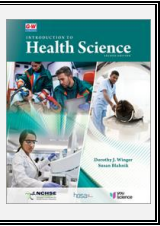
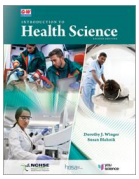
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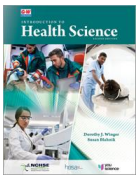
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Correlation Introduction to Health Science, 2nd Edition ©2024
to Mississippi Department of Education
Course: Health Science Core
(Grades 9-12)



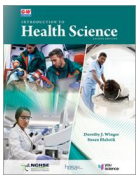
Standards	Correlating Text Pages
Unit 1: Orientation and Introduction to Student Organizations	
Competencies and Suggested Objectives	
1. Describe the purpose of the course and related student organizations. DOK1	
a. Identify student and course expectations.	**The Goodheart Wilcox Graphic Communications: Digital Design and Print Essentials 7e, textbook does not specifically address this standard, however, please see the attached reference link.** Health Science Core – Year 1 Curriculum – **Page 10** Health Care and Clinical Services | Research and Curriculum Unit CTE – Mississippi Dept of Ed. Career and Technical Education – Mississippi Department of Education Academic Requirements – Mississippi Dept of Ed. Diploma with Endorsements Options – Secondary Education Discipline- Mississippi Dept of Ed. Educator Misconduct – Mississippi Department of Education
b. Explore the health science student organization, HOSA • Describe parliamentary procedures. • Discuss officer roles and responsibilities.	**Instruction:** HOSA is a global student-led organization recognized by the U.S. Department of Education and the Department of Health and Human Services and several federal and state agencies. HOSA's mission is to empower HOSA-Future Health Professionals to become leaders in the global health community, through education, collaboration, and experience. HOSA actively promotes career opportunities in the health industry and enhances the delivery of quality health care to all people. HOSA's goal is to encourage all health science instructors and students to affiliate and be actively involved in the HSE-HOSA Partnership. What Is HOSA? – HOSA Chapter Advisor Resource Guide – HOSA



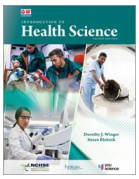
Standards	Correlating Text Pages
	Parliamentary Procedure | Quick Reference Meeting Procedure Information
c. Discuss leadership and personal development in accordance with HOSA guidelines.	**Instruction:** 258 8.2-5 HOSA Connections 258 Leadership 258 Figure 8.28 mentor 322 Leadership Styles 322 Personal Leadership style 322 Figure 10.12 Six John Holland types of leaders 323 Leadership Skills 323 Figure 10.13 Leadership Skills 324 Healthcare Professions: Leadership Styles **Application:** 324 Chapter 10.1 Review
Unit 2: Safety in Health Care	
Competencies and Suggested Objectives	
1. Demonstrate personal and environmental safety practices. DOK2	
a. Apply principles of body mechanics.	**Instruction:** 33 Personal and Patient Safety 33 Learning outcomes 33 Professional Vocabulary 34 Occupational Safety and Health Administration (OSHA) 34 Centers for Disease Control and Prevention (CDC) 44 Using Good Body Mechanics 44 Body Mechanics 44 Posture or body position 44 Alignment 45 Figure 2-10 Lifting heavy objects **Application:** 51 Chapter 2.1 Review 81 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Based on regulations set by the Occupational Safety and Health Association (OSHA) and the Center for Disease Control and Prevention (CDC), apply safety techniques (personal and patient) in the health care setting to prevent accidents and injuries.	**Instruction:** 33 Personal and Patient Safety 33 Learning outcomes 33 Professional Vocabulary 34 Occupational Safety and Health Administration (OSHA) 34 Centers for Disease Control and Prevention (CDC) 35 Figure 2.1 Healthcare settings



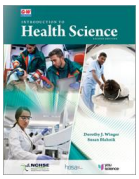
Standards	Correlating Text Pages
	35 2.1-1 Environmental Safety 35 Equipment Safety 35 Figure 2.2 Full-body lifts 35 Safety precautions 36 Figure 2.3 Operating Instructions on equipment 36 Healthcare Professions: Performing a Safety Check 37 Ergonomics 37 RMI – repetitive motion injuries 38 Figure 2.4 Body alignment 38 Guidelines for good alignment 39 General Guidelines to Prevent Falls 39 Figure 2.5 Yellow caution signs 39 2.1-2 Common Safety Hazards 40 Working with Hazardous Chemicals 40 Safety Data Sheet (SDA) – Material safety data sheet (MSDS) 40 Figure 2.6 Safety Data Sheets 40 Environmental Protection Agency (EPA) 40 Pesticides 40 Healthcare Professions: Working with Cleaning Products 41 Handling Exposures and Accidents 41 Figure 2.7 Spills in lab 42 Medical Imaging Safety 42 Figure 2.8 Radiologic technicians – protective gear 42 Reducing Workplace Violence 43 Healthcare Professions: Managing Stress 43 Patient Violence 44 Workplace Harassment 44 Figure 2.9 Stress in healthcare job 44 2.1-3 Physical Safety 44 Healthcare Professions: Back Pain 44 Using Good Body Mechanics 44 Body Mechanics 44 Posture or body position 44 Alignment 45 Figure 2-10 Lifting heavy objects 45 Transfer and Ambulation Safety 45 Precautions to prevent falls 46 Figure 2.11 Two people to assist 46 Figure 2.12 Before getting them out of bed 47 Figure 2.13 Body position 47 Figure 2.14 Stand slightly behind 47 Figure 2.15 Patient begins to fall 48 Wheelchair and Transport Safety 48 Guidelines for transport 48 Figure 2.16 Move backward 48 Food Safety 48 Healthcare Professions: Improper Food Handling 49 FAT TOM - limiting pathogens in food



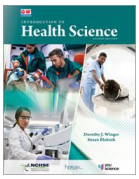
Standards	Correlating Text Pages
	49 Figure 2.17 Mnemonic FAT TOM 50 Figure 2.18 Three-compartment sinks 51 Figure 2.19 Infectious Diseases **Application:** 51 Chapter 2.1 Review 81 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Identify common safety hazards. DOK2	
a. Comply with safety signs, symbols, and labels in accordance with OSHA and the CDC.	**Instruction:** 248 Biosafety Guidelines 248 Biohazard 248 Figure 8.13 Biohazard symbol 622 16.4 Law Regulating Health and Safety 623 Learning Outcomes 623 Professional Vocabulary 624 16.4-1 Reporting Health and Safety Incidents 624 CDC and OSHA 624 Incident Report 624 Figure 16.12 OSHA recommendations 624 Root cause analysis 624 16.4-2 Protecting Against Biohazards 624 Environmental Protection Agency (EPA) 625 OSHA's Hazard Communication Standard (HCS) 625 OSHA's Bloodborne Pathogens Standard 625 Federal Needlestick Safety and Prevention Act of 2000 625 OSHA's Medical Waste Tracking Act 625 EPA Biohazard Prevention ACT 625 Figure 16.13 Biohazard signs 625 16.4-3 Protecting the Safety And Validity of Laboratory Tests 626 Clinical Laboratory Improvement Act (CLIA) 626 Figure 16.14 CLIA safety guidelines **Application:** 626 Lesson 16.4 Review
b. Recognize Safety Data Sheets (SDS) and discuss safety implications of handling hazardous materials (checking labels and checking solutions).	**Instruction:** 39 Figure 2.5 Yellow caution signs 39 2.1-2 Common Safety Hazards 40 Working with Hazardous Chemicals 40 Safety Data Sheet (SDA) – Material safety data sheet (MSDS) 40 Figure 2.6 Safety Data Sheets



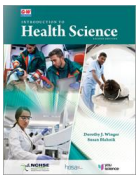
Standards	Correlating Text Pages
	40 Environmental Protection Agency (EPA) 40 Pesticides 40 Healthcare Professions: Working with Cleaning Products 41 Handling Exposures and Accidents 41 Figure 2.7 Spills in lab 42 Medical Imaging Safety 42 Figure 2.8 Radiologic technicians – protective gear **Application:** 51 Chapter 2.1 Review 81 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Utilize emergency procedures and protocols. DOK3	
a. Practice fire safety and discuss fire evacuation plans in a health care setting. Include the following: • PASS – Pull, Aim, Squeeze, Sweep • RACE – Rescue, Activate, Contain, Extinguish/Evacuate	**Instruction:** 74 Lesson 2.3 Responding to Emergency Situations 74 Learning outcomes 74 Professional Vocabulary 75 2.3-1 Basic Emergency Preparation and Response 75 Figure 2.37 Backup generator 75 Emergency basic rules to follow 76 2.3-2 Fire Safety in Healthcare Setting 76 Figure 2.38 Fire Triangle 76 Handling a Fire Emergency 76 RACE – Rescue, Alarm, Contain, and Extinguish/evacuate 77 Types of Fire Extinguishers 77 Figure 2.39 Fire classifications 78 Operating a Fire Extinguisher 78 PASS – Pull, Aim, Squeeze, Sweep 78 Figure 2.40 PASS **Application:** 81 Lesson 2.3 Review 81 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Apply principles of basic emergency response in natural disasters and other emergencies to include: • Safe location • Contact emergency personnel • Follow facility protocols	**Instruction:** 79 2.3-3 Oxygen Safety 79 Figure 2.41 Oxygen – Tire Triangle 79 2.3-4 Electrical Safety 79 Electrical shock 79 Figure 2.42 Electronic equipment



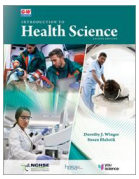
Standards	Correlating Text Pages
	80 OSHA practices for electrical safety 80 Grounding – GFCI 80 2.3-5 Bioterrorism 80 Figure 2.43 chemical warfare 80 Select Agents 80 Botulinum, Yersinia Petis, Black Plague 80 Nanotechnology 248 Biosafety Guidelines 248 Biohazard 248 Figure 8.13 Biohazard symbol **Application:** 81 Lesson 2.3 Review 81 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
Unit 3: Career Preparation	
Competencies and Suggested Objectives	
1. Explore various careers in the health care field. DOK	
a. Choose at least three specific careers from the list created in Unit 4.1.	**Instruction:** 99 Career Cluster 99 Figure 3.8 occupations in US Workforce 100 Figure 3.9 Career Cluster Health Science 100 Five Distinct Career Pathways for Health science 100 Health Informatics Services—occupations focused on documenting patient care, as well as managing healthcare data and information. 100 **Therapeutic** (thair-uh-PYU-tihk) Services—occupations that change the health status of a patient over time. These careers provide direct care for people. 100 **Diagnostic Services**—occupations that create a picture of a patient's health status at a single point in time. These careers provide diagnostic imaging and testing. 100 **Support Services**—occupations that create a therapeutic environment for providing patient care. These careers support healthcare and wellness. 100 **Biotechnology Research and Development**—occupations involved in bioscience research and the development of treatments and devices that improve human health.



