

Lesson Title: Explore the Arts!

Career Cluster: Arts, Audio/Video Technology, and Communications

Essential Knowledge and Skills: Leadership and Teamwork

Career Concepts: Extended Learning Opportunities, Career Research

Summary: Students will explore the career cluster of Arts, A/V Technology, and Communications while learning key components of the Essential Knowledge and Skills areas of Teamwork and Leadership.

Course Objectives:

- 1.1 Students will be able to differentiate between career fields, clusters and pathways on the Nebraska Career Education Model.
- 1.2 Students will be able to identify compositions of career clusters and the relationship to the career field.
- 1.3 Students will be able to demonstrate an understanding of the relationship between coursework, school activities, community activities, and career clusters.
- 2.2 Students will be able to define, identify and demonstrate the Essential Knowledge and Skills.
- 2.4 Students will be able to describe extended learning opportunities that will help build their Essential Knowledge and Skills.
- 4.1 Students will be able to list and understand a variety of extended school-based and community-based learning options to explore careers.
- 4.2 Students will be able to participate in a career exploration activity involving a professional contact.
- 5.1 Students will be able to utilize technology to access career information.
- 5.2 Students will be able to utilize printed material to access career information.
- 5.3 Students will be able to talk to people to access career resources.

Lesson Objectives:

Students will...

- Identify and explain career pathways connected to the Arts, A/V Technology, and Communications career cluster.
- Describe one career specialty after participating in a career exploration activity.
- Understand the different community extended learning opportunity options (terms).
- Explain the important factors of leadership and teamwork in careers.

Time: Four class periods

Required Materials: “Extended Learning Opportunities” handouts for gallery walk, paper, Internet access, multimedia projector, Nebraska Career Education Model, “Career Exploration” handout, and rubric

Optional Resources: N/A

Guest presenters: N/A

Content and Teaching Strategies:

Anticipatory Set

1. In about three minutes, students will brainstorm as many careers as possible in the Arts, A/V Technology, and Communications cluster using a web graphic organizer. On the back, they should write their own definition of leadership and one for teamwork. Then, in partners they should compare sheets and add anything new.
2. Group students into pairs. Using the “Arts Web,” have students try to fill in careers that fit in to each pathway using prior knowledge. Give each group 3 minutes. Discuss the results. It can be used as a game where the group with the most correct wins.

Lesson Component



1. Transitioning from the brainstorming and pair/share activity, the teacher will review the Nebraska Career Education Model, emphasizing Leadership and Teamwork in the Essential Knowledge and Skills and the Arts, A/V Technology, and Communications cluster under the Communication and Information Systems career field to introduce this lesson's main topics. This information can be found at www.NebraskaCareerConnections.org. The teacher will also mention upcoming study of different ways to explore careers through Extended Learning in the community.
2. The big picture outcome of next four days' lessons explained: Students will learn six ways to gather information in the community about careers. They will learn about leadership and teamwork. They will research a career specialty and a leader in the Arts, A/V Technology and Communications cluster.
3. Teach extended learning opportunity terms through use of gallery walk. Take the terms from the “Extended Learning Opportunities” handout and put one term on an 8.5x11 inch sheet of paper around the room. Students will use their student notebooks to take notes on each one, moving around the room to be sure to gather information on all six terms. Discuss each term with the students giving a few examples and asking students to brainstorm ideas they see. Let students know they will be asked to participate in one of the activities listed and will report back to the class. Use the “Career Exploration” handout to explain the career exploration project and rubric to show them how they will be assessed. An alternative to the gallery walk would be a teacher created PowerPoint presentation.
4. Teach about leadership and teamwork through use of jigsaw. Give each student in the class a portion of the leadership/teamwork article. (An article is provided and separated into 4 sections.) Each person should read their section of the article. After reading articles, students will form groups of 4 and share, creating a quick outline of key points in their student notebooks leaving room for five questions to use during the Extended Learning exploration regarding teamwork and leadership.



Use these Talking Points from the CALS Assessments:



- To demonstrate leadership skills – Be a leader and follower, model leadership behaviors to inspire others, take advantage of diverse abilities and strengths.
- To use conflict management skills – Recognize and prevent potential conflict, look at and appreciate multiple perspectives, ask for assistance as needed and resolve conflict.

- To respect and appreciate cultural, social, and ethnic diversity – Demonstrate awareness of cultural, social, and ethnic diversity, seek opportunities to learn about and interact with individuals different from themselves, and help others understand diversity



5. Review how to access Nebraska Career Connections website. Students will choose a career specialty in the Arts, A/V Technology and Communications cluster. The student will then select a leader (current or past) in their chosen specialty. Using the detailed work activity list, the student will select a medium to present their findings.* To find the detailed activity list, follow these steps: 1) Choose one of the career pathways; 2) Select a career specialty; and 3) Click on the “about” link and scroll down to the detailed work activity list. The purpose of this research is to learn about the career opportunities, discover leadership and teamwork qualities found in this career specialty, and to have exposure to art mediums.

6. Optional Extension Activity:

Set up Extended Learning opportunity with a contract including product form and due date. Explain attached rubric and answer questions. The extended learning opportunity can consist of an online interview or email interview if no local arts professionals are available.



7. Have students review the Leadership and Teamwork section of their CALS assessment and update it based upon skills reviewed during this lesson.



