

Career Planning & Advising
CTE - 8th Grade



<p>Introduction & Overview</p>	<p>In Career Planning & Advising, students will continue their exploration of a variety of career fields, as well as increasing their understanding of workplace expectations. Students will work in partners and rotate through 17 modules designed to provide hands-on experiences in which they'll observe and perform technical tasks in a safe, encouraging environment. By participating in these modules, students may find hidden talents and discover a passion for a technical trade.</p>	
<p>Career Field Modules:</p>	<p>Cosmetology & Barbering Design & Marketing Emergency Medical Technician Energy & Power Environment & Ecology Flight & Drone Technology Home Maintenance Intro to Child Development Intro to Culinary Arts</p>	<p>Materials Processing & Design Nursing Robotics Sports Medicine Structural Engineering Veterinary Medicine Video Production Welding Basics</p>
<p>Course Sequence/Pacing Guide</p>	<p>Each module will be adjusted to last 9 days. Each quarter, students will meet 3 days a week for 3 weeks in a row. Therefore, students can reasonably expect to complete one module each quarter. While students' interests and preferences will be considered when assigning their modules, classroom space and module availability will ultimately dictate placement.</p> <p>Quarter 1 9 Days Lab Basics, Safety, Career Planning Quarter 2 9 Days Rotation 1 (1 of 17 modules) Quarter 3 9 Days Rotation 2 (1 of 17 modules) Quarter 4 9 Days Rotation 3 (1 of 17 modules)</p>	

Objectives

- Identify tools and use terminology specific to cosmetology and barbering.
- Describe the role and responsibilities of an Esthetician.
- Examine the elements and principles of hair design.
- Identify the importance of infection prevention and the three levels of infection control.
- Examine nail anatomy and nail safety standards.
- Describe personal protective equipment used in cosmetology and client risk assessment.
- Identify the core differences between cosmetology and barbering.
- Demonstrate the process of shaving.
- Examine the roles and responsibilities of makeup artists.
- Demonstrate the use of face charts in cosmetology and barbering.
- Describe the 10-step consultation process and the importance of client consultation.
- Identify the importance of ethical standards in cosmetology and barbering.
- Describe the importance of communication in the field of cosmetology.
- Explore careers in the Personal Care Services Career Pathway.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Personal Care Services Career Pathway Identify career pathways within the Personal Care Services Career	HU-5	2	CRP 2
2	Making An Exfoliating Scrub Describe the benefits of using an exfoliant while making a simple sugar scrub	HU-PC-2 HU-PC-4	2	CRP 2
3	*Nail Technician Practice the basic skills of a nail technician by cutting, filing, and painting nails using a manikin hand	HU-PC-1 HU-PC-2 HU-PC-4	3	CRP 2
4	*Basic Hair Techniques Demonstrate sectioning hair in 2, 3, and 4 sections and basic braids	HU-PC-1 HU-PC-2 HU-PC-4	3	CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on the importance of infection control procedures in Cosmetology and Checkpoint Test	HU-PC-4	2	CRP 2 CRP 5
6	* The Art of Shaving Practice the technique of shaving using a balloon and a bladeless safety razor	HU-PC-2 HU-PC-4	3	CRP 2
7	Face Charts Choose the role of either a makeup artist or a barber and create a design using face charts based on a client scenario	HU-PC-2	3	CRP 2
8	Design Brief Utilize previously learned information to solve a complex problem in the Personal Care Services Career Pathway based on the evaluation guidelines provided	HU-2 HU-3 HU-5 HU-6 HU-PC-1 HU-PC-2 HU-PC-3 HU-PC-4	4	CRP 2 CRP 8 CRP 9
10	Argumentative Writing / Checkpoint Test Critical writing on the societal impacts of the cosmetology industry and Checkpoint Test	HU-3 HU-4 HU-6	2	CRP 1 CRP 4 CRP 5
	Career Planning Research careers in the Human Services Career Cluster/Personal Care Services Career Pathway	HU-5	1	CRP 10