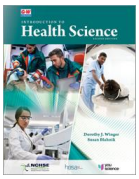
Standards	Correlating Text Pages
	101 Career Education and Training 101 Postsecondary Education 102 Figure 3-10 Each pathway contains many different career specialties 103 Accreditation 103 Healthcare Professions: The Importance of Accreditation 104 Figure 3.12 Postsecondary degrees 104 Figure 3.13 Medical Doctors, Dentists, Pharmacists 105 Credentials 105 Certification 105 Figure 3.14 Different types of credentials 105 Figure 3.15 Education and Training Requirements based on job title 106 Career Ladder 106 Figure 3.16 Entry-level jobs at bottom 106 Healthcare Professions: Using the Career Ladder **Application:** 107 Lesson 3.2 Review
b. Research the educational requirements, appropriate schools, licensure/certification/registration, work environment, job responsibilities, and salary information of each one.	**Instruction:** 101 Career Education and Training 101 Postsecondary Education 102 Figure 3-10 Each pathway contains many different career specialties 103 Accreditation 103 Healthcare Professions: The Importance of Accreditation 104 Figure 3.12 Postsecondary degrees 104 Figure 3.13 Medical Doctors, Dentists, Pharmacists 105 Credentials 105 Certification 105 Figure 3.14 Different types of credentials 105 Figure 3.15 Education and Training Requirements based on job title 106 Career Ladder 106 Figure 3.16 Entry-level jobs at bottom 106 Healthcare Professions: Using the Career Ladder **Application:** 107 Lesson 3.2 Review
c. Based on research, develop a presentation explaining the three careers and why they were chosen.	**Instruction:** 109 3.3-2 Selecting a Career 110 Identifying Your Interests and Strengths 110 Healthcare Professions: Career Choice



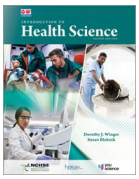
Standards	Correlating Text Pages
	111 Career Personality 112 John Holland's Personality Type 112 Figure 3.19 Career Personality Types 112 Primary work Tasks 112 People, Data, Things, or Ideas 113 Figure 3.20 Chart based on interests 114 3.3-3 Career Portfolios 114 Items your portfolio should include 114 Personal Statement, Resume **Application:** 115 Lesson 3.3 Review
2. Utilize the approved method of clinical hour documentation (e.g., AET or other state approved method of documentation). DOK2	**The Goodheart Wilcox Introduction to Health Science, 2nd Ed, 2024 textbook does not specifically address this standard, however, please see the attached reference link.** AET for CTE link **Teacher Help** *The AET Today* *Through success in the Ag (AFNR) cluster, AET for CTE was created to help programs in other career fields document student efforts. Students can document their time and skills in a flexible framework overseen by coordinators and supervisors. Dynamic reporting enables precise tracking of progress and simple submissions of required documentation to stakeholders.*
3. Explore various careers in the health care field. DOK	
a. Explore the various career options in the health care field. DOK1 • Research and list various career options. • Emergency services • Respiratory care • Human growth and development • Sports medicine • Rehabilitative services • Medical services • Nursing services • Nutrition and dietetics • Mental health • Pharmacology • Laboratory services • Medical imaging • Health information management	**Instruction:** 99 Career Cluster 99 Figure 3.8 occupations in US Workforce 100 Figure 3.9 Career Cluster Health Science 100 Five Distinct Career Pathways for Health science 100 Health Informatics Services—occupations focused on documenting patient care, as well as managing healthcare data and information. 100 **Therapeutic** (thair-uh-PYU-tihk) Services—occupations that change the health status of a patient over time. These careers provide direct care for people. 100 **Diagnostic Services**—occupations that create a picture of a patient's health status at a single point in time. These careers provide diagnostic imaging and testing.



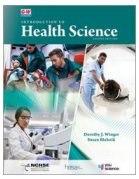
Standards	Correlating Text Pages
	100 **Support Services**—occupations that create a therapeutic environment for providing patient care. These careers support healthcare and wellness. 100 **Biotechnology Research and Development**—occupations involved in bioscience research and the development of treatments and devices that improve human health. 101 Career Education and Training 101 Postsecondary Education 102 Figure 3-10 Each pathway contains many different career specialties 103 Accreditation 103 Healthcare Professions: The Importance of Accreditation 104 Figure 3.12 Postsecondary degrees 104 Figure 3.13 Medical Doctors, Dentists, Pharmacists 105 Credentials 105 Certification 105 Figure 3.14 Different types of credentials 105 Figure 3.15 Education and Training Requirements based on job title 106 Career Ladder 106 Figure 3.16 Entry-level jobs at bottom 106 Healthcare Professions: Using the Career Ladder **Application:** 107 Lesson 3.2 Review
4. Relate the importance of lifelong learning to career success. DOK2	
a. Consider emergent technology (e.g., artificial intelligence, automation, telehealth, robotics, etc.).	**Instruction:** 13 Lesson 1.2 Future Trends in Healthcare 14 Learning Objectives 14 Professional Vocabulary 15 Genomic Medicine 15 Genome 15 Figure 1.9 DNA 15 Mammogram 15 Chronic illness 16 Figure 1.10 Individual genetic info. 16 Gene Therapy 16 CRISPR – modify DNA 16 Figure 1-11 CRISPR 16 1.2-2 Regenerative Medicine 16 Stem Cells 17 Embryonic stem cell



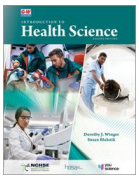
Standards	Correlating Text Pages
	17 In Vitro or test tube 17 Adult Stem cell 17 Figure 1.12 Stem cell therapies 17 Food and Drug Administration (FDA) 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 17 Virtual Reality 17 Figure 1.13 Virtual/mixed reality anatomy 17 Data Mining and Artificial Intelligence 18 Microdevices 18 Figure 1.14 Microdevices 19 Machine Learning – Artificial Intelligence (AI) 19 Voice Technologies – voice biomarkers 19 Digital Devices – APPS 19 Biomechanical Technologies 20 3D Printing 20 Prosthetics 20 Figure 1.15 20 Robots, Telesurgery 20 Figure 1.16 Robot disinfects a room 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Develop an oral and/or written report explaining the importance of lifelong learning in maintaining career relevance and advancement.	**Instruction:** 356 Continuing Personal and Professional Development 357 Figure 10.45 Workshops 357 Professional Organization 358 Continuing Education Unit (CEU) 358 Advocate 358 Figure 10.46 Leadership in National Org 358 Maintaining Your Career Portfolio 359 10.3-4 Changing Jobs 359 Leaving Your Job 359 Healthcare Professions: Making a Job Change 360 Letter of Resignation 360 Figure 10.47 Letter of Resignation



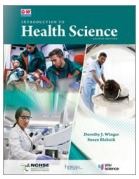
Standards	Correlating Text Pages
	Application: 360 Lesson 10.3 Review 361 Chapter 10 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
Unit 4: Health Care Delivery Systems	
Competencies and Suggested Objectives	
1. Research and discuss health care delivery systems and health organizations. DOK1	
a. Differentiate between health care delivery systems, including nonprofit and for-profit facilities. • Hospitals • Ambulatory/outpatient clinics • Long-term care • Home health • Medical and dental offices • Behavioral and mental health services • Public health	**Instruction:** 535 Lesson 14.1 Healthcare Delivery Systems 536 Learning Outcomes 536 Professional Vocabulary 536 Two Major System in US healthcare – 537 14.1-1 Systems Theory 537 Figure 14.1 Healthcare system 537 Input, Throughput, Output, Feedback loop, Environment 538 14.1-2 Healthcare Delivery Systems and Related Agencies 538 Figure 14.21 Healthcare facilities 539 Government and Nonprofit Agencies 539 World Health Organization (WHO) 539 Department of Health and Human Services (HHS) 539 12 Divisions of programs focused on improving health in US 540 Department of Veterans Affairs (VA) 540 Commissioned Corp of the US Public Health Service (USPHS) 540 Nonprofit Organizations 539 March of Dimes, American Red Cross (ARC), American Heart Association (AHA), American Cancer Society (ACS) 540 Figure 14.3 American Red Cross 540 Healthcare Provider Settings 540 Acute Care – Hospitals 540 Emergency Medical Services (EMS) 540 Figure 14.4 Ambulances 540 Ambulatory Care 540 Medical and Dental practices 541 Surgery Centers – outpatient surgeries 541 Behavioral and Mental Health Services 541 Home Healthcare 541 Continuum of Care 541 Long-term care Facilities 541 Assisted-living facility 541 Skilled Nursing Facility 541 Nursing Home 541 Figure 14.5 Long-term care facilities