Lesson Closure:

Students will present their selected career specialty using an art medium found in their research.

Essential Knowledge and Skills Connection

The components of this lesson emphasize **leadership and teamwork**. Choose one of the following activities to help students connect the lesson with their own development of EKS:

- Write a journal entry, reflecting on one of the EKS used in this lesson. Students could choose a strength or weakness they wish to improve or enhance.
- Students complete a graphic organizer (see Supporting Documents—Teacher Resources) to emphasize EKS used in this lesson connected to home, school, and work.
- Have students use the model to identify EKS used during the activity.

Formative Assessment:

Self-evaluation and teacher evaluation of product using rubric.

Extended Learning Opportunity Terms

Name: _____

Internships: Internships are part-time, on-the-job learning experiences that reinforce classroom instruction. Interns can experience a career from the inside, and sometimes parlay the experience into full-time employment.

Mentoring: Mentoring establishes long-term relationships between students and mentors in businesses designed to teach good work habits, work ethics, and other Essential skills. These “soft skills” are as important as technical proficiency in landing and holding a job.

Service Learning: Volunteer service projects give students useful work experience while benefiting the community. Many students, for example, have been involved in service learning while building homes for Habitat for Humanity, raising funds for charitable organizations, or other community service projects.

Cooperative Education Program: This is an arrangement in which teachers coordinate classroom instruction with students’ part-time work in the field. Students spend part of the day at school and part of the day on the job honing their career skills.

Apprenticeships: Apprenticeships are on-the-job training coordinated with courses of academic study leading to certified mastery of particular skills. Certification can lead directly to employment, or may be part of a larger strategy of building a set of certified skills to the workplace.

Job Shadowing: Job shadowing is an experience in which students seeking a better understanding of particular job follows experienced workers through the course of a work day.

Exploratory Interview: A short, informal talk with someone who works in a career that one finds interesting.

Career Exploration

Name: _____

Use **Extended Learning Opportunities** in the **Community** to **Learn about Careers**

Today in class, you learned about several ways you can learn more about careers by using resources outside of school. Now, you are being asked to try one yourself. Use this handout to understand what is expected and how you will be assessed.

Your **END GOAL** is to participate in one extended learning activity and create a product which

- Describes the career field, cluster, and pathway about which you learned.
- Demonstrates your knowledge of how teamwork and leadership are needed to be successful in a career.
- Describes career path of the individual you talked with at your career exploration site.
- Provides information about one other area related to careers (labor market statistics, education and technical skills needed, the best coursework and activities to be involved in to be ready for this type of work, etc.).

STEPS:

1. Determine what type of extended learning you would like to do: cooperative education, apprenticeship, job shadow, internship, mentoring, service learning, or exploratory interview.
*Remember- not all of these might be available or realistic to do during this class, but you may try them later in life.
2. Arrange with an adult to set up a time for the extended learning opportunity to take place.
3. Before meeting with the adult, make a list of questions you hope to have answered. Include questions that will help you describe the career field, cluster and pathway, the ways teamwork and leadership are important to this career, and the other related information you wish to share.
4. Participate in the extended learning opportunity. Ask questions, be observant, and take notes. You may want to take some pictures or video. Be sure to ask the adult prior to taking pictures or video. Also, look for information, brochures, or visuals you may want to share with the class.
5. Create your product to share with the class (podcast, iMovie, PowerPoint presentation, speech, brochure, poster, essay, etc). Be creative so the class will be interested in the career you chose. Give lots of specific, clear information so students will learn something new from listening to you or viewing your product.
6. Check your work using the rubric to make sure all the information you need is included.
7. Share your product with the class.
8. Keep your product to include in your student notebook to reference in the future.

Rubric

Name: _____

| Category | 4 | 3 | 2 | 1 |
|---|--|--|---|--|
| Career Field, Cluster, Pathway Description | All three of the following listed and described: <ul style="list-style-type: none"> • Career Field • Career Cluster • Pathway | Some detailed information is given but not all three of the following are listed and described: <ul style="list-style-type: none"> • Career Field • Career Cluster • Pathway | Student gives vague information about some of the following three areas but no details are included in the description: <ul style="list-style-type: none"> • Career Field • Career Cluster • Pathway | Student gives information about one area, but it does not show understanding and description is lacking. |
| Content-Career Path Summaries | A summary of the career path of the person selected is clearly described. The career is listed from entry level to current level. The information clearly shows the progression of the person through time in their career and includes details to demonstrate how the information helps a student considering the career. | A career path summary of the person selected is included. The information shows the progression of the person through time in their career and includes details. | A career path summary of the person selected is included. The information tells a little about the person and their career. | A career path summary of the person selected is included. The information seems more like a list than an explanatory system. |
| Teamwork | Several specific examples of how teamwork is important and used in the career explored are shared. | A couple specific examples of how teamwork is important and used in the career are shared. | Examples of teamwork are shared, but they are not specific or important to this line of work. | General examples of teamwork are shared, but the connection to this line of work cannot be seen. |
| Leadership | Several specific examples of leadership opportunities in this career are shared. | A couple specific examples of leadership opportunities in this career are shared. | Examples of leadership are shared, but they are not specific or important to this line of work. | General examples of leadership are shared, but the connection to this line of work cannot be seen. |
| Additional Area of Information | One additional area of information related to the career (a different Essential, Knowledge or Skill, education or technical skills needed, school coursework or activities that would be beneficial) has been shared. The content is clear, detailed, and important. | One additional area of information related to the career (a different Essential, Knowledge or Skill, education or technical skills needed, school coursework or activities that would be beneficial) has been shared. The content is lacking some clarity, detail, and importance. | One additional area of information related to the career (a different Essential, Knowledge or Skill, education or technical skills needed, school coursework or activities that would be beneficial) has been shared. The content is vague, lacking detail, or not important. | One additional area of information related to the career (a different Essential, Knowledge or Skill, education or technical skills needed, school coursework or activities that would be beneficial) is briefly mentioned. |
| Product Presentation | The product is presented in a way that gains the attention and educates the entire class. | The product is presented in a way that gains the attention and educates the majority of the students in the class. | The product is presented in a way that gains the attention or educates a few people in the class. | The product is presented in a way that does not gain the attention or educate the class. |

