

Career and Technical Education Introduction

Unit of Credit: Full Year (1.0)

Grade Level: 7

Prerequisite: None

CIP Code: 13.0001

Introduction

Career and Technical Education Introduction (CTE Intro) offers exploration and preparation for high demand jobs and career paths that are both satisfying and financially rewarding. CTE provides grades seven through college career preparation programs covering a combination of applied and technical arts and sciences, including:

Agriculture	Marketing
Business	Information Technology
Family and Consumer Sciences	Technology and Engineering
Health Science	Technical Trades

The Career and Technical Education Introduction course is designed to help students identify interests, traits, and skills and connect them to effective education and career planning; all of this done at an appropriate developmental level. The students will be active learners as they sample various career tasks, utilize technology, and meet high standards of achievement. Experiences in this course ultimately help students value education and career planning and maximize individual opportunities.

Intended Learning Outcomes

The Intended Learning Outcomes (ILOs) describe the skills and attitudes students should explore and learn as a result of successful participation in the Career and Technical Education Introduction course. Intended Learning Outcomes are an essential part of the CTE Core and provide teachers with a standard for evaluation of student learning. Significant understanding occurs when teachers incorporate Intended Learning Outcomes in planning instruction for the CTE course.

By the end of the CTE Introduction course students will, at an age/grade-appropriate level:

1. Understand how self-knowledge (e.g., interests, abilities, and strengths) relate to career interests and selecting and achieving goals.
2. Understand education and occupation exploration and planning.
3. Understand career application of subject matter through participation in work-based learning experiences.
4. Identify career information and career options available in CTE areas (agriculture, business, economics, family and consumer sciences, health science, information technology, marketing, and technology and engineering).
5. Participate in hands-on activities and create products consistent with the CTE Intro standards.
6. Identify career and post-secondary education options through investigation of High School to College and Career Pathways.
7. Demonstrate skills in processing self-knowledge in relation to CTE courses and programs, in relation to the world of work, and in relation to future planning.

Background and History

Dramatic changes occurred in the workplace during the last half of the twentieth century. In 1950, 60 percent of jobs required a high school diploma or less, 20 percent required two years of post-secondary technical training, and 20 percent required a four-year college degree. In the year 2000, less than 15 percent of the job market will require a high school diploma or less, 65 percent will require two years of post-secondary technical training, and the percentage of jobs requiring a four-year degree will remain at 20 percent. The percentage of skilled and unskilled jobs between the years 1950 and 2000 has changed dramatically.

The advancement of technology has created drastic changes in the job market. The influence of technology can be found in virtually every aspect of our lives. Many of the jobs in existence now did not exist ten or even five years ago. U.S. companies now operate in an international economy that creates greater competition at home and abroad. The skills needed to get and keep a job are continually changing, and all workers will face a need to be lifelong learners.

While education is sometimes accused of not adapting to change, in reality considerable effort and resources are being applied to revising and updating programs and creating new programs to meet the skill requirements of the workplace. The junior high CTE Introduction course, the Career and Technical Education Core requirement for middle school/junior high school students, is no exception. Following the Great Depression and World War II, junior high students were required to enroll in courses that emphasized self-sufficiency skills. Boys were required to participate in "industrial arts" and girls in "home economics" courses. With the passage of Title IX and the reduced stereotyping of adult roles, students were required to earn one unit of credit in either home economics or industrial arts. In the mid-1970s, both of these courses began to de-emphasize self-sufficiency skills and place greater emphasis on hands-on exploration activities related to careers.

In the late 1980s the career exploration emphasis of the junior high CTE core requirement led to the development of a single course, which was broadened to include exploration activities from the fields of agriculture, business, information technology, marketing, and health occupations. The new course, known as Career and Technical Education Introduction or CTE Intro (formerly Technology, Life and Careers or TLC), was adopted by the State Board of Education as a required Core course for all students, and is generally taught in the seventh grade. Over a period of several years, it was implemented in every junior high/middle school in the state.

Recent Revisions

CTE Introduction is a course designed to help students understand the interrelationship between career pursuits and life roles, explore career opportunities, and experience some of the technology which is so dramatically affecting both the workplace and the home. Because change is occurring at an accelerated pace in each of these areas, the CTE Introduction course is continually modified to reflect advances in technology and in careers. Minor changes were made in the CTE Introduction course between 1987 and 1999. The 1999 Legislature approved funding to effect a major update of the program, provide ongoing resources for equipment repair and upgrade, and update training for teachers.