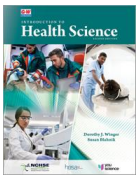
Standards	Correlating Text Pages
	541 Satellite facilities 542 Research, Testing, and Technology Facilities 542 Pharmaceutical companies 542 Medial Software and computer Technology firms **Application:** 546 Lesson 14.1 Review 572 Chapter 14 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify health organizations and their respective roles. • Government: ○ Centers for Disease Control and Prevention (CDC), Occupational Safety and Health Administration (OSHA), U.S. Food and Drug Administration (FDA), National Institute of Health (NIH), Centers for Medicare and Medicaid Services (CMS), U.S. Public Health Service (USPHS), U.S Department of Veteran's Affairs (VA)	**Instruction:** 539 Government and Nonprofit Agencies 539 World Health Organization (WHO) 539 Department of Health and Human Services (HHS) 539 12 Divisions of programs focused on improving heath of people in the US. -Administration for Children and Families (ACF) -Administration of Community Living (ACL) -Administration for Strategic Preparedness and Response (ASPR) -Agency for Healthcare Research and Quality (AHRQ) -Agency for Toxic Substances and Disease Registry (ATSDR) -Centers for Disease Control and Prevention (CDC) -Centers for Medicare & Medicaid Services (CMS) -US Food and Drug Administration (FDA) -Health Resources and Services Administration (HRSA) -Indian Health Service (HIS) -National Institutes of Health (NIH) -Substance Abuse & Mental Health Services Administration (SAMHSA) 540 US Department of Veterans Affairs (VA) 540 Dept of Labor's Occupational Safety and Health Administration (OSHA) 540 Commissioned Corp of the US Public Health Service (USPHS) **Application:** 546 Lesson 14.1 Review 572 Chapter 14 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



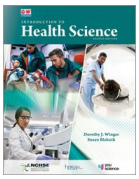
Standards	Correlating Text Pages
• Nonprofit organizations: ○ March of Dimes, American Heart Association, American Diabetes Association, American Red Cross, Alzheimer's Association, American Lung Association	**Instruction:** 540 Nonprofit Organizations 539 March of Dimes, American Red Cross (ARC), American Heart Association (AHA), American Cancer Society (ACS) 540 Figure 14.3 American Red Cross **Application:** 546 Lesson 14.1 Review 572 Chapter 14 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• Global: ○ World Health Organization (WHO)	**Instruction:** 539 Government and Nonprofit Agencies 539 World Health Organization (WHO) **Application:** 546 Lesson 14.1 Review 572 Chapter 14 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Relate the importance of lifelong learning to career success. DOK3	
a. Considering 21st-century emergent technology (e.g., artificial intelligence, automation, telehealth, robotics, etc.).	**Instruction:** 13 Lesson 1.2 Future Trends in Healthcare 14 Learning Objectives 14 Professional Vocabulary 15 Genomic Medicine 15 Genome 15 Figure 1.9 DNA 15 Mammogram 15 Chronic illness 16 Figure 1.10 Individual genetic info. 16 Gene Therapy 16 CRISPR – modify DNA 16 Figure 1-11 CRISPR 16 1.2-2 Regenerative Medicine 16 Stem Cells 17 Embryonic stem cell 17 In Vitro or test tube 17 Adult Stem cell 17 Figure 1.12 Stem cell therapies 17 Food and Drug Administration (FDA) 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare



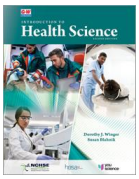
Standards	Correlating Text Pages
	17 Virtual Reality 17 Figure 1.13 Virtual/mixed reality anatomy 17 Data Mining and Artificial Intelligence 18 Microdevices 18 Figure 1.14 Microdevices 19 Machine Learning – Artificial Intelligence (AI) 19 Voice Technologies – voice biomarkers 19 Digital Devices – APPS 19 Biomechanical Technologies 20 3D Printing 20 Prosthetics 20 Figure 1.15 20 Robots, Telesurgery 20 Figure 1.16 Robot disinfects a room 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Develop an oral and/or written report explaining the importance of lifelong learning in maintaining career relevance and advancement.	**Instruction:** 356 Continuing Personal and Professional Development 357 Figure 10.45 Workshops 357 Professional Organization 358 Continuing Education Unit (CEU) 358 Advocate 358 Figure 10.46 Leadership in National Org 358 Maintaining Your Career Portfolio 359 10.3-4 Changing Jobs 359 Leaving Your Job 359 Healthcare Professions: Making a Job Change 360 Letter of Resignation 360 Figure 10.47 Letter of Resignation **Application:** 360 Lesson 10.3 Review 361 Chapter 10 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



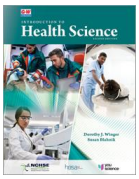
Standards	Correlating Text Pages
Unit 5: Infection Awareness and Prevention	
Competencies and Suggested Objectives	
1. Explain the principles of infection control. DOK1	
a. Research and explain: • Chain of infection • Mode of transmission: direct, indirect, vectors, common vehicle (air, food, water), health care associated infections (nosocomial), opportunistic. • Types of infections: endogenous, exogenous • Microorganisms: nonpathogenic, pathogenic, aerobic, anaerobic	**Instruction:** 52 Lesson 2.2 Protecting Against Infectious Diseases and Epidemics 52 Learning Objectives 52 Professional Vocabulary 52 Infectious 52 Outbreak 52 Epidemic 52 Pandemic 53 2.2-1 Infectious Agents 53 Types of Pathogens 53 Six Major Types Bacteria, Viruses, Fungi, Protozoa, Helminths, and Rickettsiae 54 Figure 2.20 Types of Pathogens 54 Bacteria 54 Virus – Latent Viruses 54 Immunizations or Vaccines 54 Fungi – Yeast 55 Parasite 55 Protozoa, Helminths, Ectoparasites, Vector, Rickettsiae 55 Drug-Resistant Bacteria 55 Healthcare Professions: Drug-Resistant Bacteria in Pediatrics 56 Healthcare-associated infections (HAIs) 56 Nosocomial Infections 56 Staphylococcus Aureus (MRSA) 56 Vancomycin-resistant Enterococcus (VRE) 56 tuberculosis (TB) 56 Staph 56 Clostridium Difficile 56 Norovirus – Cruise ship virus 56 2.2-2 The Chain of Infection 56 Infectious Agent 57 Figure 2.21 Elements must be present for infection 57 Reservoir 57 Portal of exit 58 Mode of Transmission 58 Direct Contact, Oral transmission, Salmonella, Cryptosporidium, Indirect contact, fomite, Zoonotic 58 Portal of Entry 58 Susceptible host 58 Opportunistic infections 58 Figure 2-22 Severe Combined Immune Deficiency (SCID) 58 Vaccination 58 2.2-3 Standard Precautions



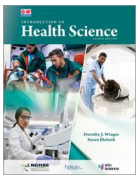
Standards	Correlating Text Pages
	59 Figure 2.23 Standard Precautions Recommended by the CDC 59 Body Fluids 59 Mucous Membranes 59 Non-intact 59 Standard Precautions 59 Figure 2.24 Personal protective equipment (PPE) 60 Hand Hygiene 60 Figure 2.25 Hand Hygiene 60 Personal Protective Equipment (PPE) 61 PPE Guidelines for PPE 61 Gloves, Mask, Face shield, Goggles, Gown 61 Figure 2.26 Instructional poster proper hand washing 62 Figure 2.27 Using Alcohol-based hand gel 63-64 Figure 2.28 PPE taking on and off 65 Respiratory Hygiene or cough etiquette 65 Basic elements of respiratory hygiene 65 Healthcare Professions: Standard Precautions in the Dental Office 66 Preventing Sharps Injuries 66 Sharps 66 Figure 2.29 Hinged needles 66 Figure 2.30 Sharp containers 67 Figure 2.31 Red Biohazard symbol 67 2.2-4 Transmission-Based Precautions 67 Contact precautions, Droplet precautions, Airborne precautions 67 Figure 2.32 Different types of masks 68 2.2-5 Bloodborne Pathogen Exposure Control 68 (OSHA) Occupational Exposure 68 HIV/AIDS Testing Confidentiality and Disclosure 68 Community Resources 68 2.2-6 Aseptic Practices 69 Clean Technique 69 Sanitization, Disinfection 69 Asepsis or antisepsis – Sterile Technique 69 Sterilization, Sterile Field 69 Cleaning and Disinfecting the Healthcare Environment 69 CDC Ranks - Noncritical, Semicritical or Critical 69 Figure 2.33 Spaulding's Classifications 69 Procedure: Terminal Cleaning 70 Figure 2.34 Hospital room 70 Cleaning and Sterilizing Equipment 70 Contamination 71 Ultrasonic Cleaners 71 Figure 2.35 Ultrasonic cleaning 71 Autoclaves 71 Healthcare Professions: Sterilizing



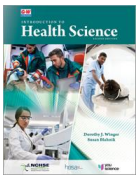
Standards	Correlating Text Pages
	71 Procedure: Wrapping Equipment for an Autoclave 72 Figure 2.36 Autoclaving **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Classify the following microorganisms and diseases: • **Bacterial**: ○ Meningitis ○ Methicillin-resistant staphylococcus ○ Pertussis ○ Pneumonia ○ Strep throat ○ Tetanus ○ Tuberculosis	**Instruction:** 52 Lesson 2.2 Protecting Against Infectious Diseases and Epidemics 52 Learning Objectives 52 Professional Vocabulary 52 Infectious 52 Outbreak 52 Epidemic 52 Pandemic 53 2.2-1 Infectious Agents 53 Types of Pathogens 53 Six Major Types Bacteria, Viruses, Fungi, Protozoa, Helminths, and Rickettsiae 54 Figure 2.20 Types of Pathogens 54 Bacteria- 54 Cocci, Bacilli, Spirochetes, Streptococci 54 Antibiotics 55 Drug-Resistant Bacteria 55 Healthcare Professions: Drug-Resistant Bacteria in Pediatrics 56 Healthcare-associated infections (HAIs) 56 Nosocomial Infections 56 Staphylococcus Aureus (MRSA) 56 Vancomycin-resistant Enterococcus (VRE) 56 tuberculosis (TB) 56 Staph 56 Clostridium Difficile 56 Norovirus – Cruise ship virus **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