Leadership/Teamwork Article Part 1

I think the Army would make a serious mistake if we made a distinction and said, "You are a manager, and you are a leader." So my philosophy is that we are all leaders! We also must be responsible managers or stewards of resources entrusted to us. We would make a serious mistake to think that we could be one and not the other. -- General John Wickham.

Leaders should not think of themselves as simply managers, supervisors, etc.; but rather as "team leaders." Thinking of yourself as a manager or supervisor places you in a position of traditional authority based solely on respect for the position, which places you in a position of power. By understanding the personal work preferences and motivations of your team members, you as an individual, rather than your position, will earn their real respect and trust. All the tools discussed so far in this guide, such as counseling and planning, provide the basic structure for developing a team. But to go from a group to a team requires a few extra steps. This means that the people under you are not simply followers who blindly go where you go, but rather are a group of people who are supportive of collaboration in order to achieve a common goal through mutual knowledge and skill sharing.

What is a Team?

A team is a group of people coming together to collaborate. This collaboration is to reach a shared goal or task for which they hold themselves mutually accountable. A group of people is not necessarily a team. A team is a group of people with a high degree of interdependence geared towards the achievement of a common goal or completion of a task...it is not just a group for administrative convenience. A group, by definition, is a number of individuals having some unifying relationship.

Team members are deeply committed to each other's personal growth and success. That commitment usually transcends the team. A team outperforms a group and outperforms all reasonable expectations given to its individual members. That is, a team has a synergistic effect...one plus one equals a lot more than two.

Team members not only cooperate in all aspects of their tasks and goals, they share in what are traditionally thought of as management functions, such as planning, organizing, setting performance goals, assessing the team's performance, developing their own strategies to manage change, and securing their own resources. A team has three major benefits for the organization:

1. It maximizes the organization's human resources. Each member of the team is coached, helped, and led by all the other members of the team. A success or failure is felt by all members, not just the individual. Failures are not blamed on individual members, which gives them the courage to take chances. Successes are felt by every team member, this helps them to set and achieve bigger and better successes. In addition, failure is perceived as a learning lesson.
2. There are superior outputs against all odds. This is due to the synergistic effect of a team - a team can normally outperform a group of individuals.
3. There is continuous improvement. No one knows the job, tasks, and goals better than the individual team members. To get real change, you need their knowledge, skills, and abilities. When they pull together as a team, they will not be afraid to show what they can do. Personal motives will be pushed to the side to allow the team motive to succeed.

Most teams aren't teams at all but merely collections of individual relationships with the boss. Each individual vying with the others for power, prestige and position. - Douglas McGregor

Leadership/Teamwork Article Part 2

From Group to Team -- Getting There

Be Enthusiastic – it's Contagious

Become enthusiastic about one aspect at a time. Start by initially looking for a quick problem to be solved. Most teams trace their advancement to key performance oriented events that forged them together. Potential teams can set such events in motion by immediately establishing a few challenging, yet achievable goals.

First, find a problem and start to talk about it with the team; do not delegate it to an individual or small group...make it a project for everybody. Choose a simple, but distracting work-related problem and solicit everybody's views and suggestions. Next, get the problem solved. Demand urgency against a clear target. There is no need to allocate large amounts of resource or time to this, simply raise the problem and make a fuss. When a solution comes, praise it by rewarding the whole team. Also, ensure that the aspects of increased efficiency, productivity, and/or calm are highlighted since this will establish the criteria for success. When the problem has been solved, find another (preferably bigger) and repeat.

Develop a Sense of Urgency

Team members need to believe the team has an urgent and worthwhile purpose. Establishing a sense of urgency and direction will help them know what their expectations are. The more urgent and meaningful the need to reach a goal, the more likely it is that a real team will start to emerge. The best teams define their performance expectations, but are flexible enough to allow changes to shape their own purpose, goals, and approach.

Set Clear Rules of Behavior

Teams develop rules of conduct to help them achieve their purpose and performance goals. Some rules you might want to consider:

- attendance - no interruptions to take phone calls
- discussion - no sacred cows
- confidentiality - personal revelations must remain among the team
- analytic approach - facts are friendly
- constructive confrontation - no finger pointing
- the most important - everyone does real work

Keep Them Informed

Challenge your team with fresh facts and information. New information causes a potential team to redefine and enrich its understanding of the objectives, thereby helping the team to set clearer goals.

