



EARLY CTE HEALTHCARE CAREER EXPLORATION

GRADES 6-8

KNOWLEDGE AND SKILLS



Healthcare Career Exploration standards introduce middle school students to Bioscience, Dental Assisting, Emergency Medical Services, Home Health Aide, Laboratory Assisting, Medical Assisting, Nursing Services, Sports Medicine and Rehabilitation Career and Technical Education (CTE) programs. Standards include age-appropriate technical, employability, and academic skills.

i.e. explains or clarifies the content and e.g. provides examples of the content that should be taught.

This content will be reviewed and updated as appropriate; the last update was **May 28, 2025**.

1.0 EXPLORE HEALTHCARE CAREERS

Investigate knowledge and skills needed for a career in health, understand the specialized vocabulary used in the healthcare field, and gain exposure into healthcare related agencies.

- 1.1 Explore the national health career cluster and related resources (e.g., careertech.org/career-clusters/)
- 1.2 Identify pathways in the Healthcare and Human Services Career Cluster: (e.g., Therapeutic Services, Diagnostic Services, Health Informatics, and Support Services)
- 1.3 Investigate healthcare occupations and the required knowledge and skills using a career planning tool (i.e., explorehealthcareers.org, Career One Stop, My Future AZ, etc.)
- 1.4 Create a sample career pathway plan that shows potential growth starting with an entry-level position (i.e., CNA, Dental Assisting, Lab Assistant, etc.)
- 1.5 Investigate healthcare job descriptions including required education and training requirements, salary ranges, and employment outlook
- 1.6 Explore personal traits and attributes necessary for a career in healthcare (i.e., healthcare worker basic skills inventory)
- 1.7 Summarize the roles of national government healthcare agencies [i.e., Centers for Disease Control and Prevention (CDC), Centers for Medicare & Medicaid Services (CMS), National Institutes of Health (NIH), Occupational Safety and Health Administration (OSHA), U.S. Department of Veterans Affairs (VA), U.S. Food and Drug Administration (FDA), U.S. Public Health Service (USPHS), etc.]
- 1.8 Summarize the roles of national non-government healthcare agencies [i.e., American Cancer Society (ACS), American Heart Association (AHA), American Red Cross (ARC), March of Dimes, World Health Organization (WHO), etc.]
- 1.9 Recognize medical terms, abbreviations, and symbols used in the healthcare industry
- 1.10 Investigate HOSA: Future Health Professionals, community healthcare events, clubs, and educational opportunities
- 1.11 Explore local programs and high schools that offer CTE (i.e., <https://www.azed.gov/cte>) or early college credit in healthcare careers (i.e., dual enrollment, certifications, pathway sequences, etc.)

2.0 HEALTHCARE DELIVERY SYSTEMS AND PROVIDER SKILLS

Investigate types of local healthcare delivery systems, facilities, healthcare agencies, and the desired healthcare professional and academic skills.

- 2.1 Discuss local private healthcare facilities and delivery systems (i.e., hospitals, extended care facilities, long-term care services, etc.)
- 2.2 Identify local government healthcare agencies (i.e., public health services, critical access hospitals, etc.)
- 2.3 Describe the purpose of local, voluntary healthcare agencies (i.e., American Heart Association, American Cancer Society, National Lung Institute, nonprofit hospitals, visiting nurse associations, local service organizations, etc.)
- 2.4 Investigate the professional standards of healthcare workers [i.e., appearance, being on time, career ready practices (<https://careertech.org/wp-content/uploads/2024/10/Career-Ready-Practices.pdf>)]
- 2.5 Practice respectful and professional communication in healthcare scenarios including conflict resolution (i.e., treating others with empathy, kindness, politeness, active listening, valuing opinions, etc.)
- 2.6 Identify ways to communicate appropriately with patients who may have sensory deficits (i.e., hearing, visual, and cognitively impaired, aphasic, comatose, etc.)
- 2.7 Demonstrate grade-appropriate Educational Technology skills (i.e., word processing, email, spreadsheets, etc.) to complete tasks related to healthcare careers
- 2.8 Apply grade-appropriate math skills (i.e., measuring vital signs such as temperature, using metric and standard units for weight and height, converting fractions, solving problems with scientific notation, etc.) to real-world situations in healthcare settings

3.0 HUMAN BODY SYSTEMS

Investigate the human body's organ systems, structure, and function of the musculoskeletal, respiratory, circulatory, digestive, nervous, sensory, urinary, integumentary, and endocrine systems.

- 3.1 Describe how the human organ systems work together to perform vital functions (e.g., respiratory, circulatory, digestive, nervous, and immune systems)
- 3.2 Identify and describe the structure and function of the musculoskeletal system (e.g., muscles, joints, and bones)
- 3.3 Identify and describe the structure and function of the respiratory systems (e.g., lungs and airways)
- 3.4 Identify and describe the structure and function of the circulatory system (e.g., heart and blood vessels)
- 3.5 Identify and describe the structure and function of the digestive system (e.g., mouth, esophagus, stomach, and intestines)
- 3.6 Identify and describe the structure and function of the nervous system (e.g., brain and nerves)
- 3.7 Identify and describe the structure and function of the sensory system (e.g., sensory organs, neurons, and brain regions that allow sight, hearing, smell, taste, touch, and balance)
- 3.8 Identify and describe the structure and function of the urinary system (e.g., kidneys, ureters, bladder, and urethra)
- 3.9 Identify and describe the structure and function of the integumentary system (e.g., skin, hair, and nails)
- 3.10 Identify and describe the structure and function of the endocrine system (e.g., network of glands that produce and release hormones that regulate bodily functions)
- 3.11 Recognize and use basic medical terminology correctly when describing body systems and their functions
- 3.12 Identify the major organs of the human body systems and demonstrate their correct anatomical placement (i.e., using models, diagrams, drawings, etc.)