Following extensive site visits, surveys, and focus groups involving teachers and counselors, the following goals for the update were identified:

1. Help students have greater understanding of why they take CTE Introduction and have more reflection activities that focus on relationships between curriculum and future education and occupation choices.
2. Provide students with more integrated instruction in career development with updated activities.
3. Define the role of the professional school counselors in delivering the curriculum for CTE Introduction.
4. Help students see CTE Introduction as a year-long course and not as three separate programs.
5. Have teachers, counselors, and administrators work as a team.
6. Strengthen the areas of health science, agriculture, marketing, and personal economics.
7. Update equipment and the curriculum and build on the previous success of the CTE Introduction course.

In 2007, standards, objectives and supporting curricula are again being revised to reflect the changing nature of the world of work.

Course Structure

CTE Introduction is typically taught by a team of three teachers and a professional school counselor who delivers specific life/career development activities. Through this activity-centered curriculum, students are exposed to Career Pathways in the following content areas:

- ♦ Agriculture
- ♦ Business
- ♦ Career Development and Guidance
- ♦ Health Science
- ♦ Family and Consumer Sciences
- ♦ Marketing
- ♦ Personal Finance
- ♦ Technology Education
- ♦ Information Technology

Connecting Students and Careers Through CTE Introduction

The updated CTE Introduction curriculum continues to reflect the original goals of the course, which is designed to help students facilitate understanding of self, interests, abilities, the world of work, and life roles. Core concepts are planned, integrated, and taught through interactive hands-on activities, generally in a laboratory environment. The integrated curriculum for CTE Introduction, which incorporates an analysis approach, spans the entire school year for all seventh grade students. The curriculum maintains its foundation in the CTE Areas of Study as listed above.

Through CTE Introduction, students have the opportunity for integrated exploration activities in career fields and career pathways

developed as part of the Utah response to Perkins IV Reauthorization. Through linkages to CTE Pathways, students will gain a better understanding of career fields and potential life/career opportunities.

Talking with middle school/junior high school students about life and careers makes more sense if the process is approached from the perspective of Donald Super*, who has provided the following definitions:

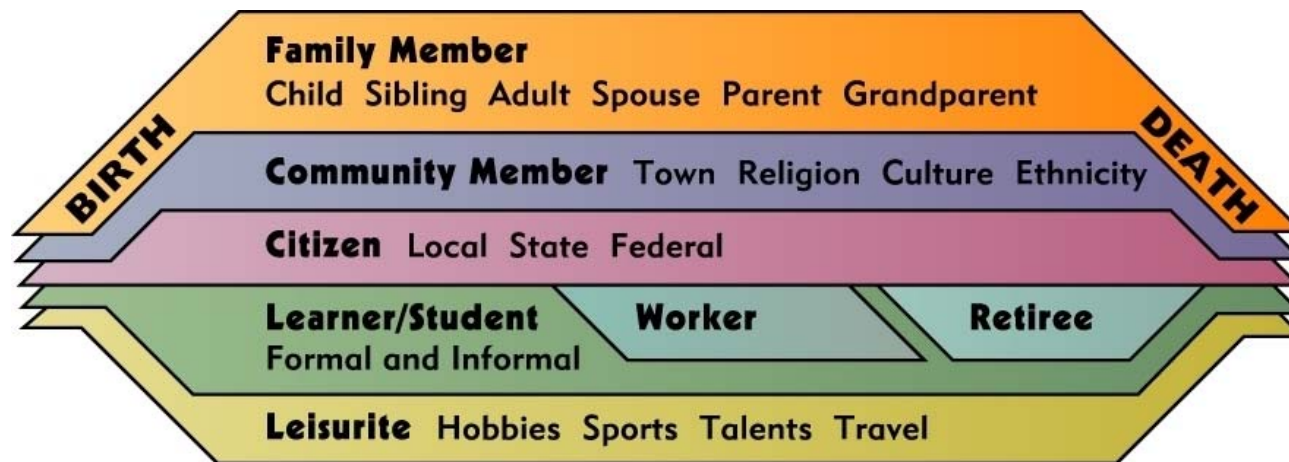
Career – a course of events that constitute a life

Career Awareness – developing an inventory of one’s knowledge, values and preferences

Career Development – the process of building the inventory of one’s knowledge, values and preferences

Career Decision Making – the process of choice, entry, and adjustment related to one’s career (all events that constitute a life)

In these terms, a graphic presentation of a person’s career might look like this:



*Donald E. Super was professor emeritus of psychology and education at Teachers College, Columbia University. He received his Doctor of Science degree from Oxford University. His books include such titles as *Appraising Vocational Fitness*, *The Psychology of Careers*, *Computer Assisted Counseling*, *Measuring Vocational Maturity*, and *Career Development in Britain*. He also authored widely used psychological tests for vocational counseling and personnel selection.

