Type to Learn 4 (Sunburst) - Type to Learn® 4 keyboarding software has 34 lessons, 5 engaging, skill-targeted typing games with each lesson, and 7 assessments. The User Management area allows administrators to create, edit, delete, and import students and teachers. TTL4 is available in network and web-enabled versions.

Developed on a research-based method of sequential, cumulative touch typing instruction, Type to Learn 4 builds critical 21st Century skills for all keyboarding students in grades K-12. Contact 800.321-7511 or <http://www.sunburst.com>.

ADDITIONAL RESOURCES

Nebraska Keyboarding Position Paper, Keyboarding Curriculum and Scope and Sequences, and Nebraska Keyboarding Teaching Strategies, <http://www.education.ne.gov/bmit/curriculum/keyboarding.html>.

This & That Newsletter, Summer 2011 Issue dedicated to Middle Level Keyboarding Standards, Scope & Sequence & Model Programs, <http://www.education.ne.gov/BMIT/pdf/tnt/2011/summer.pdf>.

Elementary/Middle School Keyboarding Strategies, a book sold by NBEA that includes technique checklists, scope and sequence for courses at different grade levels, hours of instruction versus speed expectations, a checklist for how to evaluate keyboarding software, activities and sample lesson plans. Purchase online at <http://www.nbea.org> – click on Online Bookstore.

How To Teach Keyboarding, Bytes of Learning, Inc. This book designed for teachers covers methodology, lesson plans, teaching tips and assessment strategies. *Sitting Pretty: Safe Posture for Keyboarding and Other Activities* provides lesson plans for improving keyboarding techniques that will reduce Repetitive Strain Injuries. *How To Teach Keyboarding*, a 23-minute video is designed for teachers who may be teaching keyboarding for the first time. www.bytesoflearning.com or <http://www.bytesoflearning.com/english/view/1322>.

Keyboarding Wall Chart Poster and Games Keyboarding Teachers Play. Games, activities and instructional strategies that teach keyboarding, www.bepublishing.com.

Keyboarding: A Skill for Life! This 18-minute video that can be used with Grade 6+ students to convince them that keyboarding is important as a life skill. The video includes personal interviews with working professionals, students and teachers and also includes instructional demonstrations of touch-typing focusing on good posture and technique, proper hand and finger placement, eye contact and how to develop accuracy and speed. The approximate cost if \$150 to purchase the DVD through www.bepublishing.com.

Typing Board Interactive visual software for keyboarding teachers to use when introducing new keys. The software turns your monitor, chalkboard or whiteboard in an interactive extra-large keyboarding, www.bepublishing.com.

ONLINE RESOURCES

- Keyboarding Lessons and Ideas by Tonya Skinner - <http://lessonplans.btskinner.com/keybrd.html>
- Middle School Online Resources—an entire middle school keyboarding curriculum online, which is complete with technique check sheets and diagrams of correct finger reaches.
 - <http://www.crews.org/curriculum/ex/compsci/keyboarding/index.htm>
- Shelbyville Central Schools (IN) – <http://www.shelbycs.org/technology/keyboarding.html>
 - Shelbyville Central Schools Technology Department provides an overview and resources for teaching elementary keyboarding.
- Game Aquarium - <http://www.gameaquarium.com/keyboarding.htm>
- Nimble Fingers—these 20 warm-up exercises and stress reduction series will keep body and fingers limber.
 - http://www.nimblefingers.com/a_exer.htm
- Internet 4 Classroom has language arts and math activities for K-8 that include integrated activities.
 - http://www.internet4classrooms.com/skills_k_lang_new.htm
 - Early Childhood Education Network provides some low-level practice at typing the letters of the alphabet but is considered a site for building awareness of the keyboard--<http://literacycenter.net>
 - Dance Mat Typing provides 12 keyboarding lessons of extra practice--<http://bbc.co.uk/schools/typing>
- BrainPop Jr. provides a listing of K-3 lesson ideas for science, health, writing, reading, social studies, and math. Visit <http://www.brainpopjr.com>
- ABC ya provides free elementary computer activities for classroom use. Visit <http://abcya.com>.
- Visit <http://freetypinggame.net> to see lessons, tests and games.
- Visit <http://typingtest.com> from Typing Master to have students take 1-minute timed writings.
- Visit <http://sense-lang.org> to see how students can learn and improve their typing speed and accuracy.