Objectives

- Apply visual organization strategies (such as the elements and principles of design) to produce and effectively communicate original designs.
- Utilize design techniques to design interiors, fashions, products, brands, and marketing campaigns.
- Examine brand loyalty and purchase decision influences.
- Demonstrate an understanding of fundamental marketing procedures and processes including goal setting, writing a marketing strategy, creating marketing plans, market analysis, and utilizing the marketing mix.
- Recognize the importance of merchandising and advertising in design development.
- Practice various design sketching and thought collection techniques.
- Create a design board to develop a marketing approach for an original design.
- Utilize foundational information presented in the module activities to complete a Design Brief based upon the criteria provided.
- Produce clear, concise technical writings that effectively use style, grammar, and information structure in ways that create meaning with the reader.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Elements & Principles of Design Matrix Sketch examples of the various design elements and principles	AR-VIS-2	2	CRP 2 CRP 4 CRP 8
2	Creating a Color Palette Utilize knowledge of color psychology to create visually appealing color palettes that represent a given brand	AR-VIS-2	2	CRP 2 CRP 4 CRP 6
3	Decorating Styles & Design Boards Utilize the elements and principles of design to create a design board for a client based upon lifestyle, personal preferences, and common design styles	AR-VIS-2 MK-9	2	CRP 2 CRP 4 CRP 6 CRP 7 CRP 8
4	*Designing Fashion Practice sketching to create a fashion line that communicates a specific design idea	AR-VIS-2 AR-VIS-3 MK-9	2	CRP 1 CRP 2 CRP 4 CRP 6
5	Narrative Writing / Checkpoint Test Critical writing on the laws of supply and demand and Checkpoint Test	MK-1	2	CRP 1 CRP 2 CRP 4 CRP 5
6	*The 4 P's of the Marketing Mix Utilize knowledge of marketing principles to create a new marketing mix for the rebranding of a product	AR-VIS-2 MK-8 MK-9	2	CRP 1 CRP 2 CRP 4 CRP 6
7	Design Brief Utilize previously learned information to solve a complex problem in the Marketing Career Cluster and Visual Arts Career Pathway based upon the evaluation guidelines provided	AR-VIS-2 AR-VIS-3 MK-8 MK-9 MK-10	3	CRP 1 CRP 2 CRP 4 CRP 5 CRP 6 CRP 8 CRP 12
10	Argumentative Writing / Checkpoint Test Critical writing on advertisement regulations and Checkpoint Test	MK-4	3	CRP 2 CRP 4 CRP 5 CRP 8
10	Career Planning Research careers in the Marketing Career Cluster and Visual Arts Career Pathway	AR-5 MK-5	1	CRP 10



Emergency Medical Technician Activity Guide



Objectives

- Recognize the role of Emergency Medical Technicians in the healthcare industry.
- Identify the steps for the primary survey (checking Airway, Breathing, Circulation, and blood pressure).
- Recognize the differences between viral and bacterial disease and how to prevent disease transmission.
- Identify how to control bleeding, common types of wounds, and bandaging for various wounds.
- Identify the first aid steps for common emergencies: choking, poison, and burns.
- Recognize the signs of a heart attack.
- Demonstrate how to perform CPR and how to use an AED.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	EMT Terminology Identify terminology used by Emergency Medical Technicians	HL-DIA-4	1	CRP 2
2	Know Your ABCs Understand basic Airway, Breathing, and Circulation tests and perform a blood pressure test	HL-DIA-5	1	CRP 1 CRP 2
3	Applying A Splint Learn how to stabilize a fractured arm using an air splint	HL-DIA-5	1	CRP 1 CRP 2
4	Infection Control Procedures Identify and practice utilizing the components of a blood-borne pathogens response kit	HL-DIA-5	1	CRP 1 CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on the steps used to control bleeding and Checkpoint Test	HL-DIA-5	2	CRP 1 CRP 2 CRP 4
6	*Wound Care Use a wound simulator to practice a simple bandaging procedure	HL-DIA-5	2	CRP 1 CRP 2
7	(New) Burn Injuries & Treatments Read burn victim scenarios and identify burn severity, and recommend the appropriate course of treatment	HL-3 HL-DIA-2 HL-DIA-3	2	CRP 1 CRP 2 CRP 7
8	*CPR Use a patient simulator to learn how to perform CPR properly	HL-DIA-3	2	CRP 1 CRP 2
9	*Automatic External Defibrillator Learn to use an AED	HL-DIA-3	2	CRP 1 CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing that explains the importance of heart attack identification and prevention and Checkpoint Test	HL-DIA-1 HL-DIA-4	3	CRP 1 CRP 2 CRP 4 CRP 9
10	Career Planning Research careers in the Health Science Career Cluster: Diagnostic Services Career Pathway	HL-1 HL-4	1	CRP 10

Objectives

- Identify and characterize the six main forms of energy.
- Perform the conversion of different forms of energy into power.
- List and describe careers relating to energy and power.
- Identify and appropriately use tools needed to test, disassemble, measure, and reassemble a small engine.
- Describe the relationship of automotive engine systems to the components of a small internal combustion engine.
- Contrast and compare the efficiency of alternative energy sources.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Tool Identification & Use Identify and understand the proper use of engine repair tools and watch a video	ST-ET-3	1	CRP 2
2	Identifying Engine Systems Identify and understand the functions of certain parts of the four stroke engine	ST-ET-3	1	CRP 2
3	*Testing & Internal Engine Components Learn how to test an engine ignition system and compression	ST-ET-5	2	CRP 2 CRP 8
4	*Crankcase Components Work with a small engine and learn how the valves operate	ST-ET-3	1	CRP 2
5	Narrative Writing / Checkpoint Test Critical writing describing the four strokes of an internal combustion engine and Checkpoint Test	ST-ET-2	2	CRP 2 CRP 4
6	Distance Calculation Use some math calculations to determine how far the mousetrap racer will travel	ST-ET-1	2	CRP 2
7	Design Brief - Mousetrap Racer Utilize previously learned information to design and build a mousetrap racer	ST-ET-1 ST-ET-4	2	CRP 2 CRP 6 CRP 8 CRP 9
10	Argumentative Writing / Checkpoint Test Critical writing explaining the power source choices for a specialized military vehicle and Checkpoint Test	ST-ET-1	3	CRP 2 CRP 4 CRP 5 CRP 9
	Career Planning Research careers in the STEM Career Cluster: Engineering and Technology Career Pathway	ST-5	1	CRP 10