In this context, the SEOP process, when connected with CTE Introduction, becomes the ideal means for helping students and their parents

or guardians make more meaningful education and career choices.

Stronger ties to the career planning components of the Utah Comprehensive Counseling and Guidance Program and the Student Education Occupation Plan (SEOP) can occur in the CTE Introduction course. Students have the opportunity to reflect on and then document their reactions, preferences, likes, and dislikes throughout the course. The compiled student reflections can provide direction to the wrap-up guidance and appropriate grade-level career planning activities, facilitated by the teaching team. In addition, CTE Introduction provides greater emphasis on introducing students to the concept of workplace instruction through experiences facilitated by work-based learning personnel hired by school districts. Several career exploration activities can include the teachers working together with professional school counselor(s) and/or a work-based learning coordinator, reducing the adult: student ratio during these activities. This reduction in ratio provides more personalized and enhanced learning for students.

The middle school years are a time of exploration and discovery. Students need experiences that will broaden their horizons. Many career opportunities are not visible to students in the communities in which they live. Relationships between interests, skills, education, and career possibilities are obscured by students' limited experience base and the lack of effort either at home or in school, or both, to illustrate or establish linkages. The CTE Introduction course affords students a rich opportunity to explore and expand on self-understanding, to expand understanding of career possibilities related to interest, and to develop knowledge and skills for making more prepared career choices. CTE Introduction perhaps embodies the philosophy of middle school purpose better than any course available to students of this age group.

Standard 1: Students will be knowledgeable about the world of work, explore career options and relate personal skills, aptitudes, and abilities to education planning and future career decision making.		
<p>Objective 1: Identify and practice the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span, including recognizing that completion of high school with essential academic and CTE coursework provides a wide range of substantial post-secondary and career options.</p>	<p>Objective 2: Learn about the changing nature of the workplace, the value of work to society, and the connection of work to the achievement of personal goals.</p>	<p>Objective 3: Assess and apply interests, personal skills, aptitudes and abilities to education planning and future career decisions.</p>
<p>Indicators:</p> <ul style="list-style-type: none"> • Develop personal abilities, skills, interests, values, and motivations in terms of future goals. • Develop a positive attitude toward work and learning by understanding the importance of responsibility, dependability, integrity, and work ethic. • Apply time management and task management skills. • Apply knowledge of learning styles to positively influence school performance. • Apply time-management and task management skills. • Apply knowledge of learning styles to positively influence school performance. • Demonstrate the ability to work independently as well as cooperatively with other students. • Develop a broad range of interests and abilities, connecting to school in positive ways. • Demonstrate the ability to balance family life, school, homework, extracurricular activities, and leisure time. • Use assessment results to maximize academic ability and achievement. • Use problem-solving and decision-making skills to assess progress toward educational goals. • Understand the relationship between classroom performance, success in school and success in life. • Identify next step planning options consistent with interests, achievement, aptitudes, and abilities. 	<p>Indicators:</p> <ul style="list-style-type: none"> • Understand that the changing nature of work requires adaptability, lifelong learning, and acquiring new skills. • Understand how family and socioeconomic background can influence career choices, and the opportunities in traditional and nontraditional career choices. • Develop skills to locate and evaluate career information through researching the statewide Career Information Delivery System (CIDS), i.e., Choices Explorer and Choices planner, labor market information, the Internet, and other sources. • Understand the relationship between work, societal needs, and a global economy. • Understand that there are rights and responsibilities of employers and employees. • Learn to understand and respect individual uniqueness in the workplace. • Understand employability skills such as those identified by the Secretary's Commission of Achieving Necessary Skills (SCANS) document. • Determine values that affect life/career planning in terms of family, community involvement, work, and leisure. • Participate in a variety of work-based learning experiences that connect academic preparation with hands-on career development experiences, i.e., guest speakers, field studies, job shadows, and career fairs. 	<p>Indicators:</p> <ul style="list-style-type: none"> • Understand the relationship between education, training, and the world of work. • Explore life/career options and alternatives. • Complete and utilize career assessments. • Acquire job-seeking skills such as writing a resume, completing a job application, and interviewing. • Understand how life roles, personal beliefs and attitudes affect career decision-making. • Connect decisions about course selections, next-step planning, and career transitions in terms of future goals and CTE pathways. • Develop a written Student Education Plan or Student Education Occupation Plan, including establishing challenging academic goals and outlining short-term steps to achieve future life/career goals. Actively involve parents(s) or guardian(s) in the SEP/SEOP process. • Identify post-secondary options consistent with interests, achievement, aptitude, and abilities recognizing the potential in occupations as being open for choice without restrictions based on sex, race, ethnic heritage, age creed, or disability. • Evaluate academic achievement in terms of life/career plans.