Grow Together

Teams must spend a lot of time together (bonding), especially in the beginning. Yet potential teams often fail to do so. The time spent together must be both scheduled and unscheduled. Creative insights as well as personal bonding require impromptu and casual interactions.

Reinforcement Works Wonders

Exploit the power of positive feedback, recognition, and reward. Positive reinforcement works as well in a team context as elsewhere. For example, by being alert to a shy person's initial efforts to speak up, allows you to encourage continued contributions.

Other methods include:

- Focus on both development and performance. Make teamwork the norm for all actions. Model teamwork in the way you conduct business and the way you interact with your colleagues.
- Use all your leadership tools, such as coaching, counseling, mentoring, tutoring, and concentrating on improving performance.
- Use informal processes, such as the way you communicate, showing respect, and appreciating and celebrating their achievements.
- Your feelings must show commitment, loyalty, pride, and trust in your team.
- Share the credit.
- Create subcommittees for key areas and give them decision making authority.
- Take turns having a different member facilitate or lead the meetings.
- Talk last in discussions, after you've heard from the others.
- Be clear about when you're expressing your own personal opinion, that of the organization, or that of the whole team.

Leadership shows itself in the inspired action of team members. Traditionally, organizations have assessed leaders by their actions and behaviors. But, the best way to assess leadership is by the degree to which people surrounding leaders are inspired. It is this inspiration that leads organizations on to excellent performance, rather than mediocre performance.

Leadership/Teamwork Article Part 3

Team Elements

As a leader, there are a number of elements that you must help to create in a team. Teams learn and demonstrate behaviors that are not exhibited by mere groups. These characteristics represent the essential elements of an effective team. Your team will not normally form on its own; rather there is almost always someone who was the catalyst for bringing the team together. This someone must be you. It's okay for you to be the focal point at the beginning, but at some point in time the ownership of the team needs to shift to the other members as a whole.

Common Elements

A team goal - Although your team might have a number of goals, one of them must stand out. For example, "To produce 10% more widgets than last year without hiring additional personnel." A supporting goal might be, "To provide 40 hours of yearly training for each member." Everyone must know, agree upon, and be committed to accomplishing the team goal.

Productive participation of all members - This has four levels:

1. Contributing data and knowledge
2. Sharing in the decision making process and reaching consensus
3. Making the decision
4. Making an imposed decision work

Communication - Open, honest, and effective exchange of information between members.

Trust - Openness in critiquing and trusting others.

A sense of belonging - Cohesiveness by being committed to an understood mandate and team identity.

Diversity - This must be valued as an asset. It is a vital ingredient that provides the synergistic effect of a team.

Creativity and risk taking - If no one individual fails, then risk taking becomes a lot easier.

Evaluation - The ability to self correct.

Change compatibility - Being flexible and assimilating change.

Participatory leadership - Everyone must help lead to one degree or another.

Teamwork

My supervisor told me that teamwork depends on the performance of every single member on the team. I had trouble understanding it until my supervisor showed me how the office typewriter performs when just one key is out of order. All the other keys on the typewriter work just fine except one, but that one destroys the effectiveness of the typewriter. Now I know that even though I am only one person, I am needed if the team is to work as a successful team should.

Steps to Team Problem Solving

Step 1 - Define the goal. A team needs to know what to focus on. You can lay out the basic goal, reduce workplace accidents for example, but it is important to let the team define and expand the goal.

Step 2 - Not only must the "what" be solved, but also the "why." The team should identify what's in it for both the organization and the team. This is best accomplished by asking "What is the benefit?" In addition, creating a specific target that builds enthusiasm helps to make the objective appealing.

Step 3 - Define the obstacles that will prevent the team from achieving what it wants. Focus on internal obstacles, not on the external environment. It becomes too easy to say, "We can't do anything about it." Internal factors are within their reach.

Step 4 - The team now plans its actions or objectives. Lay out four or five concrete steps, and write them down. Not "we'll try" actions, such as "We'll try to serve customers better." Rather, you want actions that can be tracked and monitored. You cannot measure a "try" action. You want observable behaviors, such as "Greet all customers with a smile and a good morning" or "Customers will be served within 1 minute upon their arrival."

Step 5 - Formulate actions to address.

Step 6 - Take action now! This is the most critical step. It is what differentiates an effective team from a group...groups have lots of meetings before, if ever, taking action -- teams get it done! Get commitment from individual team members to take action on specific items.

Leadership/Teamwork Article Part 4

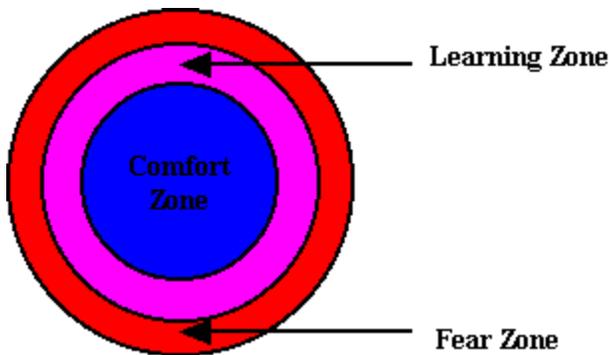
Team Leadership

Keep the purpose, goals, and approach relevant and meaningful

All teams must shape their own common purpose, goals and approach. While a leader must be a working member of the team who contributes, she also stands apart from the team by virtue of her position as leader. A team expects their leader to use that perspective and distance to help them clarify and commit to their mission, goals, and approach. Do not be afraid to get your hands dirty (lead by example), but always remember what you are paid to do (get the job done and grow your employees).