Objectives

- Explore and analyze the factors essential for proficient plant growth, applying knowledge to evaluate effective cultivation methods.
- Classify various energy systems based on their types and applications, synthesizing information to assess their respective advantages and limitations.
- Classify the types and uses of energy systems.
- Determine the impact of polluted water and develop a protocol for clean water availability.
- Examine the composition and characteristics of soil samples and make comparisons with the soil textural triangle.
- Demonstrate soil pH testing to determine acidity or alkalinity levels.
- Explore the soil nutrient cycle.
- Explore careers in the Agriculture, Food & Natural Resources Career Cluster and Environmental Service Systems Career Pathway.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Fast Plant® Experiment Make containers and plant Fast Plants® using organic & nonorganic fertilizer	AG-ENV-5	1	CRP 2
2	Observing Plant Growth – Days 2 - 10 Check for plant growth and graph the data	AG-ENV-1	1	CRP 2
	pH Testing of Water Samples Test 3 water samples for pH	AG-ENV-4	1	CRP 2 CRP 7
3	* Soil Texture Investigation Examine and classify a local soil sample	AG-ENV-1	1	CRP 2
4	* Testing Soil pH Test the pH of soil samples using pH test strips; conduct simple tests to find out whether soil samples are acidic or alkaline	AG-ENV-3	2	CRP 2 CRP 4
5	(Bonus) Video - Go Green Explore how everyone can reduce waste at home	AG-ENV-4	1	CRP 2 CRP 5
	Narrative Writing / Checkpoint Test Critical writing explaining the possible issues possibly affecting the growth of plants and Checkpoint Test	AG-ENV-3	2	CRP 2 CRP 4 CRP 8
6	Packaging Waste Perform tests to learn how packaging materials affect the environment	AG-ENV-5	2	CRP 2 CRP 7
7	Design Brief Utilize previously learned information, including solutions to environmental systems, to solve a chosen problem based on the criteria provided in the module	AG-ENV-1 AG-ENV-3 AG-ENV-4	3	CRP 1 CRP 2 CRP 5 CRP 8 CRP 9
10	Argumentative Writing / Checkpoint Test Critical writing on the importance of testing soil and growing recommendations for the given scenario and Checkpoint Test	AG-ENV-1 AG-ENV-3 AG-ENV-5	3	CRP 1 CRP 2 CRP 4 CRP 5 CRP 8 CRP 9
	Career Planning Research careers in the Agriculture, Food & Natural Resources Career Cluster: Environmental Service Systems Career Pathway	AG-5	1	CRP 10

Objectives

- Examine the history and future of rocketry and flight systems.
- Apply design concepts that influence rocket stability.
- Calculate the angle of trajectory, altitude and azimuth of a rocket.
- Describe the four forces flight and the rules of aerodynamics.
- Compare and contrast manual and programmed UAV flight control systems.
- Examine applications of drones for commercial, scientific and recreational purposes.
- Apply programming skills to overcome a design challenge.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	*Rocket Building - Part I (Nose, Cone, and Body) Begin constructing the nose, cone, and body of a rocket	ST-ET-1 ST-ET-3 ST-ET-5	1	CRP 2 CRP 6
2	Rocket Building - Part II (Finishing the Body) Finish building the rocket's body	ST-ET-1 ST-ET-3	1	CRP 2 CRP 6
	* Rocket Building - Part III (Final Assembly) Finish assembling the rocket	ST-ET-5		CRP 2 CRP 6
3	Center of Gravity - Swing Test Complete an experiment to test the rocket for stability	ST-ET-1 ST-ET-2	2	CRP 2
	* (Part 2) Launch Safety and The Launch Read the safety rules for launching the rocket and then launch the rockets that have been constructed	ST-ET-1 ST-ET-2		CRP 1 CRP 5 CRP 8
4	Basic Drone Operation Become familiar with the different parts and function of the drone and practice flying the drone using basic controls	ST-ET-3 ST-ET-4	3	CRP 2 CRP 7
	(New) Building a Mini Drone Build a mini drone and learn basic drone operation	ST-ET-3 ST-ET-4	2	CRP 2
5	Narrative Writing / Checkpoint Test Critical writing explaining how a rocket is able to fly and Checkpoint Test	ST-ET-1 ST-ET-2	2	CRP 1 CRP 2 CRP 4 CRP 9
6	Programming with DroneBlocks Utilize an app to program basic flight patterns for the drone	ST-ET-1 ST-ET-3	3	CRP 2 CRP 6 CRP 11
	(New) Drone Design & Assembly Design and build a drone based on a selected drone task	ST-ET-1 ST-ET-5	3	CRP 2 CRP 6 CRP 11
7	Design Brief Utilize previously learned information to solve a complex problem based upon the evaluation guidelines provided	ST-ET-1-6	4	CRP 2 CRP 6 CRP 8 CRP 9 CRP 11
8	Internet Research - Principles of Flight Gain an understanding of aeronautics	ST-ET-2	2	CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing on whether the FAA should be able to enforce rules and regulations on the recreational use of drones and Checkpoint Test	ST-ET-2 ST-ET-4	3	CRP 2 CRP 4 CRP 5 CRP 8 CRP 9
	Career Planning Research careers in the STEM Career Cluster: Engineering and Technology Career Pathway	ST- 5	1	CRP 10