4.0 BIOSCIENCE AND MEDICAL LAB PRACTICES

Understand microbiology, model organisms, ethics, industry regulations, science, engineering, and lab practices.

- 4.1 Explore the role of bioscience in healthcare
- 4.2 Investigate recent advancements in bioscience (i.e., molecular biology, biochemistry, biotechnology, cell biology, laboratory medical biology, genetics and gene therapy, bioinformatics, etc.)
- 4.3 Investigate the purpose of medical labs and identify common equipment (e.g., refrigerators, pipettes, spectrophotometers, autoclave, microscopes, centrifuges, rotators, incubators, freezers, coolers, timers, and thermometers)
- 4.4 Identify Biosafety Levels (BSLs)
- 4.5 Investigate implications of bioethical issues (e.g., GMOs and HeLa privacy)
- 4.6 Explore the structure of DNA to identify the difference between plasmid and genomic DNA
- 4.7 Discuss the identification of bacterium types (i.e., gram staining, catalase activity, DNA sequencing)
- 4.8 Investigate the role of model organisms and cell lines in research (e.g., *C. elegans*, *Arabidopsis*, fruit flies, yeast, *E. coli*, mice, and HeLa and CHO cells)
- 4.9 Perform conversions using the International System of Units (SI)
- 4.10 Explore the purpose of reference laboratories [i.e., LIS (Laboratory Information Systems)]
- 4.11 Demonstrate grade appropriate life science skills to identify cell structure and functions
- 4.12 Identify and use observational methods and skills to gather and organize data (i.e., notebook records, checklists, frequency counts, etc.)
- 4.13 Establish a testable question related to bioscience to develop a hypothesis based on observations
- 4.14 Design an experiment that is appropriate for testing a specific hypothesis
- 4.15 Communicate results of scientific investigations using relevant technology and terminology

5.0 PATIENT CARE METHODS AND RIGHTS

Investigate the Patient Bill of Rights and the role of HIPAA. Identify symptoms and treatments for common emergencies and practice how to communicate patient progress.

- 5.1 Summarize the purpose of a Patient Bill of Rights (e.g., right for privacy and confidentiality, to be free from abuse, mistreatment, and neglect, right to be free from restraints, right to make personal choices, right to obtain assistance in resolving grievances and disputes, and security of personal property)
- 5.2 Recognize the importance of Health Insurance Portability and Accountability Act (HIPAA)
- 5.3 Describe the symptoms and treatments of hyperthermia and hypothermia
- 5.4 Investigate methods to treat open wounds (i.e., direct pressure, bandages, tourniquets, etc.)
- 5.5 Identify symptoms and treatments of respiratory emergencies (e.g., asthma and allergy)
- 5.6 Discuss symptoms and treatments of muscular and skeletal injuries [i.e., application of heat/cold; splints/slings; ACE bandages; Protection, Rest, Ice, Compression, and Elevation (PRICE)]
- 5.7 Explore types of ambulatory assistive devices (i.e., crutches, walkers, wheelchairs, etc.)

- 5.8 Identify symptoms and appropriate treatments for diabetic emergencies involving hyperglycemia and hypoglycemia
- 5.9 Identify symptoms (e.g., chest pain, shortness of breath, nausea) for cardiac emergencies (e.g., myocardial infarctions, cardiac arrest)
- 5.10 Investigate age-appropriate certifications (i.e., American Red Cross First Aid/CPR/AED; Babysitters Certification; Responding to Emergencies Certification; Hands Only CPR)
- 5.11 Discuss appropriate first-aid interventions for cardiac emergencies [e.g., Automated External Defibrillators (AED), CPR, aspirin]
- 5.12 Identify and calculate appropriate pulse and respiratory rates by age group
- 5.13 Discuss and observe how to perform hands only CPR on adults, children, and infants
- 5.14 Explain the importance of recording changes in the patient's condition and reassessing interventions to ensure proper care and treatment plan adjustment
- 5.15 Practice delivering patient reports verbally to other healthcare workers in a simulated healthcare setting

6.0 SAFETY AND WELLBEING OF HEALTHCARE PROFESSIONALS

Investigate wellness practices, common diseases, and safety procedures necessary for the healthcare industry.

- 6.1 Examine the importance of wellness practices in promoting the effectiveness of healthcare professionals
- 6.2 Distinguish between positive and negative stress and identify coping strategies (i.e., eating healthily, exercising, reducing stress, connecting with others, practicing good hygiene, adequate sleep, etc.)
- 6.3 Investigate the different types of healthcare professionals and their roles during emergency situations (i.e., paramedic, EMT, emergency room staff, surgeon, etc.)
- 6.4 Examine the impact of infection control organizations on the healthcare industry (i.e., OSHA, CDC, etc.)
- 6.5 Examine the importance of state, local, and industry regulations (i.e., EPA, FDA, OSHA, NIH, AZDEQ, etc.)
- 6.6 Investigate the effectiveness of PPE and other safety precautions in healthcare
- 6.7 Practice appropriate PPE practices of handwashing and gloving
- 6.8 Describe the importance of body mechanics as related to healthcare workers (e.g., lifting and moving techniques)
- 6.9 Investigate the structure and function of the immune system (i.e., specialized cells, tissues, organs, etc.)
- 6.10 Define communicable diseases and explain how they are transmitted (e.g., viral and bacterial)
- 6.11 Investigate the chain of infections (e.g., microorganisms, source, transmission, host)
- 6.12 Investigate hazardous labeling requirements according to OSHA (e.g., safety signs, symbols, and special instructions)
- 6.13 Explain how treatment areas are sanitized to ensure cleanliness and prevent the spread of infections