Standard 2: Analyze education, training and career opportunities in various Career Pathways.

Objective 1: Students will explore education and training in the High School to College and Career Pathways.

Agricultural Education

- > *Agricultural Systems Technology*
- > *Horticulture Science & Management*
- > *Natural Resources Science & Management*
- > *Production/Processing Animal Science*
- > *Production/Processing Plant & Soil Science*
- > *Production/Processing Science & Management*

Business Education

- > *Accounting & Finance*
- > *Business Administrative Support*
- > *Business Entrepreneurship*
- > *Business Management*
- > *Business Technology Support*

Family & Consumer Sciences Education

- > *Child Development*
- > *Consumer Economics Services*
- > *Family & Human Services*
- > *Fashion Design, Manufacturing & Merchandising*
- > *Food Science, Dietetics & Nutrition*
- > *Food Service & Culinary Arts*
- > *Hospitality Services*
- > *Interior Design*

Health Science Education

- > *American Sign Language*
- Biotech Research & Development
 - > *Biotechnology*
 - > *Pharmacy Technician*
- Health Informatics
 - > *Medical Office Administrative Assistant*
- Therapeutic Services
 - > *Dental Assistant*
 - > *Emergency Medical Technician (EMT)*
 - > *Exercise Science/Sports Medicine*
 - > *Medical Assistant*
 - > *Nurse Assistant*
 - > *Optical Technician*
 - > *Surgical Technician*

Information Technology Education

- Information Support & Services
 - > *Database Development & Administration*
 - > *Technical Support*
- Interactive Media
 - > *Digital Media (Multimedia)*
 - > *Web Development & Administration*
- > *Network Systems*
- > *Programming/Software Development*

Marketing Education

- > *Hospitality & Tourism*
- > *Marketing Entrepreneurship*
- > *Marketing Management*
- > *Sales & Service Marketing*

Technology & Engineering Education

- > *Pre-Engineering*
(Utah Pre-Engineering Program)
- > *Project Lead the Way*
(National Pre-Engineering Program)

Skilled & Technical Sciences Education

- Building Trades
 - > *Carpentry*
 - > *Electrician*
 - > *HVAC*
 - > *Plumbing*
- Communication
 - > *Television Broadcasting Technician*
- Mechanics & Repairs
 - > *Automotive Collision Repair*
 - > *Automotive Service Technician*
 - > *Electronics*
 - > *Heavy Duty Diesel*
- Precision Production Trades
 - > *Cabinetmaking/Millwork*
 - > *Drafting/CAD*
 - > *Graphics/Printing*
 - > *Machine Tool*
 - > *Welding*
- Personal Service
 - > *Cosmetology/Barbering*
- Protective Service
 - > *Firefighting*
 - > *Law Enforcement*
- Transportation & Material Moving
 - > *Commercial Aviation*
- Visual Arts
 - > *Commercial Art*
 - > *Commercial Photography*