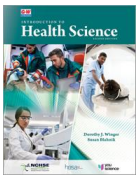
Standards	Correlating Text Pages
• **Fungal:** ○ Athlete's foot ○ Histoplasmosis ○ Ring Worm ○ Thrush ○ Yeast vaginitis	**Instruction:** 53 2.2-1 Infectious Agents 53 Types of Pathogens 54 Figure 2.20 Types of Pathogens 54 Bacteria- 54 Fungi – Yeast **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• **Parasites (Helminths):** ○ Hook worms or flukes ○ Pin worms ○ Tape worms	**Instruction:** 53 2.2-1 Infectious Agents 53 Types of Pathogens 53 Six Major Types Bacteria, Viruses, Fungi, Protozoa, Helminths, and Rickettsiae 54 Figure 2.20 Types of Pathogens 54 Bacteria 54 Virus – Latent Viruses 54 Immunizations or Vaccines 54 Fungi – Yeast 55 Parasite 55 Protozoa, Helminths, Ectoparasites, Vector, Rickettsiae 55 Drug-Resistant Bacteria **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• **Parasites (Rickettsia):** ○ Rocky Mountain spotted fever ○ Typhus fever	**Instruction:** 53 2.2-1 Infectious Agents 53 Types of Pathogens 53 Six Major Types Bacteria, Viruses, Fungi, Protozoa, Helminths, and Rickettsiae 54 Figure 2.20 Types of Pathogens 54 Bacteria 54 Virus – Latent Viruses 54 Immunizations or Vaccines 54 Fungi – Yeast 55 Parasite



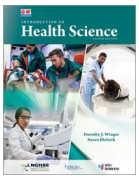
Standards	Correlating Text Pages
	55 Protozoa, Helminths, Ectoparasites, Vector, Rickettsiae 55 Drug-Resistant Bacteria **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• **Protozoa:** ○ Amebic dysentery ○ Malaria	**Instruction:** 53 2.2-1 Infectious Agents 53 Types of Pathogens 53 Six Major Types Bacteria, Viruses, Fungi, Protozoa, Helminths, and Rickettsiae 54 Figure 2.20 Types of Pathogens 54 Bacteria 54 Virus – Latent Viruses 54 Immunizations or Vaccines 54 Fungi – Yeast 55 Parasite 55 Protozoa, Helminths, Ectoparasites, Vector, Rickettsiae 55 Drug-Resistant Bacteria **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• **Viruses:** ○ Chicken pox ○ Covid 19 ○ Common cold ○ Hepatitis (A, B, C) ○ Herpes ○ HIV ○ Influenza (seasonal, H1N1, H5N1) ○ Measles ○ Mumps ○ Polio ○ RSV ○ Warts ○ West Nile virus (WNV)	**Instruction:** 54 Virus – Latent Viruses 54 Immunizations or Vaccines 54 Fungi – Yeast 55 Parasite 55 Protozoa, Helminths, Ectoparasites, Vector, Rickettsiae **Application:** 72 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



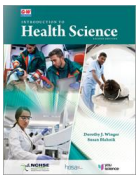
Standards	Correlating Text Pages
c. Identify the levels of aseptic control. • Antisepsis • Disinfection • Sterilization	**Instruction:** 68 2.2-6 Aseptic Practices 69 Clean Technique 69 Sanitization, Disinfection 69 Asepsis or antisepsis – Sterile Technique 69 Sterilization, Sterile Field 69 Cleaning and Disinfecting the Healthcare Environment 69 CDC Ranks - Noncritical, Semicritical or Critical 69 Figure 2.33 Spaulding's Classifications 69 Procedure: Terminal Cleaning 70 Figure 2.34 Hospital room 70 Cleaning and Sterilizing Equipment 70 Contamination 71 Ultrasonic Cleaners 71 Figure 2.35 Ultrasonic cleaning 71 Autoclaves 71 Healthcare Professions: Sterilizing 71 Procedure: Wrapping Equipment for an Autoclave 72 Figure 2.36 Autoclaving **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
d. Demonstrate the proper procedure for aseptic hand washing according to the CDC.	**Instruction:** 60 Personal Protective Equipment (PPE) 61 PPE Guidelines for PPE 61 Gloves, Mask, Face shield, Goggles, Gown 61 Figure 2.26 Instructional poster proper hand washing 62 Figure 2.27 Using Alcohol-based hand gel 63-64 Figure 2.28 PPE taking on and off 65 Respiratory Hygiene or cough etiquette 65 Basic elements of respiratory hygiene **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Explain standard precaution based on OSHA and CDC regulations. DOK3	
a. Describe OSHA's blood-borne pathogen standards.	**Instruction:** 68 2.2-5 Bloodborne Pathogen Exposure Control 68 (OSHA) Occupational Exposure



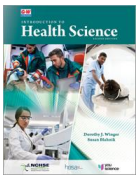
Standards	Correlating Text Pages
	68 HIV/AIDS Testing Confidentiality and Disclosure 68 Community Resources **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Explore employer requirements according to the Needle Stick Safety and Prevention Act.	**Instruction:** 66 Preventing Sharps Injuries 66 Sharps 66 Figure 2.29 Hinged needles 66 Figure 2.30 Sharp containers 67 Figure 2.31 Red Biohazard symbol 67 2.2-4 Transmission-Based Precautions 67 Contact precautions, Droplet precautions, Airborne precautions 67 Figure 2.32 Different types of masks **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
c. Demonstrate the basic rules of standard precaution.	**Instruction:** 58 2.2-3 Standard Precautions 59 Figure 2.23 Standard Precautions Recommended by the CDC 59 Body Fluids 59 Mucous Membranes 59 Non-intact 59 Standard Precautions 59 Figure 2.24 Personal protective equipment (PPE) 60 Hand Hygiene 60 Figure 2.25 Hand Hygiene 60 Personal Protective Equipment (PPE) 61 PPE Guidelines for PPE 61 Gloves, Mask, Face shield, Goggles, Gown 61 Figure 2.26 Instructional poster proper hand washing 62 Figure 2.27 Using Alcohol-based hand gel 63-64 Figure 2.28 PPE taking on and off 65 Respiratory Hygiene or cough etiquette 65 Basic elements of respiratory hygiene



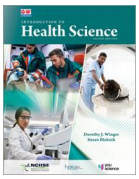
Standards	Correlating Text Pages
	65 Healthcare Professions: Standard Precautions in the Dental Office 66 Preventing Sharps Injuries 66 Sharps 66 Figure 2.29 Hinged needles 66 Figure 2.30 Sharp containers 67 Figure 2.31 Red Biohazard symbol **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Utilize the principles of sterile technique. DOK3	
a. Demonstrate skills related to sterile technique. • Donning sterile gloves • Sterile dressing • Maintaining a sterile field • Wrapping instruments for sterilization	**Instruction:** 60 Personal Protective Equipment (PPE) 61 PPE Guidelines for PPE 61 Gloves, Mask, Face shield, Goggles, Gown 61 Figure 2.26 Instructional poster proper hand washing 62 Figure 2.27 Using Alcohol-based hand gel 63-64 Figure 2.28 PPE taking on and off – Gown, Mask, Goggles and Gloves 68 2.2-6 Aseptic Practices 69 Clean Technique 69 Sanitization, Disinfection 69 Asepsis or antisepsis – Sterile Technique 69 Sterilization, Sterile Field 69 Cleaning and Disinfecting the Healthcare Environment 69 CDC Ranks - Noncritical, Semicritical or Critical 69 Figure 2.33 Spaulding's Classifications 69 Procedure: Terminal Cleaning 70 Figure 2.34 Hospital room 70 Cleaning and Sterilizing Equipment 70 Contamination 71 Ultrasonic Cleaners 71 Figure 2.35 Ultrasonic cleaning 71 Autoclaves 71 Healthcare Professions: Sterilizing 71 Procedure: Wrapping Equipment for an Autoclave 72 Figure 2.36 Autoclaving **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



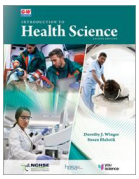
Standards	Correlating Text Pages
4. Explain the importance of maintaining transmission-based isolation precautions. DOK3	
a. Identify and explain the types of isolation precautions needed to prevent the spread of communicable diseases (mentioned in 1.b.). • Airborne • Droplet • Contact • Reverse/protective	**Instruction:** 67 2.2-4 Transmission-Based Precautions 67 Contact precautions 67 Droplet precautions 67 Airborne precautions 67 Figure 2.32 Different types of masks **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Demonstrate the proper procedure, according to the CDC, for donning and doffing personal protective equipment (PPE).	
• Gowns • Masks • Goggles • Gloves	**Instruction:** 60 Personal Protective Equipment (PPE) 61 PPE Guidelines for PPE 61 Gloves, Mask, Face shield, Goggles, Gown 61 Figure 2.26 Instructional poster proper hand washing 62 Figure 2.27 Using Alcohol-based hand gel 63-64 Figure 2.28 PPE taking on and off – Gown, Mask, Goggles and Gloves **Application:** 73 Lesson 2.2 Review 82 Chapter 2 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
5. Research the impact of emerging technology on infection control. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery



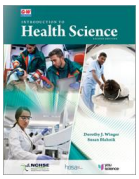
Standards	Correlating Text Pages
	20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review
Unit 6: Legal and Ethical Practices in Health Care	
Competencies and Suggested Objectives	
1. Analyze legal responsibilities and implications of criminal and civil law. DOK1	
a. Define and discuss torts in relation to health care. • Malpractice • Negligence • Assault and battery • Invasion of privacy • Abuse • Defamation of character (libel, slander) • False imprisonment	**Instruction:** 613 Standard of Care and Malpractice 613 Negligence 613 “Knowingly” 613 Figure 16.4 Failing to sterilize 614 16.2-2 Avoiding Misconduct 614 Caregiver laws 614 Misappropriation 614 Abuse, Neglect, and Other Torts 614 Involuntary Seclusion