HARDWARE

Alternative Keyboards—Visit <http://www.cdc.gov/niosh/97-148.html> for information about alternative keyboards that include split keyboards, tented keyboards, concave or curved keyboards, and adjustable negative slope. Call the National Institute for Occupational Safety and Health (NIOSH), 800.356.4674 for more information on workplace safety and health issues.

Laptop Keyboarding Considerations—Visit www.ergo.human.cornell.edu/culaptoptips.html which provides the following tips for using a laptop computer.

Tips for Using a Laptop Computer

- Un-ergonomic Laptops—the design of laptops violates a basic ergonomic requirement for a computer, namely that the keyboard and screen are separated. This means that you need to pay special attention to how you use your laptop because it can cause you problems.
- Laptop User Type—Occasional users will have less risk of problems than full-time users.
- Laptop Posture—Using a laptop is a tradeoff between poor neck/head posture and poor hand/wrist posture.
 - Occasional Users—you are better off sacrificing neck posture rather than wrist posture.
 - Find a chair that is comfortable and that you can sit back in.
 - Position your laptop in your lap for the most neutral wrist posture that you can achieve.
 - Angle the laptop screen so that you can see this with the least amount of neck deviation.
 - Full-time Users
 - Position computer on your desk in front of you so that you can see the screen without bending your neck. You may need to elevate the laptop off the desk surface using a computer monitor pedestal.
 - Use a separate keyboard and mouse.
 - Use the keyboard in a negative-tilt keyboard tray to ensure a wrist neutral posture.
 - Use the mouse on an adjustable position mouse platform.
 - Use a cooling pad to protect you from thigh burns
- Laptop Dimensions—Consider issues of screen size and screen resolution. A small screen will be useful in mobile settings. The smaller the laptop, the smaller the keyboard, so make sure that you can comfortably type on the keyboard.
- Laptop Weight—If you are a mobile professional, think about the weight of the computer and bag (consider a wheeled bag). Many business travelers opt for a BlackBerry, which provides wireless Internet access. Although it is lighter, you can get thumb tendonitis.
- Learn how to maintain a relaxed, neutral posture that reduces stress and strain to your muscles:
 - Schedule mini-breaks every 20–30 minutes to avoid repetition and static postures.
 - Maintain a comfortable viewing distance from your notebook screen—about 18-30 inches.
 - Keep your head and neck in a relaxed posture; avoid excessive neck flexion or rotation.
 - Position the keyboard at elbow height, and keep your wrists straight while keying.
 - Tilt the screen so that it is perpendicular to your line of sight.
 - If you are sitting in a side chair or couch, use a pillow to support your arms while keying.
 - Clean the screen regularly using appropriate antistatic cleaning fluid.
 - Your hands and wrists should be kept in a straight wrist posture when typing and should not be resting on a palm rest, table or lap while typing.
 - Did you know: wrist and palm rests are designed to provide support during breaks from typing.

NEBRASKA ASSISTIVE TECHNOLOGY PROJECT

The Nebraska Assistive Technology Project has staff members available to answer your questions about assistive technology devices, including where they can be purchased and who makes them. Technology specialists can also give you ideas on how a home, school or business can be modified to be more accessible. Staff is available to identify resources that may help you purchase the assistive technology you need, and answer your questions about eligibility guidelines and funding policies and programs. ATP is a good place to start your search for technology; they can answer your questions, help locate assistive devices and funding, and refer you to additional resources for technology and disability related information.

Nebraska Assistive Technology Partnership
<http://www.atp.ne.gov>, (888) 806-6287

Online Keyboarding and Assistive Technology Resources

About One Hand Typing and Keyboarding Manual
<http://www.aboutonehandtyping.com>

UNL Independent Study High School
Course is called Type with One Hand
<http://www.unl.edu/ishs> and select credit courses, business . . .