Build commitment and confidence

Work to build the commitment and confidence level of each individual and the team as a whole. Effective team leaders are vigilant about skills. Their goal is to have members with technical, functional, problem solving, decision making, interpersonal, and teamwork skills. To get there, encourage them to take the risks needed for growth and development. You can also challenge them by shifting their assignments and role patterns. Get them out of their comfort zone and into the learning zone, but not so far that they go into the fear zone:



Staying in our comfort zone makes change and learning difficult as we have nothing pushing or pulling us (motivation). However, if we go too far out of our comfort zone, we enter the fear zone where no learning takes place because of the extreme discomfort. When we enter the learning zone, we become slightly uncomfortable as we are slightly out of place; therefore we change in order to fit in.

Manage relationships with outsiders

Team leaders are expected by people outside of the team, as well as the members within, to manage much of the team's contacts and relationships with the rest of the organization. You must communicate effectively the team's purpose, goals, and approach to anyone who might help or

hinder it. In addition, you need the courage to intercede on the team's behalf when obstacles that might cripple or demoralize the team get placed in their way.

Create opportunities for others

One of the challenges is providing performance opportunities, assignments, and credit to the team and the people within it. You cannot grab all the best opportunities; you must share it with your team. This will help you to fulfill one of your primary responsibilities as a leader - growing the team.

Create a vision

A vision is the most important aspect of making a team successful. Teams perish when they don't clearly see the vision -- why they are doing what they do and where they are going. You must motivate the team toward the fulfillment of the goals. Workers want to be successful and they know the only way to do that is by following and achieving great goals.

Are you ready to be a team leader?

- You are comfortable in sharing leadership and decision making with your employees.
- You prefer a participative atmosphere.
- The environment is highly variable or changing quickly and you need the best thinking and input from all your employees.
- Members of your team are (or can become) compatible with each other and can create a collaborative rather than a competitive environment.
- You need to rely on your employees to resolve problems.
- Formal communication channels are not sufficient for the timely exchange of information and decisions.

Common Problems

- Leaders select too many members in their own image. As a result, teams become unbalanced with too many people overlapping in the same areas, while there are skill gaps in other areas.
- Leaders do not understand their own strengths, abilities, and preferences.
- Individuals in unbalanced teams feel their talents and abilities are not being used.

Transparencies

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Internships: Internships are part-time, on-the-job learning experiences that reinforce classroom instruction. Interns can experience a career from the inside, and sometimes parlay the experience into full-time employment.

Mentoring: Mentoring establishes long-term relationships between students and mentors in businesses designed to teach good work habits, work ethics, and other Essential skills. These “soft skills” are as important as technical proficiency in landing and holding a job.

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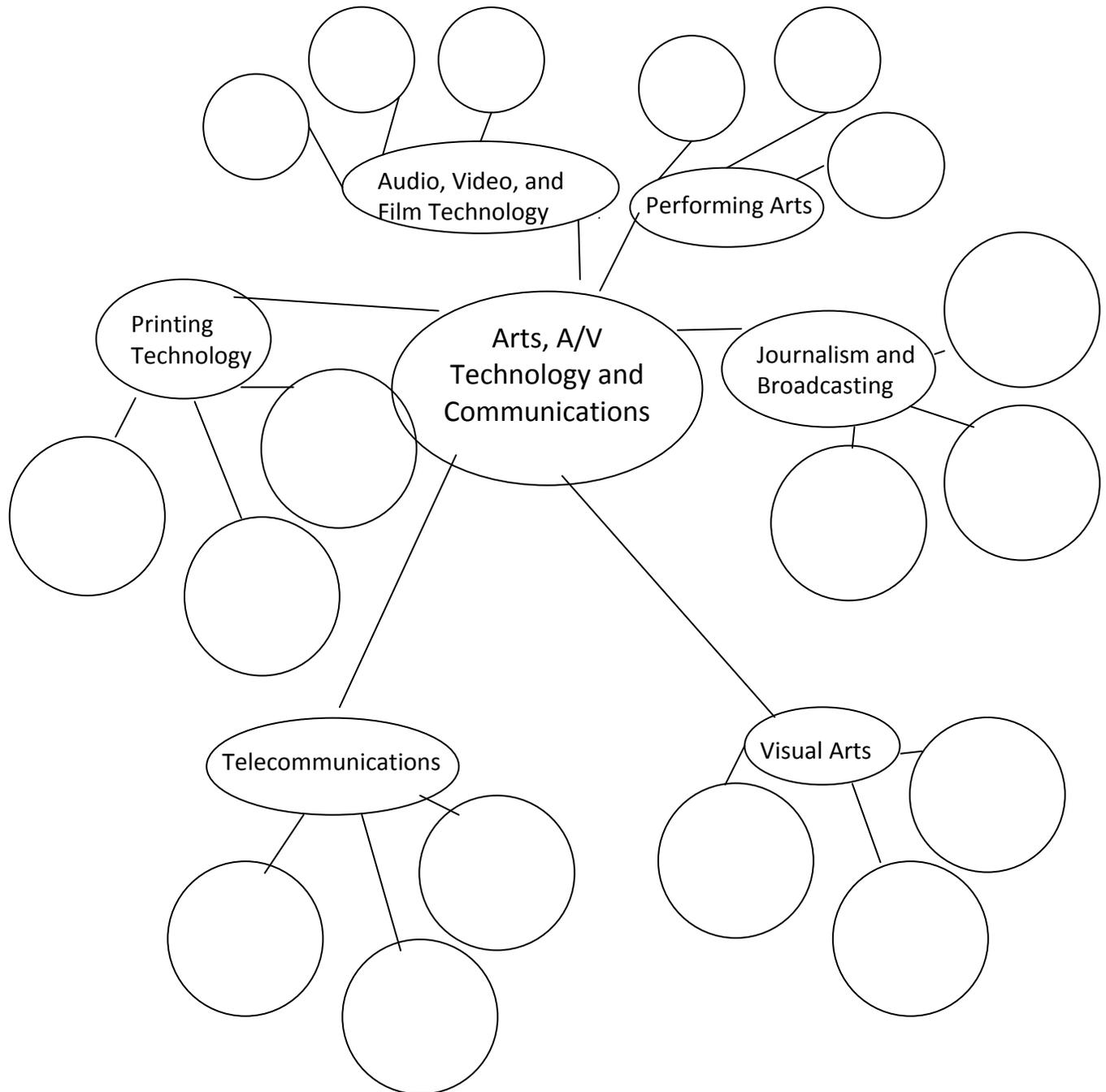
Job Shadowing: Job shadowing is an experience in which students seeking a better understanding of particular job follows experienced workers through the course of a work day.