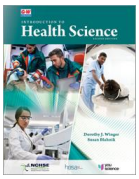
Standards	Correlating Text Pages
	614 False Imprisonment 615 Figure 16.5 Risk for falling, Restrained 615 Assault 615 Battery 615 Abandonment 615 16.2-3 Respecting Patient Privacy 615 Invasion of Privacy 615 Figure 16.6 Patient Personal information 616 Figure 16.7 Healthcare workers preserve privacy of patients 616 Defamation 616 Slander, Libel 616 16.2-4 Privileged Communication and Mandatory Reporting 616 Privileged Communication 617 Mandatory Reporting 617 Healthcare Professions: Mandatory Reporting **Application:** 618 Lesson 16.2 Review
2. Describe and demonstrate legal practices associated with health care. DOK2	
a. Apply the standards for safety, privacy, and confidentiality of health information, including topics such as the Health Insurance Portability and Accountability Act and privileged communications.	**Instruction:** 616 Figure 16.7 Healthcare workers preserve privacy of patients 616 Defamation 616 Slander, Libel 616 16.2-4 Privileged Communication and Mandatory Reporting 616 Privileged Communication 617 Mandatory Reporting 617 Healthcare Professions: Mandatory Reporting 617 Figure 16.8 Signs of Human Trafficking 621 16.3-3 Healthcare Privacy 621 Health Insurance Portability and Accountability Act (HIPAA) 622 Protected Health Information (PHI) 622 Figure 16.11 Sign- Patient Privacy **Application:** 618 Lesson 16.2 Review 622 Lesson 16.3 Review
b. Describe advance directives, including topics such as living wills and durable power of attorney.	**Instruction:** 619 Lesson 16.3 Laws Protecting Patient Rights 619 Patient's Bill of Rights – Patient Care Partnership 620 Patient Protection and Affordable Care Act (ACA) 620 16.3-1 Protecting Patient Access to Care 620 Consolidated Omnibus Budget Reconciliation Act (COBRA)



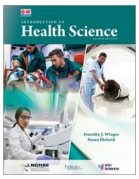
Standards	Correlating Text Pages
	620 Figure 16.9 ACA limits insurers 620 16.3-2 Patient's Right to Participate in Treatment Decisions 620 Patient Self-Determination Act (PSDA) 620 Advance Directives 621 Living Will 621 Incapacitated, terminal illness 621 Figure 16.10 Living will 621 Do-not-resuscitate (DNR) 621 Power of Attorney (POA), Proxy **Application:** 622 Lesson 16.3 Review
c. Define types of consent/contracts, including informed consent, implied contracts, and expressed contracts.	**Instruction:** 607 16.1-2 Contract Law and Informed Consent 607 Contract law 607 Offer 607 Consideration 607 Enforceability 607 Consent or permission 608 Expressed consent 608 Implied consent 608 Informed Consent 608 Figure 16.2 Informed Consent 608 Legal disability 609 Breach of contract **Application:** 609 Lesson 16.1 Review
d. Research and discuss the meaning of scope of practice.	**Instruction:** 611 16.2-1 Working Within Your Scope of Practice 611 Credentials and Scope of Practice 611 State and Federal Law Regulate 611 Scope of Practice and Liability 611 Healthcare Professions: Scope of Practice 612 Liable 612 Avoid Liability 612 Figure 16.3 Hospital board **Application:** 618 Lesson 16.2 Review
3. Utilize procedures for reporting activities and behaviors that affect the health, safety, and the welfare of others. DOK2	
a. Discuss the chain of command for reporting issues.	**Instruction:** 623 Lesson 16.4 Laws Regulating Health and Safety 624 16.4-1 Reporting Health and Safety Incidents 624 CDC, OSHA 624 Figure 16.12 OSHA recommendations of the CDC



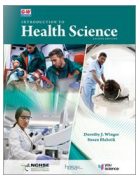
Standards	Correlating Text Pages
	624 Incident Report 624 Root cause analysis **Application:** 626 Lesson 16.4 Review
b. Complete an incident report.	**Instruction:** 623 Lesson 16.4 Laws Regulating Health and Safety 624 16.4-1 Reporting Health and Safety Incidents 624 CDC, OSHA 624 Figure 16.12 OSHA recommendations of the CDC 624 Incident Report 624 Root cause analysis **Application:** 626 Lesson 16.4 Review
4. Recognize and discuss ethical boundaries within the health care environment. DOK3	
a. Differentiate between ethical and legal issues impacting health care.	**Instruction:** 577 Lesson 15.1 Ethical Principles in Healthcare 578 15.1-1 Defining Ethical Principles 578 Ethical 578 Morals 578 Values 579 Four Ethical Principles for decision-making 579 Ethics classified as Personal, Professional or Organizational 579 15.1-2 Ethical Codes 579 Code of Ethics 579 Physicians Hippocratic Oath 579 World Medical Association (WMA) 579 Figure 15.1 Medical Students Physician's Pledge 580 Figure 15.2 Physician's Pledge 580 15.1-3 Ethical Dilemmas 581 Code of Conduct 581 United Network for Organ Sharing (UNOS) 581 Figure 15.3 Organ Transplantation 581 Values – Vitro fertilization 582 15.1-4 Ethical Decision-Making 582 Ethics Committee 582 Figure 15.4 Steps for Ethical Decision-Making **Application:** 582 Lesson 15.1 Review
b. Identify and explain ethical dilemmas associated with organ donation, invitro fertilization, euthanasia, stem cell research, and vaccinations.	**Instruction:** 580 15.1-3 Ethical Dilemmas 581 Code of Conduct 581 United Network for Organ Sharing (UNOS) 581 Figure 15.3 Organ Transplantation



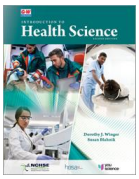
Standards	Correlating Text Pages
	581 Values – Vitro fertilization 582 15.1-4 Ethical Decision-Making 582 Ethics Committee 582 Figure 15.4 Steps for Ethical Decision-Making **Application:** 582 Lesson 15.1 Review
5. Identify cultural, social, and ethnic diversity within the health care environment. DOK3	
a. Compare religious, spiritual, and cultural—including ethnicity, race, religion, and gender—values as they impact health care.	**Instruction:** 616 Privileged Communication 617 Mandatory Reporting 617 Healthcare Professions: Mandatory Reporting 616 Figure 16.7 Healthcare workers preserve privacy of patients **Application:** 622 Lesson 16.3 Review
b. Within a role-play situation, demonstrate respectful and empathetic treatment of all	**Instruction:** 577 Lesson 15.1 Ethical Principles in Healthcare 578 15.1-1 Defining Ethical Principles 578 Ethical 578 Morals 578 Values 579 Four Ethical Principles for decision-making 579 Ethics classified as Personal, Professional or Organizational 579 15.1-2 Ethical Codes 579 Code of Ethics 579 Physicians Hippocratic Oath 579 World Medical Association (WMA) 579 Figure 15.1 Medical Students Physician's Pledge 580 Figure 15.2 Physician's Pledge 580 15.1-3 Ethical Dilemmas 581 Code of Conduct 581 United Network for Organ Sharing (UNOS) 581 Figure 15.3 Organ Transplantation 581 Values – Vitro fertilization 582 15.1-4 Ethical Decision-Making 582 Ethics Committee 582 Figure 15.4 Steps for Ethical Decision-Making **Application:** 582 Lesson 15.1 Review 602 Build Core Skills - 2 Critical Thinking 602 Build Core Skills - 8 and 11 Writing 603 Think and Act like a Healthcare Worker #2
Unit 7: Communication and Teamwork	



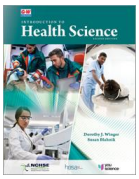
Standards	Correlating Text Pages
Competencies and Suggested Objectives	
1. Describe the concepts of effective communication. DOK2	
a. Interpret verbal and nonverbal communication.	**Instruction:** 368 Chapter 11 Communication 369 Lesson 11.1 Speaking and Listening Skills 370 Professional Vocabulary 371 Healthcare Professions: Communication Error 372 11.1-1 Communication Cycle 372 Communication 372 Figure 11.2 Communication cycle chart 372 Sender, Message, Receiver, Feedback 372 Sender considers questions before delivering message 372 Protocol 372 Courteous, polite 372 Receiver -Feedback 373 11.1-2 Communication Skills and Styles 373 Listening Skills 373 Active Listening 373 Healthcare Professions: Poor Listening Skills 373 Good Listeners step to improve understanding 373 Speaking Skills 373 Techniques used by effective speakers 374 Figure 11.3 Correct Grammar and pronunciation 374 Figure 11.4 Table shows Communication Styles 374 Four communication Styles 374 Passive, Aggressive, Passive-Aggressive, Assertive 375 Assertive Communication 375 Healthcare Professions: Passive Communications 376 11.1-3 SBAR Communication system 376 Situation, Background, Assessment, Recommendation 376 Healthcare Professions: SBAR system 377 11.1-4 Interviewing a Patient 377 Patient Interview 377 Figure 11.5 Positive body language 377 Considering the Patient's Age and Stage of Development 378 Asking Open-ended Questions 378 Figure 11.6 Interview 378 Patient Interview Process **Application:** 382 Lesson 11.1 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
b. Recognize barriers to communication, including physical disabilities (aphasia, hearing loss, impaired	**Instruction:** 409 Lesson 11.4 Barriers to Communication