Objectives

- Identify tools and terminology used in common home maintenance and repair projects.
- Demonstrate safety procedures and precautions when conducting home maintenance and repair jobs.
- Understand the different types of fasteners and their uses.
- Demonstrate basic drywall repair.
- Examine the importance of home safety and security.
- Examine the differences between do-it-yourself home maintenance and repair projects and hiring a professional.
- Understand basic construction principles and practices.
- Apply mathematics to calculate common maintenance and repair project estimations.
- Examine potential hazardous household materials and their effects.
- Identify the importance of having a family emergency preparedness kit and evacuation procedure in place.
- Investigate potential careers within the Architecture & Construction Career Cluster.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Tools & Terminology Examine common tools and terminology used in basic residential maintenance and repair jobs	AC-1 AC-CST-9	1	CRP 2
2	*What's Hanging? – Placement & Technique Practice wall hanging techniques to properly hang wall fixtures using various types of fasteners	AC-1 AC-2 AC-CST-9	2	CRP 2
3	*Repairing Drywall Demonstrate basic drywall repair to patch nail and anchor holes	AC-1 AC-2 AC-CST-8 AC-CST-9	3	CRP 2
4	Door Knobs & Deadbolts Practice changing a door knob and deadbolt on the provided door trainer	AC-1 AC-CST-9	2	CRP 2
	(Bonus) Fire Safety & Escape Routes Explain the importance of property insurance and the benefit of creating and maintaining an accurate inventory of one's personal possessions	LW-EFM-9 LW-EFM-14	2	CRP 1 CRP 2
5	(Bonus) EnergyGuide Label Comparison Use mathematics to calculate and compare the yearly operating costs of appliances	AC-4	2	CRP 2 CRP 5
	Narrative Writing / Checkpoint Test Critical writing on basic home maintenance and repair and Checkpoint Test	AC-1 AC-4 AC-5	2	CRP 1 CRP 2 CRP 4
6	*What's Your Estimation? Calculate the cost of common home maintenance and repair jobs utilizing the provided information and equations	AC-1 AC-2 AC-5 AC-6	2	CRP 2
7	Design Brief Utilize previously learned information to solve a complex problem in the Architecture & Construction Career Cluster based upon the evaluation guidelines provided	AC-1 AC-2 AC-4 AC-5 AC-6 AC-7 AC-CST-3 AC-CST-5 AC-CST-9	4	CRP 1 CRP 2 CRP 4 CRP-5 CRP-6 CRP-7 CRP 8 CRP11 CRP 12

10	(Bonus) Preparing for Emergencies Identify procedures when preparing for and recovering from natural disasters and household emergencies	LW-EFM-9 LW-EFM-14	2	CRP 1 CRP 2
	Argumentative Writing / Checkpoint Test Critical writing reflecting on whether or not a homeowner needs to disclose defects when selling a home and Checkpoint Test	AC-1 AC-4	2	CRP 1 CRP 2 CRP 3 CRP 4 CRP 5 CRP 8
	Career Planning Research careers in the Architecture & Construction Career Cluster	AC-7	1	CRP 10

Objectives

- Recognize that the study of child development is based on research.
- Identify and define the basic concepts of growth and development.
- Define and identify physical, cognitive, social and emotional development milestones throughout the four stages of early childhood.
- Practice basic care of infants.
- Examine safety techniques and procedures for working with children.
- Identify the different types of Early Childhood programs and care.
- Examine the importance of effective communication within the Human Service Careers Cluster.
- Describe procedures for identifying, controlling and preventing infectious disease and infestation breakouts in child service related occupations.
- Identify the importance of safety and sanitation practices within the Human Services Career Cluster.
- Evaluate career opportunities in each of the Human Services Career Pathways.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Evaluating Development Analyze several early childhood scenarios to predict the significance of a child's development on adult life	HU-2 HU-6	1	CRP 2 CRP 4
2	*Caring for a Baby Demonstrate essential baby care practices and techniques	HU-1 HU-6 HU-EC-5	2	CRP 2
3	*Pediatric Occupational Therapy Practice a common therapy activity used with children and act as a pediatric occupational therapist for a selected client scenario	HU-EC-1 HU-EC-4 HU-EC-7	2	CRP 1 CRP 2 CRP 4 CRP 6 CRP 8
4	Pediatric Speech-Language Exploration Act as a pediatric speech-language pathologist to record information and suggest treatment options for several case studies	HU-EC-1 HU-EC-4 HU-EC-7	2	CRP 1 CRP 2 CRP 4 CRP 6 CRP 8
5	(Bonus) Childhood Safety & CPR Test the safety of common items using a choke tester and practice performing CPR on the provided baby model	HU-EC-3 HU-EC-5 ED-4	2	CRP 1 CRP 8
	Narrative Writing / Checkpoint Test Critical writing on the four areas of child development children and Checkpoint Test	HU-6	2	CRP 2 CRP 4 CRP 8
6	Assessing School Readiness Create a checklist to assess a child's readiness to enroll in a kindergarten program	ED-TT-1 ED-TT-3 ED-TT-9 HU-EC-7	2	CRP 2 CRP 4 CRP 7
7	Design Brief Utilize previously learned information to solve a complex problem in the Human Services Career Cluster based upon the evaluation guidelines provided	HU-1 HU-2 HU-3 HU-6	4	CRP 1 CRP 2 CRP 4 CRP 5 CRP 6 CRP 7 CRP 8 CRP 11 CRP 12