Standard 3: Students will examine workplace tasks and concepts in Agriculture.		
Objective 1: Explore the relationship and impact of agriculture and natural resources on the economy.	Objective 2: Identify the relationship and impact of agriculture on the family and consumer.	Objective 3: Understand the relationship and impact of agriculture and natural resources on technology and engineering
Indicators: <ul style="list-style-type: none"> • Explore career opportunities in agricultural production and processing (e.g., farm, food, fabrics), horticulture, and natural resources. • Differentiate between facts and opinions concerning agricultural production and processing. • Explain how supply and demand of agricultural products affects the market place and price (e.g., the supply, demand and price of major grains such as wheat, corn, and soybeans). • Explore related career Pathways and related high school and middle school/junior high school course offerings. 	Indicators: <ul style="list-style-type: none"> • Recognize the sources of food, clothing and shelter and the processes that are used to deliver them to the consumer. • Explain the values, benefits and issues concerning biotechnology and agriculture. • Evaluate facts and opinion about food technologies (e.g., irradiation, e-coli, salmonella, hormones, and pesticide residues). • Explore related career Pathways and related high school and middle school/junior high school course offerings. 	Indicators: <ul style="list-style-type: none"> • Identify and demonstrate the uses of Global Positioning Systems (GPS) and satellite technology in agriculture. • Understand the economic impact and value of wildlife and rangelands related to one's community, the nation, and the world. • Explain the dependence and interaction between people and natural resources (e.g., rangeland, wildlife, wilderness, soil, water, and air). • Explore related career Pathways and related high school and middle school/junior high school course offerings.

Standard 4: Students will examine workplace tasks and concepts in Business.		
Objective 1: Students will demonstrate basic knowledge and application of hardware, software, and Internet use.	Objective 2: Students will use technology independently and collaboratively in business applications.	Objective 3: Students will develop basic business skills and explore a variety of business careers.
Indicators: <ul style="list-style-type: none"> • Use word processing software to complete basic word processing tasks. • Use spreadsheet software features to perform basic math functions. • Use word processing software to perform simple desktop publishing activities. • Use presentation software features to create a basic slide show. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Understand that the Internet is a network. • View HTML code to demonstrate computer programming. • Define basic Internet vocabulary, including URL, browser, search engine, etc. • Use a browser and search engine. • Save graphics from the Internet to be used in other applications. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Complete a job application unit. • Explore workplace etiquette and ethics. • Demonstrate how to make change and count back change. • Understand sales tax and payroll deductions. • Operate a simulated business. • Perform basic 10-key skills. • Understand basic personal money management. • Explore related career Pathways and related high school and middle school courses.

Standard 5: Students will examine workplace tasks and concepts in Economics.		
Objective 1: Explore the relationship and impact of economics on business.	Objective 2: Explore the relationship and impact of economics on families and consumers.	Objective 3: Explore the relationship and impact of economics on technology.
Indicators: <ul style="list-style-type: none"> • Define scarcity and the problems it presents. • Identify situations where scarcity exists. • Explore optimal ways to organize limited resources to meet unlimited wants and needs. • Give examples of how a business such as a mall, bank, law firm, etc. must deal with scarcity. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Give examples of economic resources (natural, human, and capital). • Demonstrate how economic resources (natural, human, and capital) are used to produce goods and services. • Identify different businesses and the resources they use to produce their goods and services. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Recognize that choices have costs and benefits. • Apply cost/benefit analysis to decision making. • Analyze the consequences of choices. • Explain how cost/benefit analysis can be applied to business decisions. • Explore related career Pathways.

Standard 6: Students will examine workplace tasks and concepts in Family and Consumer Sciences.		
Objective 1: Examine attributes and issues related to family life and the skills needed to enhance independent living.	Objective 2: Identify aspects related to the care and development of children.	Objective 3: Demonstrate basic skills related to nutrition, food preparation, and clothing and textiles.
Indicators: <ul style="list-style-type: none"> • Describe the importance of balancing a career, a family, and leisure activities. • Recognize how individual responsibilities at home contribute to the family's well being. • Examine the impact of career choices on family lifestyles and family economics. • Identify careers related to and/or working with families. • Explore effective personal, verbal, and nonverbal communication. • Recognize acceptable social behaviors and how to develop social skills. • Identify steps of problem-solving. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Identify appropriate child care skills for young children. • Identify safety hazards for small children. • Develop or utilize age-appropriate learning activities for young children. • Understand skills related to appropriate child care. • Understand the importance of adult:child ratios in child care and education settings. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Demonstrate basic kitchen management, food safety, and sanitation. • Review the food guide pyramid and the dietary guidelines. • Identify nutritional values of food and nutritional information on food labels. • Practice food preparation skills. • Identify careers related to nutrition and food preparation. • Explore and use textile technology and equipment. • Demonstrate skills related to clothing care, construction, and selection. • Explore related career Pathways.