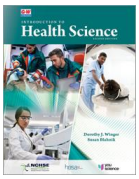
Standards	Correlating Text Pages
vision), psychological barriers (attitudes, bias, prejudice, stereotypes), language barriers.	409 11.4-1 Barriers to Effective Communication 409 Environmental Barriers 410 Sensory Impairments – Hearing loss, vision loss or speech difficulties 410 Figure 11.32 Examples of ways to improve communication 410 Cognitive Impairment 410 Dementia or Aphasia 411 11.4-2 Unmet Needs 412 Figure 11.33 Listening to patients' needs 412 11.4-3 Low Health Literacy - Language 412 Healthcare Professions: Avoiding Errors 413 Figure 11.34 Steps to help patients understand 413 11.4-4 Cultural Differences 413 medical Interpreter **Application:** 413 Lesson 11.4 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
c. Differentiate subjective and objective information.	**Instruction:** 403 11.3-1 Observing Body Language 404 Figure 11.27 Maintain eye contact 404 11.3-2 Communicating Observations 404 Healthcare Professions: First Day Nerves 405 Use Senses to observe a Patient 405 Sight – Inspection 405 Objective Observations 405 Hearing – Symptoms 405 Subjective Observations 405 Auscultation 405 Touch – Palpation 405 Percussion 405 Smell- Ketoacidosis 406 11.3-3 Performing a Physical Examination and Assessment 406 Figure 11.28 Four basic steps in a physical exam 406 Differential diagnosis 406 medical diagnosis 406 Assess, Nursing diagnosis 406 Figure 11.29 Steps in the nursing process **Application:** 408 Lesson 11.3 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep



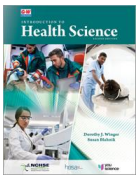
Standards	Correlating Text Pages
d. Recognize the elements of communication using a sender-receiver model.	**Instruction:** 403 11.3-1 Observing Body Language 404 Figure 11.27 Maintain eye contact 404 11.3-2 Communicating Observations 404 Healthcare Professions: First Day Nerves 405 Use Senses to observe a Patient 405 Sight – Inspection 405 Objective Observations 405 Hearing – Symptoms 405 Subjective Observations 405 Auscultation 405 Touch – Palpation 405 Percussion 405 Smell- Ketoacidosis **Application:** 408 Lesson 11.3 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
e. Demonstrate speaking and active listening skills.	**Instruction:** 368 Chapter 11 Communication 369 Lesson 11.1 Speaking and Listening Skills 370 Professional Vocabulary 371 Healthcare Professions: Communication Error 372 11.1-1 Communication Cycle 372 Communication 372 Figure 11.2 Communication cycle chart 372 Sender, Message, Receiver, Feedback 372 Sender considers questions before delivering message 372 Protocol 372 Courteous, polite 372 Receiver -Feedback 373 11.1-2 Communication Skills and Styles 373 Listening Skills 373 Active Listening 373 Healthcare Professions: Poor Listening Skills 373 Good Listeners step to improve understanding 373 Speaking Skills 373 Techniques used by effective speakers 374 Figure 11.3 Correct Grammar and pronunciation 374 Figure 11.4 Table shows Communication Styles 374 Four communication Styles 374 Passive, Aggressive, Passive-Aggressive, Assertive 375 Assertive Communication 375 Healthcare Professions: Passive Communications



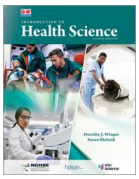
Standards	Correlating Text Pages
	Application: 382 Lesson 11.1 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
f. Demonstrate elements of proper written and electronic communication (e.g., spelling, grammar, and formatting).	**Instruction:** 380 Call Screening and Telephone Triage 381 Documenting Phone Conversations 381 Figure 11.10 Phone message 382 Figure 11.11 Phone message documentation 383 11.2-1 Technical communication 384 Healthcare Professions: Reading and Writing 384 Reading Technical Documents 384 Technical Reading skills 385 Ste[s for reading a Technical document 386 Figure 11.13 Technical document 387 Figure 11.14 Document 388 Figure 11.15 Data 388 Writing Technical Documents 389 Figure 11.16 Technical Writer 389 Technical Writer basic steps 390 Figure 11.17 Draft 391 11.2-2 Writing Letter, Memos, and Emails 391 Business Letters 391 Correspondence 391 Memos – Memorandums 392 Figure 11.18 Business Letter 392 Figure 11.19 Memo 393 Figure 11.20 Effective Correspondence 394 Emails 394 Guidelines for email 395 Figure 11.22 Email from healthcare facility 396 Figure 11.23 Email memos 397 11.2-3 Scientific Communication 397 Healthcare Professions: Scientific Communication 397 Proposals and Recommendation Reports 397 Proposals and Recommendation Reports 398 Figure 11.24 HOSA team Proposals 398 Healthcare Professions: Scientific Communication 399 Scientific Writing Guideline 399 Objective writing, Precise writing, Clear writing 400 Figure 11.25 First draft report 400 Figure 11.26 Edited report **Application:** 401 Lesson 11.2 Review 421 Chapter 11 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep



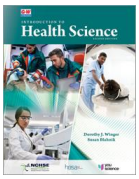
Standards	Correlating Text Pages
2. Compare the roles and responsibilities of individual members as part of the health care team. DOK2	
a. Describe roles and responsibilities of team members. • Examples of health care teams in a hospital and clinic setting. • Responsibilities of team members • Benefits of teamwork	**Instruction:** 312 Lesson 10.1 Working as Part of a Team 313 10.1-1 Effective Teams 313 Interdisciplinary healthcare team 313 knowing your own roles and responsibilities 313 Know the roles and responsibilities of other members on team. 313 Effective members remain positive 313 Respecting others feelings and beliefs 314 Healthcare Professions: Working in a Team 315 Collaborate 315 Primary care team 315 Secondary care team 315 Figure 10.2 Surgical team 315 Collaboration 315 Figure 10.3 Team members collaborate by communicating with each other and with patient 315 Teleconferencing 316 Nursing Teams 316 Case Manager 316 Primary nursing 316 Functional nursing 316 Team nursing 316 Accountable, Planning 316 Figure 10.4 tasks divided up 317 10.1-3 Healthcare Team Interaction 317 Delegation 317 Delegating Tasks 317 Worker's Scope of Practice 317 Delegate 317 Figure 10.5 Tasks that can and cannot be delegated 317 Valid reasons for refusing a task 318 Sharing Information 318 Figure 10.6 Scope of Practice 319 Building Positive Team Relationships 319 Encourage rather than criticize 319 Figure 10.7 Dos and Don'ts for building positive relationships 322 10.1-5 Team Leadership 322 Leadership Styles 322 Personal leadership Style 322 Figure 10.12 Six John Holland types of leader's chart 323 Leadership Skills 323 Figure 10.13 Leadership Skills chart 323 Formal meeting – Robert's Rules of Order 324 Healthcare Professions: Leaderships Styles



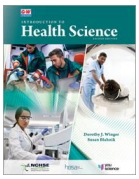
Standards	Correlating Text Pages
	Application: 324 lesson 10.1 Review
b. Recognize and demonstrate characteristics of effective teams. • Active participation • Cultural humility • Reliability • Civility • Flexibility • Trust • Commitment • Open to feedback • Collaboration • Positive attitude	**Instruction:** 312 Lesson 10.1 Working as Part of a Team 313 10.1-1 Effective Teams 313 Interdisciplinary healthcare team 313 knowing your own roles and responsibilities 313 Know the roles and responsibilities of other members on team. 313 Effective members remain positive 313 Respecting others feelings and beliefs 314 Healthcare Professions: Working in a Team 315 Collaborate 315 Primary care team 315 Secondary care team 315 Figure 10.2 Surgical team 315 Collaboration 315 Figure 10.3 Team members collaborate by communicating with each other and with patient 315 Teleconferencing 316 Nursing Teams 316 Case Manager 316 Primary nursing 316 Functional nursing 316 Team nursing 316 Accountable, Planning 316 Figure 10.4 tasks divided up 317 10.1-3 Healthcare Team Interaction 317 Delegation 317 Delegating Tasks 317 Worker's Scope of Practice 317 Delegate 317 Figure 10.5 Tasks that can and cannot be delegated 317 Valid reasons for refusing a task 318 Sharing Information 318 Figure 10.6 Scope of Practice 319 Building Positive Team Relationships 319 Encourage rather than criticize 319 Figure 10.7 Dos and Don'ts for building positive relationships **Application:** 324 lesson 10.1 Review
3. Explain the principles of interacting effectively and sensitively with all members of the health care team. DOK3	
a. Recognize methods for building positive team relationships, including mentorships and teambuilding.	**Instruction:** 312 Lesson 10.1 Working as Part of a Team 313 10.1-1 Effective Teams 313 Interdisciplinary healthcare team



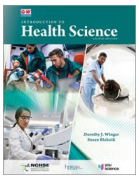
Standards	Correlating Text Pages
	313 knowing your own roles and responsibilities 313 Know the roles and responsibilities of other members on team. 313 Effective members remain positive 313 Respecting others feelings and beliefs 314 Healthcare Professions: Working in a Team 315 Collaborate 315 Primary care team 315 Secondary care team 315 Figure 10.2 Surgical team 315 Collaboration 315 Figure 10.3 Team members collaborate by communicating with each other and with patient 315 Teleconferencing 316 Nursing Teams 316 Case Manager 316 Primary nursing 316 Functional nursing 316 Team nursing 316 Accountable, Planning 316 Figure 10.4 tasks divided up 317 10.1-3 Healthcare Team Interaction 317 Delegation 317 Delegating Tasks 317 Worker's Scope of Practice 317 Delegate 317 Figure 10.5 Tasks that can and cannot be delegated 317 Valid reasons for refusing a task 318 Sharing Information 318 Figure 10.6 Scope of Practice 319 Building Positive Team Relationships 319 Encourage rather than criticize 319 Figure 10.7 Dos and Don'ts for building positive relationships **Application:** 324 lesson 10.1 Review
b. Analyze attributes and attitudes of an effective leader. • Characteristics: interpersonal skills, focused on results, positive • Types: autocratic, democratic, laissez-faire • Roles: sets vision, leads change, manages 7 accountability	**Instruction:** 322 10.1-5 Team Leadership 322 Leadership Styles 322 Personal leadership Style 322 Figure 10.12 Six John Holland types of leader's chart 323 Leadership Skills 323 Figure 10.13 Leadership Skills chart 323 Formal meeting – Robert's Rules of Order 324 Healthcare Professions: Leaderships Styles