Exploratory Interview: A short, informal talk with someone who works in a career that one finds interesting.

Web Activity

Name: _____

Listed below are all of the pathways for the Arts, A/V Technology and Communications. Use your prior knowledge to do your best to fill in the empty bubbles with career specialties that fit in each area.



Lesson Title: Back to the Future

Career Cluster: Information Technology

Essential Knowledge and Skills: Technology Information Application

Career Concepts: Post Secondary Education

Summary: Students will investigate the role of technology in society, the Information Technology career cluster and pathways, and requirements for entrance into college. Students will assess their current skill level in information technology application. Students will understand the Information Technology career cluster is continually changing.

Course Objectives:

- 1.1 Students will be able to differentiate between career fields, clusters and pathways on the Nebraska Career Education Model.
- 1.3 Students will be able to demonstrate an understanding of the relationship between coursework, school activities, community activities and the Information Technology career cluster.
- 6.2 Students will identify postsecondary options in relationship to the career clusters.

Lesson Objectives:

Students will...

- Differentiate between the Communication and Information Systems career field, the Information Technology career cluster, and the four Information Technology pathways.
- Understand the Essential Knowledge and Skills entitled “Technology Information Applications.”
- Assess their current skill level in Technology Information Application by using the CALS assessment.
- Identify coursework, school activities, and community activities that will build skills in the Information Technology career cluster.
- Identify college entrance requirements to a technical school, community college, and a 4-year college.

Time: Four class periods

Required Materials: “College Entrance Requirements Search” handout, Internet access, www.NebraskaCareerConnections.org website, www.educationquest.org website, www.collegenet.com website, www.myfuture.com website, PowerPoint or other multimedia software

Guest presenters: Invite guest speakers such as a school IT professional, computer repair person, media specialist, high school students in IT classes. Speakers should be sent “Guidelines for Career Guest Speakers” found in the supporting document section.

Content and Teaching Strategies:

Anticipatory Set

Discuss the application of technology information in our world.

Lesson Components

1. Use the Nebraska Career Connections website to gather information on the Information Technology career cluster. Use these talking points with students



- Go to www.NebraskaCareerConnections.org > Career Clusters > Information Technology > Cluster at a Glance >
- Cluster Description: The design, development, support and management of computer hardware, software, multimedia, and systems integration services.
- Discuss the specific Information Technology Applications Knowledge and Skills (www.NebraskaCareerConnections.org > Career Clusters > Information Technology > Cluster Knowledge and Skills):
 - a. Manage personal schedule and contact information.
 - b. Create memos and notes.
 - c. Use email to communicate within and across organizations.
 - d. Use email to share files and documents.
 - e. Search for information and resources.
 - f. Access and evaluate internet resources.
 - g. Prepare simple documents and other business communications.
 - h. Prepare reports and other business communication, integrating graphics and other non-text elements.
 - i. Prepare complex publications.
 - j. Prepare presentations for training, sales, and information sharing.
 - k. Deliver presentations with supporting materials.



2. As a class, develop a set of questions for the class speaker about technology information applications in the workplace and the Information Technology career cluster.