10	Argumentative Writing / Checkpoint Test Critical writing reflecting on the environmental factors that influence development and Checkpoint Test	HU-1 HU-2 HU-6	3	CRP 2 CRP 4 CRP 5 CRP 8
	Career Planning Research careers in the Human Services Career Cluster	HU-5	1	CRP 10

Objectives

- Understand and demonstrate the correct procedures to successfully prepare a recipe, including measuring techniques, abbreviations, and kitchen utensil usage.
- Identify, describe, and demonstrate common cooking and food preparation techniques.
- Discover the relationship between bacteria and food-borne illnesses and identify ways to safeguard against food-borne illnesses.
- Identify primary causes of food-borne illnesses and demonstrate the proper techniques of sanitation: food handling, care of equipment, safety and efficiency in the kitchen.
- Compare styles of table and beverage service while practicing menu planning and fundamental food presentation techniques.
- Describe the laws and regulations that govern the food and beverage industry.
- Investigate potential careers within the career clusters of agriculture, food, and natural resources and hospitality and tourism industries.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Safety, Sanitation, Terminology, and Tools Demonstrate knowledge of kitchen safety and sanitation principles, as well as terminology and tool usage	HT-RFB-1 HT-RFB-2	1	CRP 1 CRP 2 CRP 4 CRP 8
2	*No Bake Energy Bites Employ mise en place strategies to plan for and prepare a no cook recipe	HT-RFB-1 HT-RFB-2 HT-RFB-4	2	CRP 1 CRP 2 CRP 4 CRP 8
3	Baking and Equivalents Utilize math in the kitchen to halve and double recipes as well as calculate the cost of a recipe	HT-RFB-5	2	CRP 1 CRP 2 CRP 4
4	*Presentation and Creating a Garnish Explain and demonstrate the principles of food presentation, garnishing, and plating	HT-RFB-2 HT-RFB-7	2	CRP 2 CRP 4 CRP 6
5	Cooking Methods Determine the best possible uses for common cooking methods	HT-RFB-7	2	CRP 2 CRP 4 CRP 7
	Narrative Writing / Checkpoint Test Critical writing on menu item development, preparation, and plating and Checkpoint Test	HT-RFB-10	3	CRP 1 CRP 2 CRP 4 CRP 6
6	Cooking Scrambled Eggs Work with others to accurately follow a recipe and prepare a dish	HT-RFB-2	3	CRP 2 CRP 8
7	Design Brief Utilize previously learned information to solve a complex problem in the Restaurants & Food / Beverage Services Career Pathway based upon the evaluation guidelines provided	HT-RFB-1 HT-RFB-5 HT-RFB-10	3	CRP 1 CRP 2 CRP 4 CRP 5 CRP 6 CRP 7 CRP 12
10	Argumentative Writing / Checkpoint Test Critical writing on menu labeling regulations and Checkpoint Test	HT-RFB-1	3	CRP 2 CRP 4 CRP 8
	Career Planning Research careers in the Hospitality and Tourism Career Cluster: Restaurants & Food/ Beverage Services Career Pathway	HT-RFB-9	1	CRP 10

Objectives

- Examine and identify characteristics of various materials using a microscope.
- Apply, appropriately use, and enforce safety procedures when using tools and machines.
- Examine the four materials processing technologies: forming, cutting, joining, and finishing.
- Demonstrate the use of common tools used in manufacturing.
- Examine the common methods, applications, and materials used in each material processing technology.
- Identify the characteristics and select the most appropriate materials for use in a variety of projects.
- Describe the processes involved in manufacturing a variety of products.
- Examine the engineering design process to solve problems.
- Explore careers in the Manufacturing Career Cluster and Production Pathway.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Materials Observation Examine and record observations of different materials using a microscope	MN-6	2	CRP 2 CRP 7
2	Acrylic Phone Stand Heat and bend acrylic to create a cell phone stand design	MN-6 MN-PRO-5	3	CRP 2
3	*Wooden Phone Stand – Part I Apply materials processing technologies to measure and cut pieces of wood for a wooden phone stand	MN-6 MN-PRO-5	3	CRP 2
4	*Wooden Phone Stand – Part II Apply materials processing technologies to join and finish the wooden phone stand	MN-6 MN-PRO-5	3	CRP 2 CRP 11
5	Narrative Writing / Checkpoint Test Critical writing on three of the four materials processing technologies (Forming, Cutting, Joining), and Checkpoint Test.	MN-6 MN-PRO-2 MN-PRO-3	2	CRP 1 CRP 2 CRP 4 CRP 5
6	*Injection Molding Learn about the process of injection molding	MN-6 MN-PRO-4 MN-PRO-5	3	CRP 1 CRP 2 CRP 8
	*(New) Making a Mold Utilize the melt molding process to create a soap casting	MN-6 MN-PRO-4 MN-PRO-5	3	CRP 2
7	Design Brief Utilize previously learned information to solve a complex problem in the Manufacturing Cluster and Production Pathway based upon the evaluation guidelines provided	MN-6 MN-PRO-3 MN-PRO-4 MN-PRO-5 MN-PPD-1	4	CRP 2 CRP 8 CRP 9
10	Argumentative Writing / Checkpoint Test Critical writing on the environmental impacts of banning water bottles and Checkpoint Test	MN-1	2	CRP 1 CRP 4 CRP 5
	Career Planning Research careers in the Manufacturing Career Cluster/Production Career Pathway	MN-4	1	CRP 10