Typing Injury FAQ/Keyboards
<http://www.tifaq.com/>

High-tech assistive and adaptive technology products, multilingual speech synthesis and voice recognition software,
<http://Rehabtool.com>

Fentek Industries, Inc.—Assistive technology keyboard products including large print keyboard products
<http://www.fentek-ind.c/lrgprt.htm>

Model Scope and Sequence for Keyboarding

Model Scope and Sequence for Keyboarding

The keyboarding scope and sequence should begin with the following:

Exposure to Foundation Technology Skills, Grades K – 6

Keyboarding Awareness, Grades K – 3

Elementary Keyboarding, Grades 3 – 6

Keyboarding Applications, Grades 6 – 8

Computer Applications, Grades 6 - 8

Elementary Keyboarding

(Grades 3 - 6: 20 to 40 days each year for 20 to 30 minutes each day)

Elementary students will work toward mastery of the touch type operation. They will demonstrate correct technique, keystroking and care of equipment. Elementary students will begin to structure sentences and paragraphs using proper keyboarding technique.

Grades K-2 - Keyboarding Awareness (proper body and hand placement)

Grade 3 - Posture and touch typing home row keys

Grade 4 - Review home row and continue with touch typing (no numbers)

Grade 5 - Keyboarding touch typing, including numbers

Grade 6 - Review keyboarding, build skills and integrate into Language Arts (writing process)

Keyboarding Applications (9-18 weeks), Grades 6 – 8

Keyboarding is identified as a foundation knowledge and skill area for all students regardless of their career interest.

This middle-level course is designed for students to learn touch-typing techniques and proper keystroking while continuing to develop composition and proofreading skills as well as speed and accuracy. Students will demonstrate keyboarding proficiency in document formatting (letters, reports, and tables). Students will demonstrate acceptable ethical and social behavior while developing keyboarding skills.

Computer Applications (9-18 weeks), Grades 7 – 8

This middle-level course is designed to emphasize digital citizenship, basic computer operations, word processing applications, spreadsheet applications, presentation applications and technology communication tools. Students will master keyboarding skills; compose, create, edit and format word processing documents; organize and manipulate data in a spreadsheet and prepare a formal presentation.

Introduction to Information Technology Career Cluster

The Information Technology Career Cluster offers four pathways for students to consider as a career option: Network Systems and Telecommunications, Information Support and Services, Programming and Software Development and Web and Digital Communications. In addition, information technology is identified as a foundation knowledge and skill area for all students regardless of their career interest. The following course (previously called Computer Applications I) has been identified as a foundation course:

Information Technology Applications I (18 weeks), Grades 9 – 10

Students will explore emerging technologies as it applies to their success for high school, college and career. The focus will be on the importance of digital citizenship, professional communication practices, advanced document processing, professional presentations and intermediate spreadsheet and database applications used personally and professionally.

Information Technology Applications II (18 weeks), Grades 9 – 10

This course will focus on skill development in advanced spreadsheet, database, integration of applications utilizing advanced features and exploring web technologies. Students taking both Information Technology Applications I and II may be eligible for articulated or dual credit at a participating postsecondary institution. Skills, standards and coursework align with industry certifications.

For additional information about other courses offered within the Information Technology Career Cluster, visit <http://www.nde.ne.state/BMIT/>, Career Cluster Standards.

KEYBOARDING TECHNIQUE EVALUATION

Student Name _____

Rating Scale:

On Target—All technique is performed correctly

Acceptable—Needs some minor adjustments in technique

Not Acceptable—Needs major improvement in technique

	On Target	Acceptable	Not Acceptable
Position at the Machine			
Keystroking			
Touch Keyboarding			
Use of Operational Keys			

Position at the Machine

Back straight

Arms steady, almost motionless, parallel to keyboard

Elbows relaxed, close to body

Keystroking

Curved fingers

Quick, snap stroke

Wrists low and relaxed, NOT resting on keyboard, desk or computer (Carpal Tunnel Syndrome is caused by resting hands on keyboard and poor posture!)