Possible questions:

- a. What is the history of the Information Technology career cluster?
 - b. How is technology used in the workplace?
 - c. What are some career specialties in this career cluster?
 - d. What are some of the most important developments in this field?
 - e. What skills and training should a student interested in this cluster develop?
 - f. What high school classes would you recommend to someone interested in Information Technology careers?
 - g. What school and community activities would you recommend to someone interested in Information Technology careers?
 - h. What kind of training after high school is common for people interested in this cluster?
 - i. What are the employment prospects in this career cluster?
 - j. What is the earning power of someone trained in Information Technology?
 - k. What kind of personal characteristics does a person in Information Technology generally have?
 - l. Who are the employers of Information Technology workers?
 - m. What are the advantages of being in Information Technology? The disadvantages?
 - n. How do you view the future growth of career specialties in the Information Technology career cluster?
 - o. Is there a waiting list for students who wish to study your career in community or four year colleges?
3. Use the Internet to investigate college entrance requirements at nearby schools, including a technical school, community college, and 4-year college. Students should use the “College Entrance Requirements Search” handout to record the major entrance requirements of the institution. Students should pay special attention to information technology requirements, if any

Note to teacher: Use the "College Entrance Requirements Search" handout to help students understand that college websites are set up very differently and a variety of key words will be needed to access the information they seek. Personalize the schools geographically, but give the students an opportunity to search on their own using a search engine or sites like <http://www.educationquest.org> or collegenet.com.

Option: Teach this activity during the Personal Learning Plan Unit.

4. Listen to the guest speaker or visit an Information Technology classroom.

Note to teacher: Give the speaker or classroom teacher the student developed questions, before they visit your classroom.

5. Write a thank you to the guest speaker or classroom expressing what was learned from the speaker/classroom. Send to the speaker/classroom.
6. Identify the career pathways in the Information Technology cluster by creating a PowerPoint or multimedia project on one pathway. Presentations should include: career specialties, levels of education, high school classes that support essential knowledge in this cluster and are required to enter a post-secondary school, school and community activities that build technology skills, and information technology skills needed by everyone in the workplace. This project should be completed in groups with no more than four members each.

Note to teacher: See "Criteria for Information Technology PowerPoint Project" handout for grading.

Additional resources for help in teaching students to create PowerPoint presentations may be found under Pam Wright PPT (located on CD or teachers' resource section) or access atomiclearning.com for a tutorial video on PowerPoint.

7. Group will present PowerPoint to the class. (optional: videotape the PowerPoint)
8. After reviewing Technology Information Application portion of the CALS assessment with students, have students assess their current skill level. (Enter on paper copy or within the Nebraska Career Connections CALS assessment at www.NebraskaCareerConnections.org.)
9. Create a list of career specialties within the cluster and make a list of how technology is used in each specialty.
10. Have students teach mini lessons on Garage Band, iMovie, Excelerate (or other available software) to the class.



Lesson Closure

 Students should respond to the following ideas in their student notebook: What technology advances do you anticipate in the next few years? What would you like to see developed or invented? What would be the name of the career specialty for these new technologies? How will these changes influence the education needed to be successful in future?

Essential Knowledge and Skills Connection

The components of this lesson emphasize **technology information**. Choose one of the following activities to help students connect the lesson with their own development of EKS:

- Write a journal entry, reflecting on one of the EKS used in this lesson. Students could choose a strength or weakness they wish to improve or enhance.
- Students complete a graphic organizer (see Supporting Documents—Teacher Resources) to emphasize EKS used in this lesson connected to home, school, and work.
- Have students use the model to identify EKS used during the activity.

Formative Assessment:

Students will be assessed on their thank you describing what was learned from speaker. Students will also complete a self-evaluation paragraph on PowerPoint project in their student notebook. (*Note to teacher:* a rubric for grading the PowerPoint is included. Additional resources for creating your own rubric may be found at: rubistar.4teachers.org)

College Entrance Requirements Search

Name: _____

Directions: Using the following websites, look at each school and record the major entrance requirements on a separate sheet of paper. Staple papers together before handing in.

1. Technical School: ITT Technical Institute, Omaha, Nebraska

www.itt-tech.edu

>Admissions >Admissions Information

2. Community College: Northeast Community College, Norfolk, Nebraska

www.northeastcollege.com

>Future Students >Admissions

3. 4-Year College: Wayne State College, Wayne, Nebraska

www.wsc.edu

>Prospective Students >Admissions >Prospective Students >Freshmen >Admissions Requirements

4. University: University of Nebraska at Lincoln

www.unl.edu

>Prospective Students >Undergraduate Admissions >Admission Requirements >Freshman

5. School of your choice: _____

Website: _____

Pathway to Entrance Requirements: _____

Criteria for Information Technology PowerPoint Project

Name: _____

Research and produce a PowerPoint to teach your classmates about one pathway in Information Technology. Be prepared to write an evaluation paragraph describing your participation in the group.

Group Member Names (no more than four):

1. Information Technology Pathway (select one):
 - a. Information Support and Services
 - b. Interactive Media
 - c. Network Systems
 - d. Programming and Software Development
2. Slides to include:
 - a. Title of pathway and definition
 - b. Career specialties
 - c. Levels of education typical
 - d. High school classes that support essential knowledge in this pathway and are required to enter a post-secondary school
 - e. School and community activities that build technology skills
 - f. Information technology skills needed by everyone in the workplace
 - g. Names of group members
3. Readable font & size
4. Sound with permission only
5. Appropriate animation
6. Appropriate graphics
7. Phrases only! No complete sentences.
8. Grammatically correct, spell check

After the PowerPoint has been presented to the class, write a paragraph telling about your participation within the group. Evaluate your group and identify the grade you feel the group deserves. Give two supporting statements that demonstrate the grade is fair.

Option: Have the students make a prediction about how the requirements for this occupation may change in the future.