Nursing Activity Guide



Objectives

- Identify commonly used medical terminology relating to anatomy and treatment.
- Identify the responsibilities and relationships between different nursing occupations.
- Recognize the link between sanitation and infection.
- Demonstrate basic nursing skills including taking vital signs, using a stethoscope, taking a blood sample, and treating a wound.
- Demonstrate effective communication skills in working with patients and families.
- Use mathematics to calculate dosages and to evaluate effective treatments.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Nursing Terminology Identify terminology used by nurses and other health professionals	HL-DIA-4	1	CRP 2
2	Hand Washing Perform a hand washing experiment	HL-4	1	CRP 1 CRP 3
3	Vital Signs – ABC: Airway, Breathing, Circulation Practice taking the vital signs of a partner	HL-DIA-2	1	CRP 1 CRP 2 CRP 12
4	*Phlebotomy Use an arm simulator to practice drawing blood	HL-DIA-3	1	CRP 1 CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on the requirements and implications of HIPAA and Checkpoint Test	HL-5	2	CRP 1 CRP 2 CRP 4 CRP 9
6	Sensing Patient Health Practice listening to heart and breathing sounds to sense underlying medical conditions	HL-DIA-5	2	CRP 1 CRP 2
7	*Measurement, Dilutions, and Calculations Use math to practice calculating proper patient dosages	HL-DIA-1	2	CRP 1 CRP 2
8	Oral Communications, Patient Education Plan and deliver a presentation promoting infant immunization	HL-DIA-4	2	CRP 1 CRP 2 CRP 4
9	*Suturing Practice suturing using a suturing simulator of a human leg	HL-DIA-5	2	CRP 1 CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing supporting your choices about childproofing a home and Checkpoint Test	HL-3	3	CRP 1 CRP 4 CRP 5 CRP 9
10	Career Planning Research careers in the Health Science Career Cluster: Diagnostic Services Career Pathway	HL-1 HL-4	1	CRP 10

Objectives

- Examine the different classifications of robots in a wide range of industries.
- Compare and contrast fixed vs. mobile robots.
- Explore the field of robotics and potential pathways.
- Identify the key components of a robot and their function.
- Describe how artificial intelligence is applied to robotic systems.
- Create and modify basic robotics programs.
- Demonstrate the use of various robot sensors.
- Examine a wide range of careers related to the field of robotics.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	*Introduction to VEX Introduction to the VEX Go robot and components	ST-6 ST-ET-1	1	CRP 2 CRP 11
2	*Building & Improving the Crawler Build and program the crawler to overcome obstacles	ST-6 ST-ET-1	1	CRP 2
3	*Driving Base Build and program the VEX robot driving base	ST-6 ST-ET-1 ST-ET-3	1	CRP 2 CRP 8 CRP 11
4	*Bumper Sensor Program the VEX robot to overcome obstacles using the bumper sensor	ST-6 ST-ET-1 ST-ET-3	1	CRP 2 CRP 8 CRP 11
5	*Using the Electromagnet Program the VEX robot to move objects using the electromagnet	ST-6 ST-ET-1 ST-ET-3	2	CRP 2 CRP 8 CRP 11
	Narrative Writing / Checkpoint Test Critical writing describing the three components of a robot, the different types of sensors and applications for robots in different industries and Checkpoint Test	ST-ET-2	2	CRP 1 CRP 2 CRP 4 CRP 9
6	*Using the Eye Sensor Program the VEX robot using the eye sensor to detect color	ST-6 ST-ET-1 ST-ET-3	2	CRP 2 CRP 8 CRP 11
7	Design Brief Utilize robotics and robotic technology to solve a chosen problem based upon the criteria provided in the module	ST-6 ST-ET-1 ST-ET-2 ST-ET-3 ST-ET-5 ST-ET-6	3	CRP 2 CRP 6 CRP 8 CRP 11
10	Argumentative Writing / Checkpoint Test Critical writing analyzing the effects of robots working in industry versus human workers and Checkpoint Test	ST-ET-2	3	CRP 1 CRP 4 CRP 5 CRP 9
	Career Planning Research careers in the STEM Career Cluster: Engineering and Technology Career Pathway	ST-5	1	CRP 10