Standard 7: Student will examine workplace tasks and concepts in Health Science.		
Objective 1: Explore the relationship and impact of healthcare careers and business.	Objective 2: Explore the relationship and impact of healthcare on the family and consumer.	Objective 3: Explore the relationship and impact of healthcare on technology.
Indicators: <ul style="list-style-type: none"> • Demonstrate business technology and management related to health informatics. • Evaluate and discuss ethical practices within the healthcare environment. • Explore the economic impacts of the healthcare industry. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Identify potential hazards that exist and demonstrate the prevention of injury and/or illness through safe practices. • Demonstrate personal, family and social hygiene practices important in preventing the spread of disease. • Demonstrate first aid skills and use of the Emergency Medical Services System. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Demonstrate business technical applications related to healthcare processes. • Utilize creativity and problem solving in exploring the design of health-related equipment. • Practice medical terminology used in making diagnoses. • Demonstrate various methods of giving and obtaining medical information. • Explore related career Pathways.

Standard 8: Students will examine the workplace tasks and concepts in Information Technology.		
Objective 1: Explore the relationship and impact of information technology and digital media in the business arena.	Objective 2: Explore the relationship and impact of information technology and digital media on the family and consumer.	Objective 3: Explore the relationship and impact of information technology and digital media in today's technology world.
Indicators: <ul style="list-style-type: none"> • Define appropriate business information technology terminology, including appropriate use policies, networks, database, digital media, server, modem, wireless, protocol, bandwidth, blog, podcast, wiki, mp3, animation, etc. • Demonstrate the use of a digital camera and/or other digital recording device. • Explore online databases (Switchboard.com, maps.google.com, Pioneer Online Library, Surweb.org, Real Estate, Google Earth, online store, etc.). • Understand the elements, planning and development of a multimedia presentation (sound, text, graphics, video, animations and interactivity). • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Recognize the use of information technology systems in all facets of society. • Explore information technology at home, school, and work. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Introduce programming languages and their use in writing software. • Explore how software is designed, developed, and written as a computer program. • Explore how cars, airplanes, spacecraft, robots, heating and air conditioning, etc. are controlled by software. • Identify parts of a computer, typical peripheral devices, and interactions of different systems in a computer (CPU, memory, storage, input, output). • Understand that all computers operate on a digital or binary number system. • Explain the issues of ethics, privacy, security, and copyright law and how they apply to the use of information technology. • Explore related career Pathways.

Standard 9: Students will examine the workplace tasks and concepts in Marketing.		
Objective 1: Explain the four P's of Marketing (product, pricing, promotion, and place) and how they are used in business and in society.	Objective 2: Explain the relationship and impact of marketing on the family and consumer.	Objective 3: Understand the relationship and impact of technology on marketing.
Indicators: <ul style="list-style-type: none"> • Explain, analyze and conduct market research to determine what products/services should be marketed to customers. • Determine and analyze what price to charge customers for products (or services), in order to make a profit. • Describe the pros and cons of promotional strategies for products (services) and create at least three promotional tools for products (services). • Run a company simulation utilizing the four principles of marketing (product, prices, promotion, and placement). • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Discuss how a person can successfully market him/herself when applying for a job. • Evaluate various marketing strategies and their impact on the family. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Explain how technology can be used and the process involved in producing and promoting products. • Describe how goods, services, and ideas are marketed and distributed in the global economy. • Explore related career Pathways.

Standard 10: Students will examine workplace tasks and concepts in Technology and Pre-Engineering/Technical Skills.		
Objective 1: Demonstrate basic fundamentals as it relates to the use of tools, equipment, and facilities.	Objective 2: Analyze communication, energy and power, and transportation technologies.	Objective 3: Recognize engineering, manufacturing, and construction processes and technology.
Indicators: <ul style="list-style-type: none"> • Use tools, equipment and facility safely. • Demonstrate the ability to use measuring tools to measure accurately to 1/16" and to 1 mm. • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Understand that communication technology includes all the ways people have developed to send and receive messages. • Demonstrate the communications model of sender, message, receiver, and feedback. • Understand the relationship between energy, power, and the ability to do work. • Identify common energy sources (solar, fossil fuels, hydro, geothermal, wind, etc.) • Explain transportation technology and identify types of transportation systems (land, air and space, marine, pipeline, and conveyor). • Explore related career Pathways. 	Indicators: <ul style="list-style-type: none"> • Define engineering and understand a basic engineering design process. • Explain the relationship of manufacturing technology in producing items people want and need. • Identify different types of production systems (custom, intermittent, continuous, and flexible). • Understand that construction technology involves all the technology used in designing and building structures. • Recognize the different types of construction (civil, commercial, industrial, and residential). • Explore related career Pathways.