Use of correct fingering

Touch Keyboarding

Eyes on copy or screen

Operational Keys

Operates return/enter key without looking

Operates space bar with a quick, down-and-in motion

Operates shift key in three-step pattern: shift-strike-release

Operates tab key without looking

Operates backspace/delete key without looking

Elementary Keyboarding Workshop Keyboarding Software Program Evaluation

Name of Previewers: _____

Name of Program: _____

Publisher Information: _____

Recommended Age Level: _____

Please Rate Each of the Following Functions	Good	Poor	Comments
Program graphics (help teach home row, fingering, posture)			
Teacher options for customizing lessons			
Built-in word processor			
Appropriate size of text			
Appropriate reading level			
Shift key lessons			
Lesson levels and depth (introduction of letter, practice, skill builder, speed builder)			
Recordkeeping (automatically count errors, wpm, student performance record)			
Site license available			
Multiple platforms available			
Software documentation (installation procedures, passwords, trouble shooting)			

Is there written material for students to use as an accompanying book? Yes No

Comment on the support material available for the teacher, e.g. teacher's manual:

Would you recommend that your school purchase this software? Yes No

If yes, for which grade level? _____

8th Grade Technology Proficiency Assessment for Scottsbluff

Name:

Date:

	Yes	No
Keyboarding:		
<ul style="list-style-type: none"> • GWAM 25 at 90% accuracy with proper technique 		
File Management/Computer Fundamentals:		
<ul style="list-style-type: none"> • Proper use of computer components, including peripherals 		
<ul style="list-style-type: none"> • Create folders 		
<ul style="list-style-type: none"> • Utilize Save and Save As 		
<ul style="list-style-type: none"> • Use Help menus 		
Internet and Ethics:		
<ul style="list-style-type: none"> • Adhere to safety and security policies 		
<ul style="list-style-type: none"> • Abide by copyright laws 		
<ul style="list-style-type: none"> • Analyze validity of sites 		
<ul style="list-style-type: none"> • Perform basic browser functions 		
<ul style="list-style-type: none"> • Search Engine Techniques 		
<ul style="list-style-type: none"> • Communicate and Collaborate 		
Word Processing Techniques:		
<ul style="list-style-type: none"> • Selecting text 		
<ul style="list-style-type: none"> • Cut/Copy/Paste 		
<ul style="list-style-type: none"> • Inserting page break 		
<ul style="list-style-type: none"> • Formatting text 		
<ul style="list-style-type: none"> • Formatting paragraphs 		
<ul style="list-style-type: none"> • Spell check 		
<ul style="list-style-type: none"> • Thesaurus 		
<ul style="list-style-type: none"> • Page Setup 		
<ul style="list-style-type: none"> • Header/Footer 		
<ul style="list-style-type: none"> • Create and format tables 		
<ul style="list-style-type: none"> • Inserting and formatting graphics 		
Spreadsheet Techniques:		
<ul style="list-style-type: none"> • Entering data 		
<ul style="list-style-type: none"> • Editing data 		
<ul style="list-style-type: none"> • Sorting data 		
<ul style="list-style-type: none"> • Inserting rows & columns 		
<ul style="list-style-type: none"> • Deleting rows & columns 		
<ul style="list-style-type: none"> • Formatting cells 		
<ul style="list-style-type: none"> • Simple formulas 		
<ul style="list-style-type: none"> • Simple functions 		
<ul style="list-style-type: none"> • Simple charts 		

	Yes	No
Presentation Techniques		
• Inserting/Deleting slides		
• Change order of slides		
• Utilize slide layouts		
• Inserting graphics or clipart		
• Formatting slides		
• Formatting text		
• Inserting transitions		
• Viewing slide show		
• Print slides in a variety of formats		
Publishing/Layout Techniques:		
• Layering objects		
• Grouping objects		
• Use Drawing Toolbar		

TOTAL SCORE _____ /42

- Shows 8th grade technology proficiency
- Recommend High School Computer Concepts I
- Require High School Computer Concepts I
- Require Basic Keyboarding