Objectives

- Recognize the role of the athletic trainer in sports medicine.
- Describe the training and licensing for the athletic trainer.
- Demonstrate treatment procedures for RICE, compression bandaging, splinting, and spine boarding.
- Recognize prevention, warning signs, and treatment of heart problems in athletes.
- Describe steps to identify, treat, and prevent spine and brain injuries.
- Recognize the dangers of steroids and other substances claiming to boost performance in sports.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Sports Medicine Terminology Identify the causes and symptoms of various sports related injuries	HL-THR-1	1	CRP 2
2	★(Part 2) Basket Weave Taping and RICE Examine the anatomy of the ankle and practice wrapping an ankle injury with a pad and bandage	HL-THR-3	1	CRP 2
3	Heart Testing Practice measuring and determining target heart rate	HL-THR-3	1	CRP 2
4	★ (Part 2) Toe and Arch Injuries Practice the technique of taping an injured toe and arch	HL-THR-3	1	CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on the procedures of the RICE Method and Checkpoint Test	HL-THR-1	2	CRP 1 CRP 2 CRP 4
6	Knee Injuries and Rehabilitation Gain an understanding of the knee joint	HL-THR-2	1	CRP 2
7	★ (Part 2) Face Mask and Spine Boarding Practice removing a helmet facemask to perform CPR and use a spine board to immobilize an injured athlete for transportation	HL-4	1	CRP 1 CRP 2
8	Steroids Presentation Gain an understanding of the dangers of anabolic steroids and develop an outline to explain this information	HL-THR-1	2	CRP 1 CRP 2 CRP 4
9	Brain Injury Practice performing tests that diagnose a traumatic brain injury	HL-THR-4	2	CRP 1 CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing encouraging athletes to protect their heads to avoid a possible traumatic brain injury and Checkpoint Test	HL-THR-1	3	CRP 1 CRP 2 CRP 4 CRP 9
	Career Planning Research careers in the Health Science Career Cluster: Therapeutic Services Career Pathway	HL-1 HL-4	1	CRP 10

Objectives

- Identify and strength test different types of beams and panels used in structures.
- Appropriately use hand-held cutting tools and safely operate a testing device.
- Identify and classify the portion of a structure's frame under tension, torsion, shear, and compression.
- Demonstrate, predict, and evaluate the behavior of loaded structural systems.
- Identify, describe, and clarify the major stresses and causes of structural failure on spanning structures.
- Design and build two different trusses then evaluate for strength.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Building Beams Construct seven basic types of beams	ST-6	1	CRP 1 CRP 2
2	Composite Beam Building Construct four composite beams known as stress-skinned panels	ST-6	1	CRP 1 CRP 2
3	Beam Testing Determine the strength and mass of each beam, then test it	ST-6 ST-ET-3	1	CRP 2
4	*Designing Trusses Design a truss to achieve maximum strength	ST-ET-1 ST-ET-4	1	CRP 2 CRP 8
	*Truss Construction Build 2 identical trusses and test for quality and strength	ST-ET-1 ST-ET-4	1	CRP 2 CRP 8
5	Narrative Writing / Checkpoint Test Critical writing explaining and defending a choice of material and shape for a home remodeling project and Checkpoint Test	ST-ET-2 ST-ET-6	2	CRP 1 CRP 2 CRP 4 CRP 5
6	*Testing the Trusses Determine the efficiency of truss design and construction	ST-6 ST-ET-3	2	CRP 2
7	Design Brief Utilize previously learned information to design and build a bridge that solves a chosen problem based upon the criteria provided in the module	ST-6 ST-ET-2 ST-ET-6	3	CRP 1 CRP 2 CRP 6 CRP 8
8	(Bonus) Internet Research - Skyscrapers Examine the evolution of the modern-day skyscraper	ST-ET-2	2	CRP 2
9	(Bonus) Video - Bridge Construction Watch a video on the construction of a bridge connecting the US with Canada	ST-ET-2	2	CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing recommending a solution to a decrepit bridge that needs repair and Checkpoint Test	ST-ET-2 ST-ET-6	3	CRP 1 CRP 2 CRP 4 CRP 5
	Career Planning Research careers in the STEM Career Cluster: Engineering and Technology Career Pathway	ST-5	1	CRP 10



Veterinary Medicine Activity Guide



Objectives

- Recognize how diseases are transmitted between people and animals and how to prevent disease transmission.
- Define major anatomy and skeletal terms for small animals.
- Identify how to restrain small animals and perform emergency CPR.
- Recognize body planes and methods for preparing to take X-rays.
- Define veterinary surgical tools and demonstrate how to prepare a surgical pack.
- Identify common animal parasites.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Veterinary Office Terminology Identify terms common to the veterinary profession	HL-DIA-1	1	CRP 2
2	Preventing Disease Transmission Practice the proper removal of disposable gloves and examine internal and external parasites	HL-3 HL-DIA-5	1	CRP 1 CRP 2
3	★ (Part 2) Safety with Animals Learn how to muzzle a dog and use a phlebotomy simulator to practice taking blood from a dog's leg	HL-DIA-4 HL-DIA-5	1	CRP 1 CRP 2
4	★ (Part 2) Dog/Cat Skeletal Systems and CPR for Animals Learn about the skeletal systems of animals and practice performing CPR on a dog	HL-DIA-5	1	CRP 1 CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on how to properly handle animals in an effort to prevent disease transmission and Checkpoint Test	HL-4	2	CRP 2 CRP 4 CRP 8
6	★X-Ray Procedures Gain an understanding of canine body planes to perform simulated X-ray procedures on a dog	HL-DIA-5	2	CRP 2
7	Cost of Pet Ownership Calculate the cost of owning a dog	N/A	N/A	CRP 2
8	★ (Part 2) Prep for Surgery Examine common surgical instruments to prepare a surgical pack for a common veterinary procedure	HL-DIA-4	2	CRP 2
9	Parasites on Slides Examine glass slides through a microscope to determine the parasite present	HL-3 HL-DIA-5	2	CRP 2
10	Argumentative Writing / Checkpoint Test Critical writing encouraging people to properly care for and feed their pets and Checkpoint Test	HL-DIA-4	3	CRP 2 CRP 4 CRP 8
	Career Planning Research careers in the Health Science Career Cluster: Diagnostic Services Career Pathway	HL-1 HL-4	1	CRP 10