Lesson Title: How Do I Want To Travel?

Cluster: Transportation, Distribution, and Logistics

Essential Knowledge and Skills: Systems, Team Work, Critical Thinking, Information Technology Application

Career Concepts: N/A

Summary: Students will explore the Transportation, Distribution, and Logistics Career Cluster by researching different types of transportation and designing their own mode of transportation.

Course Objectives:

1.2 Students will be able to identify compositions of the career clusters and the relationships to the career field.

Lesson Objectives:

Students will...

- Explore transportation systems.
- Research career pathways.
- Understand the Universal Systems Model.

Time: Five class periods

Required Materials: Computers with Internet access, paper, white board/chalk board, poster paper, Systems Model overhead transparency

Optional Resources:

What in the World is the Global Supply Chain? Video resource from Council of Supply Chain

Management Professionals - www.cscmp.org

Transportation Facts - nationalatlas.gov/transportation.html

Segway Personal Transportation - www.segway.com

Flying Cars - www.moller.com/

Rockets and Personal Aircraft - www.scaled.com/

High Speed Trains - www.gluckman.com/Maglev.html

Monorail Trains - www.monorails.org/

Hybrid Cars - www.hybridcars.com/

Werner Enterprises - www.werner.com

Brown Transfer - www.browntransfer.com

Guest presenters:

Instructor from local community college who teaches in a field of transportation/distribution or local transportation/distribution personnel

Content and Teaching Strategies:

Anticipatory Set

Start a discussion with the students using the following talking points and make a list on the board of the student answers.

1. How did you get to school today?
2. What are some other modes of transportation you could have used?
3. What would be your ideal mode of transportation?

Lesson Components

1. After a number of modes of transportation have been listed on the board, ask the students to consider the different things besides people that are transported. Discuss how everything that is grown or manufactured is transported. Use the following talking points.
 - a. Crops are transported from the field to storage facilities, then to markets and finally to consumers.
 - b. These consumers could be a processing facility such as an ethanol plant.
 - c. After the processing is complete, the raw material has been changed into a new product and now can once again be transported to consumers.
2. There are many different types of systems involved in transportation. In order to understand systems we can use a model to help us label the parts. Show students the “Universal System Model” transparency and discuss that all systems have inputs, processes, outputs and feedback. Use the following talking points:
 - a. In systems there are resources that are input into the system such as People, Information, Materials, Tools, Energy, Capital, Time, and Space (PIMTECTS).
 - b. In a transportation system the following may be considered:
 1. People’s jobs have titles like pilot, truck driver, train engineer, or logistics manager. (These titles can be found in the Career Specialties section of the Nebraska Career Education Model.)
 2. Depending on the job duties, different information is required. Examples would include how to drive a big truck, how to read road maps, how to fly an airplane or how to load an airplane so that the load does not shift in flight. Also, there are safety rules and regulations and ways to avoid accidents.
 3. Different materials may be used in transportation such as maps, logbooks, and safety records. Materials are also used to maintain the transportation vehicles such as repair parts and maintenance records.
 4. Tools are required to load the cargo like forklifts, conveyor belts, and auger systems. Maintenance is also required to keep the system running, so all types of tools are needed to repair equipment.
 5. Different types of energy sources are needed to move products such as diesel power, jet engines, gas power engines, electricity and human energy.
 6. Capital is a very necessary part to any business. It is not only money or cash but can be inventory, vehicles, buildings or anything that can be used as collateral to borrow money.
 7. Time is necessary to move goods from one place to another and if the product is perishable, then time is important so the product does not spoil before delivery.
 8. Space is needed to store products before transportation, but also think about the space taken up by an airport or the amount of land used in our country’s highway system.
 9. More transportation facts can be found at nationalatlas.gov/transportation.html

- Leaders feel they do not know how to motivate people. This is because they do not know them and their individual needs.
- Team members feel that the team does not work smoothly. They believe individual work preferences conflict rather than complement each other.
- It's time to do some rebuilding if you are facing any of the following problems:
 - Loss of productivity or output
 - Complaints
 - Conflicts between personnel
 - Lack of clear goals
 - Confusion about assignments
 - Lack of innovation or risk taking
 - Ineffective meetings
 - Lack of initiative
 - Poor communication
 - Lack of trust
 - Employees feel that their work is not recognized
 - Decisions are made that people do not understand or agree with

Include the team on the rebuilding process. First have a diagnostic meeting. This meeting should be off-site so that there are no interruptions and to show them you are truly committed to building a team. This part of the process is not to fix any problems but to bring forth what is both good and bad with the team in order to formulate future plans. You need to find out what is working or not working and where they are with their working relationships with each other, other teams, and you. If the team is large, it might help to break them down into smaller discussion groups in order to have more lively discussions or to pair them up and have them report back to the team. Consider the first part of the diagnostic meeting as a brainstorming session.

(www.nwlink.com/~donclark/perform/brainstorm.html) Do not throw out any problems or ideas that you feel is irrelevant. After all the data has been made public, have the team determine what is correct and relevant.

Next categorize the issues, such as planning, scheduling, resources, policies, tasks or activities the group must perform, interpersonal conflict, etc.

Once all the information has been categorized, develop action plans to solve the problems.

And finally and most importantly, follow up on the plans to ensure they are being accomplished.