Objectives

- Describe the fundamental objectives of video production from historical to contemporary practices.
- Develop foundational skills and knowledge in the AV Technology & Film Career Pathway.
- Define common terms and concepts utilized in the field of video production.
- Examine the three stages of the video production process.
- Demonstrate a variety of shot techniques, while using The Rule of Thirds.
- Demonstrate examples of effective framing and lighting techniques.
- Demonstrate editing techniques including working in the timeline, transitions, overlays, and green screen effect.
- Demonstrate the ability to script, storyboard, shoot, and edit short digital video projects.
- Examine the impact of media on society from a social and economic viewpoint.
- Examine the legal roles and responsibilities in video production.
- Explore careers in the AV Technology & Film Career Pathway.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Video Production Terminology Define key terminology commonly used in video production	AR-AV-1	1	CRP 2
2	*Composition Utilizing the iPad, demonstrate the four main types of shots (WS, MS, CU, ECU) while using the Rule of Thirds	AR-AV-1 AR-AV-2 AR-AV-4	3	CRP 2 CRP-6
3	Camera Techniques & Lighting Utilizing the iPad, demonstrate four examples of camera techniques and effective lighting	AR-AV-2 AR-AV-4	3	CRP 2 CRP 4
4	*Basic Editing Techniques Utilizing the iPad and iMovie, demonstrate how to navigate in the timeline and how to add transitions	AR-AV-2 AR-AV-4	3	CRP 2
5	Narrative Writing/Checkpoint Test Critical writing on the importance of good composition in Video Production, and Checkpoint Test.	AR-AV-1	2	CRP 2 CRP 4
6	*(Optional) Advanced Editing Techniques Utilizing the iPad and iMovie, demonstrate The Ken Burns Effect and two different types of overlays using iMovie	AR-AV-2 AR-AV-4	3	CRP 2
7	Design Brief Utilize previously learned information to solve a complex problem in the AV Technology & Film Career Pathway based upon the evaluation guidelines provided.	AR-AV-2 AR-AV-4	4	CRP 2 CRP 4 CRP 6 CRP 7 CRP 11
10	Argumentative Writing/Checkpoint Test Critical writing on the overuse of special effects in video production, and Checkpoint Test.	AR-AV-1	2	CRP 2 CRP 4
	Career Planning Research careers in the AV Technology & Film Career Pathway.	AR-3 AR-AV-1	2	CRP-2 CRP 10

Objectives

- Identify common tools and terminology used in welding.
- Examine the three material joining processing technologies - mechanical, adhesive, and fusion.
- Describe welding hazards and the importance of personal protective equipment.
- Identify the different welding types - Arc vs. Gas, and welding processes.
- Demonstrate a closed welding circuit and various welding weaving patterns.
- Examine the characteristics and causes of welding defects.
- Demonstrate welding techniques while focusing on the following parameters – Travel Speed, Work Angle, Travel Angle, and Contact Tip to Work Distance.
- Describe the welding design process to solve problems.
- Identify the pros and cons of the environmental impact of welding processes.
- Explore careers in the Manufacturing Career Cluster and Production Pathway.

Day	Activity Name and Description	Cluster Standard	Level	Career Ready Practice(s)
1	Welding Terminology & Tool Identification Define key terminology used in welding and identify common tools used in the trade	MN-6	2	CRP 2
2	Welding PPE & Safety Examine common welding PPE worn in the field and experiment with the auto-dimming feature of the welding helmet	MN-PRO-2	2	CRP 2
3	*Weave Patterns & Welding Circuit Demonstrate a closed circuit with a low-voltage Stick Welding Simulator and practice welding weave	MN-6	3	CRP 2
4	*Welding Technique – Part I Develop basic welding technique for Butt Joints utilizing a MIG simulator	MN-PRO-1 MN-PRO-2 MN-PRO-3 MN-PRO-5	3	CRP 2
5	Narrative Writing / Checkpoint Test Critical writing on welding safety procedures and Checkpoint Test	MN-PRO-2	2	CRP 2 CRP 5
6	* Welding Technique – Part II Develop basic welding technique for T-Joints utilizing a MIG simulator	MN-PRO-1 MN-PRO-2 MN-PRO-3 MN-PRO-5	3	CRP 2
7	*Welding Technique – Part III Develop basic welding technique for Lap Joints utilizing a MIG simulator	MN-PRO-1 MN-PRO-2 MN-PRO-3 MN-PRO-5	3	CRP 2
8	Design Brief Utilize previously learned information to solve a complex problem in the Manufacturing Cluster and Production Pathway based on the evaluation guidelines provided	MN-6 MN-PRO-1 MN-PRO-2 MN-PRO-3 MN-PRO-5	4	CRP 2 CRP 8 CRP 9
10	Argumentative Writing / Checkpoint Test Critical writing on the environmental impacts of welding and Checkpoint Test	MN-1	2	CRP 1 CRP 4 CRP 5
	Career Planning Research careers in the Manufacturing Career Cluster/Production Career Pathway	MN-4	1	CRP 10