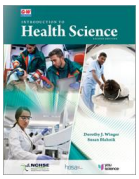
Standards	Correlating Text Pages
	Application: 324 lesson 10.1 Review
c. Apply effective techniques for managing team conflict. • Negotiation • Clear expectations • Assertive communication • Mediation • Gather the facts	**Instruction:** 319 10.1-4 Team Conflict and Conflict Resolution 319 Conflict-resolution skills 319 Identifying Factors That Lead to Team Conflict 319 Observation other team members 320 Reevaluate 320 Work Styles 320 Figure 10.9 Work Preferences 320 Resolving Team conflict 320 Common goals 321 Focus on conflict resolution 321 Figure 10.11 Skills for resolving team conflict **Application:** 324 lesson 10.1 Review
Unit 8: Medical Terminology and Abbreviations	
Competencies and Suggested Objectives	
1. Introduce appropriate medical terminology and abbreviations as found in Appendix C. DOK1	
a. Use roots, prefixes, and suffixes to communicate information.	**Instruction:** 642 Lesson 17.1-1 Medical Terminology 642 Eponyms 643 17.1-2 Understanding Word Parts 643 Figure 17.1 Word Trains 643 Root Word 643 Combining Vowel 644 Figure 17.2 Understanding Word Parts 644 Prefix 644 Suffix 645 17.1-3 Forming Plural Medical Terms 645 Plural 645 Figure 17.3 Medical Terms with plural forms 645 17.1-4 Abbreviations **Application:** 647 Lesson 17.1 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
b. Use medical abbreviations to communicate information.	**Instruction:** 645 17.1-4 Abbreviations 645 Abbreviation 645 Acronyms 646 Figure 17.4 List of Do Not Use Abbreviations 646 17.1-5 Pronunciation and Spelling 647 Figure 17.5 Pronunciation Rules



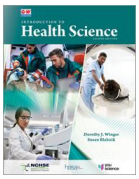
Standards	Correlating Text Pages
	Application: 647 Lesson 17.1 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
Unit 9: Body Organization	
Competencies and Suggested Objectives	
1. Describe the basic organization of the body. DOK1	
a. Identify the basic levels of organization of the human body. • Chemical • Cellular • Tissue • Organs • Systems • Organism	**Instruction:** 648 Chapter17.2 Body Organization and Related Medical Terms 649 17.2-2 Levels of Organization 649 Atoms and Molecules 649 Atoms, 649 Molecules, Organelles 649 The Cell and Its Organelles 650 Cellula 650 Figure 17.6 Organizational hierarchy of the body 651 Cell Membrane 651 Pores 651 Vacuoles 651 Figure 17.7 Parts of a cell 651 Flagellum or tail 651 Cytoplasm 652 Nucleus, Nucleolus 652 Ribosomes 652 DNA 652 Endoplasmic reticulum (ER) 652 Golgi Apparatus 652 Mitochondria 652 Lysosomes 652 Body Tissues and Membranes 652 Four main types of tissue 652 Connective Tissue 652 Nervous Tissue 652 Muscular Tissue 652 Epithelial Tissue 653 Body Organs and Systems 653 Organ 653 Body systems 653 Figure 17.8 Each body system with organs 654 Figure 17.9 Structure of body compared to a house **Application:** 655 Lesson 17.2 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep



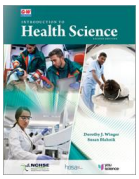
Standards	Correlating Text Pages
2. Discuss the tissue organization of the body. DOK1	
a. Identify the four major categories of tissues and their respective locations, structures, and basic functions. • Nerve • Epithelium • Muscle (cardiac, smooth, skeletal) • Connective (ligaments, tendons, facia)	**Instruction:** 652 Four main types of tissue 652 Connective Tissue 652 Nervous Tissue 652 Muscular Tissue 652 Epithelial Tissue **Application:** 655 Lesson 17.2 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
3. Identify the body planes, directional terms, cavities, quadrants, and regions. DOK1	
a. Body planes: sagittal, midsagittal, coronal/frontal, transverse/horizontal	**Instruction:** 663 17.3-6 Body Planes 663 Frontal Plane – Coronal plane 663 Sagittal plane 663 Midsagittal plane 663 Transverse Plan – Horizontal Plane 664 Figure 17.15 Three planes divide the body **Application:** 664 lesson 17.3 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
b. Directional terms: superior, inferior, anterior/ventral, posterior/dorsal, medial, lateral, proximal, distal, superficial, deep, cephalic, caudal	**Instruction:** 657 17.3-2 Body Directions 657 Anterior 657 Posterior 657 Medial 657 Lateral 657 Superior 657 Inferior 657 Cranial or Cephalic 657 Caudal 657 Superficial 657 Deep 658 Figure 17.10 Directional Terms 658 Proximal vs Distal 658 Proxima 658 Distal 658 Figure 17.11 Proximal vs Distal 658 Anterior, Ventral, Posterior, and Dorsal 659 Ventral



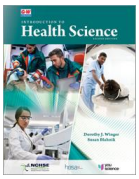
Standards	Correlating Text Pages
	659 Dorsal 659 Figure 17.12 Anatomical position 659 Anterior / Posterior **Application:** 664 lesson 17.3 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
c. Cavities: dorsal, cranial, nasal, oral, orbital, spinal, thoracic, abdominal, pelvic	**Instruction:** 661 17.3-5 Body Cavities 661 Orbital, Oral, and Nasal 661 Ventral Cavity 661 Dorsal Cavity 661 Thoracic Cavity 661 Abdominopelvic cavity 661 Thoracic cavity 661 Abdominal cavity 661 Pelvic Cavity 662 Figure 17.14 Interior of the body divided into cavities 662 Cranial Cavity 662 Spinal Cavity **Application:** 664 lesson 17.3 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
d. Quadrants: upper right, lower right, upper left, lower left	**Instruction:** 660 17.3-4 Abdominal Regions and Quadrants 660 Abdominal Quadrants 660 Right upper quadrant RUQ 660 Left upper quadrant LUQ 660 Right Lower Quadrant RLQ 660 Left Lower Quadrant LLQ 661 Figure 17.13 Abdomen can be divided into quadrants or regions **Application:** 664 lesson 17.3 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep



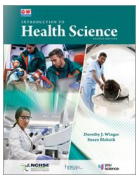
Standards	Correlating Text Pages
e. Regions: Right/left hypochondriac, right/left lumbar, right/left iliac, epigastric, umbilical, hypogastric	**Instruction:** 660 17.3-4 Abdominal Regions and Quadrants 660 Abdominal Quadrants 661 Abdominal Regions 661 Figure 17.13 Abdomen can be divided into quadrants or regions 661 Umbilical 661 Epigastric region 661 Right Hypochondriac region 661 Left hypochondriac region 661 Right/left Lumbar regions 661 Right/left Iliac regions 661 Hypogastric region **Application:** 664 lesson 17.3 Review 665 Chapter 17 Summary, Professional Vocabulary, Review and Recall, Build Core Skills, Activate Your Learning, Think and Act like a Healthcare Worker, Go to the Source, HOSA Event Prep
Unit 10: Integumentary System	
Competencies and Suggested Objectives	
1. Discuss the structures and functions of the integumentary system. DOK1	
a. Identify the parts comprising the integumentary system and their respective functions. • Layers: epidermis, dermis, subcutaneous • Structures: sudoriferous glands, sebaceous glands, hair follicles, hair shaft • Functions: protection, sensory perception, temperature regulation (vasodilation, vasoconstriction), storage, absorption, excretion, production	**Instruction:** 653 Figure 17.8 Each body system with organs 672 Chapter 18.1 Integumentary System 5673 18.1-1 The Role of Collagen 676 The Epidermis 676 Keratin – protection 679 18.1-4 The Dermis 679 Fingerprints 680 Figure 18.7 Fingerprints unique 680 Root, Hair follicle, hair shaft 680 Sebaceous glands 680 Sudoriferous glands 682 18.1-5 The Hypodermis 682 Absorption, heat, storage **Application:** 684 Lesson 18.1 Review
b. Define and discuss pigmentation and related topics. • Melanin • Carotene • Albino	**Instruction:** 677 Pigment 677 Albinism 677 Vitiligo 678 Figure 18.5 Melanin produced by skin cells 678 Melanin 678 Mole



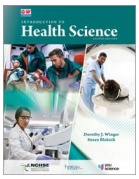
Standards	Correlating Text Pages
	Application: 684 Lesson 18.1 Review
c. Define and discuss skin discoloration and related topics: • Erythema • Jaundice • Cyanosis	**Instruction:** 677 Skin color 681 Erythema 681 Jaundice 681 Cyanosis **Application:** 684 Lesson 18.1 Review
2. Explain diseases and disorders of the integumentary system and related signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the integumentary system. • Acne vulgaris • Athlete's foot • Basal cell carcinoma • Dermatitis • Eczema • Impetigo • Melanoma • Psoriasis • Ringworm • Squamous cell carcinoma • Verrucae	**Instruction:** 674 Figure 18. 2 Common diseases and Disorders for Systems of Support and Movement 674 Melanoma 674 Arthritis 674 Muscular Dystrophy 675 Figure 18.3 Epidermis 675 Acne 675 Impetigo 675 Herpes Zoster or Shingles 675 Ringworm or Tinea 677 Figure 18.4 Common skin Conditions 677 Eczema (chart) 678 Melanoma 678 Basal cell carcinoma 679 Figure 18.6 ABCDE of mole 735 Athlete's foot **Application:** 684 Lesson 18.1 Review
b. Describe various skin eruptions. • Crusts • Cysts • Macules • Papules • Pustules • Ulcers • Vesicles • Wheals	**Instruction:** 675 Crusts 675 Impetigo 677 Figure 18.4 Common skin Conditions 677 Crusts, Scales, Seborrhea, Polyps, Macules, Wheals, Papules, Pustules, Vesicles, Nodules 683 Figure 18.10 Damage skin layers 683 Figure 18.11 rule of nines for burns **Application:** 684 Lesson 18.1 Review
3. Research the impact of emerging technology on the integumentary system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine



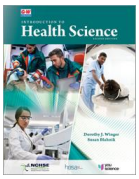
Standards	Correlating Text Pages
	17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review



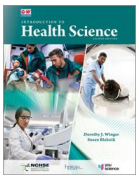
Standards	Correlating Text Pages
Unit 11: Skeletal System	
Competencies and Suggested Objectives	
1. Compare the structures and functions of the skeletal system with its relationship to movement. DOK1	
a. Identify the axial and appendicular bones.	**Instruction:** 694 18.2-6 Divisions of the Skeleton 694 Axial Skeleton 694 Appendicular Skeleton 694 Axial Skeleton 694 Spine 694 Atlas (C1) and Axis (C2) 694 Sacrum 694 Figure 18.23 Spine 695 True ribs, False ribs, Floating ribs 695 Breast bone or Sternum 695 Manubrium, Xiphoid process 695 Appendicular Skeleton 695 Pectoral Girdle 695 Clavicle, Scapula 695 Ilium, Ischia 695 Pubis **Application:** 698 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify the parts of a bone. • Diaphysis • Endosteum • Epiphysis • Medullary canal • Periosteum • Red marrow • Yellow marrow	**Instruction:** 685 Chapter 18 The Skeletal System 687 18.2-2 Parts of a Bone 687 Figure 18.13 Bones 688 Epiphysis - Spongy bone 688 Diaphysis 688 Medullary Cavity 688 Periosteum 688 Yellow Marrow 691 Red Marrow **Application:** 698 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



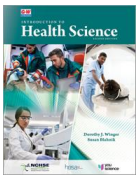
Standards	Correlating Text Pages
c. Explain the functions of the skeletal system. • Framework • Protection • Levers • Production of blood cells • Storage	**Instruction:** 686 18.2-1 Understanding the Skeletal system 686 Structure, Support, Protection, Muscle attachment sites, Blood cell production, and mineral storage **Application:** 698 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
d. Identify the types of joints and their related movements. • Diarthrosis or synovial • Amphiarthrosis • Synarthrosis	**Instruction:** 695 18.32-7 Types of Joints 695 Diarthroses or Synovial joints 695 Bursa 696 Ball and Socket Joints, Condylar Joints, Saddle Joint, Hinge Joints, Gliding Joint, Pivot Joint 696 Figure 18.25 Diarthroses Joints 697 Amphiarthroses 697 Disks 697 Synarthroses 697 Tailbone, Skull **Application:** 698 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the skeletal system and related signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with skeletal diseases, disorders, and injuries. • Bursitis • Osteomyelitis • Osteoporosis • Osteoarthritis • Rheumatoid arthritis • Sprain • Ruptured disk • Dislocation • Spinal curvatures: scoliosis, lordosis, and kyphosis	**Instruction:** 675 Figure 18.2 Common Diseases and Disorders – Rheumatoid Arthritis 688 18.2-3 Bone Development 688 Osteogenesis 688 Osteoblasts 694 Lordosis 694 Kyphosis 694 Scoliosis 696 Bursitis 697 Disks 697 18.2-8 Dislocations and Fractures



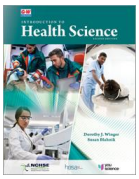
Standards	Correlating Text Pages
• Fractures: stress, comminuted, compound or open, simple or closed, depressed, green stick, impacted, spiral	697 Simple, Compound, Transverse, Oblique, Spiral, Comminuted, Stress, Greenstick 697 Figure 18.26 Fractures 697 Dislocations **Application:** 698 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify the general signs, symptoms, treatment, and prevention methods associated with skeletal diseases, disorders, and injuries	**Instruction:** 675 Figure 18.2 Common Diseases and Disorders – Rheumatoid Arthritis 688 18.2-3 Bone Development 688 Osteogenesis 688 Osteoblasts 694 Lordosis 694 Kyphosis 694 Scoliosis 696 Bursitis 697 Disks 697 18.2-8 Dislocations and Fractures 697 Simple, Compound, Transverse, Oblique, Spiral, Comminuted, Stress, Greenstick 697 Figure 18.26 Fractures 697 Dislocations **Application:** 697 Lesson 18.2 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the skeletal system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies



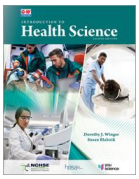
Standards	Correlating Text Pages
	19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review



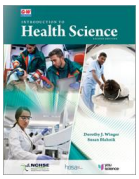
Standards	Correlating Text Pages
Unit 12: Muscular System	
Competencies and Suggested Objectives	
1. Compare the structures and functions of the muscular system with its relationship to movement. DOK1	
a. Identify the three types of muscle. • Cardiac • Visceral/smooth • Skeletal	**Instruction:** 699 Chapter 18 The Muscular System 701 18.3-2 Types of Muscle Tissue 701 Cardia Muscle 701 Smooth Muscle or Visceral Muscle 701 Skeletal Muscle 704 Figure 18.29 Three muscle tissue **Application:** 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Define the characteristics of skeletal muscle. • Excitability • Contractibility • Extensibility • Elasticity	**Instruction:** 701 Characteristics 701 Excitable 701 Contractible 701 Extensible 701 Elasticity 702 Figure 18.27 Skeletal Muscles of head and torso 703 Figure 18.28 Skeletal muscles of arms and legs **Application:** 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
c. Identify major skeletal muscles. • Biceps brachii • Deltoid • Gastrocnemius • Gluteus maximus • Intercostals • Latissimus dorsi • Pectoralis major • Quadriceps femoris • Rectus abdominis • Sartorius • Sternocleidomastoid • Tibialis anterior • Trapezius • Triceps brachii	**Instruction:** 702 Figure 18.27 Skeletal Muscles of head and torso 703 Figure 18.28 Skeletal muscles of arms and legs 706 Gastrocnemius 707 Rectus Abdominus 707 Biceps Brachii 707 Pectoralis Major 707 Rectus Abdominis 707 Vastus Lateralis 707 Deltoid 707 Gluteus Maximus 710 Intercostals 710 Tibialis Anterior 710 Trapezius 710 Triceps Brachii



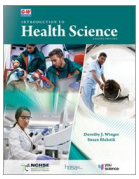
Standards	Correlating Text Pages
	Application: 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
d. Explain the function of the muscles. • Movement • Produce heat and energy • Maintain Posture • Protect internal organs	**Instruction:** 700 Understanding the Muscular System 700 Protect Internal Organs 702 Figure 18.27 Skeletal Muscles of head and torso 703 Figure 18.28 Skeletal muscles of arms and legs 708 18.3-4 Muscle Movements 708 Posture 708 Muscle Tone 708 Heat and Energy **Application:** 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
e. Demonstrate active/passive range of motion, including adduction, abduction, flexion, extension, rotation, and circumduction.	**Instruction:** 708 Muscle Movements 708 Figure 18.33 Flexion and Extension 708 Flexion 708 Extension 709 Figure 18.34 Muscle movement terminology 709 Abduction 709 Adduction 709 Ulnar Flexion 709 Radial Flexion 710 Rotation 710 Circumduction **Application:** 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



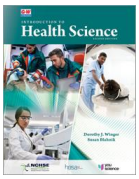
Standards	Correlating Text Pages
2. Discuss diseases, disorders, and injury of the muscular system and related signs, symptoms, and treatment methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with muscular diseases and disorders. • Fibromyalgia • Muscle spasms • Muscular dystrophy • Myasthenia gravis • Strain	**Instruction:** 675 Figure 18.2 Common Diseases and Disorders - Fibromyalgia 705 Disease and Injury 705 Muscular Dystrophy 705 Figure 18.30 Muscular Dystrophy 705 Muscle Strain 705 RICE – Rest, Ice, Compression, Elevation **Application:** 710 Lesson 18.3 Review 712 Chapter 18 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the muscular system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together



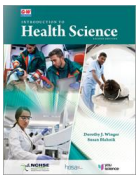
Standards	Correlating Text Pages
	564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 13: Cardiovascular System	
Competencies and Suggested Objectives	
1. Identify and discuss the structures and functions of the cardiovascular system and their role in maintaining homeostasis. DOK1	
a. Identify the components of blood and their respective functions. • Plasma • Erythrocytes • Hemoglobin • Leukocytes • Thrombocytes	**Instruction:** 718 Chapter19.1 The Cardiovascular System 722 Blood Composition 722 Plasma 722 Leukocytes or white blood cells 7222 Thrombocytes – platelets 722 Erythrocytes – red blood cells 722 Hemoglobin 723 Figure 19.4 Blood components **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify the type of blood vessels and the action of each. • Aorta • Arteries	**Instruction:** 725 19.1-2 Blood Vessels 725 Figure 19.6 Networks of blood vessels 725 Arteries



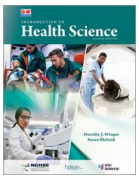
Standards	Correlating Text Pages
• Arterioles • Capillaries • Inferior vena cava • Pulmonary artery • Pulmonary veins • Superior vena cava • Veins • Venules	725 Aorta 725 Arterioles 726 Capillaries 726 Capillary Beds 726 Veins 726 Vena cava 726 Valves 726 Major Blood Vessels 726 Abdominal Aorta, Descending Aorta 727 Figure 19.7 Major arteries and major veins 728 Pulmonary loop 728 Systemic loop **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
c. Identify the anatomy of the heart. • Layers: endocardium, myocardium, pericardium/epicardium • Structures: septum, right/left atriums, right/left ventricles, tricuspid valve, pulmonary valve, bicuspid/mitral valve, aortic valve	**Instruction:** 728 19.1-3 The Heart 728 Endocardium 728 Epicardium 728 Pericardium 729 Myocardium 728 Blood Flow in the Heart 728 Pulmonary loop 728 Systemic loop 728 Figure 19.8 heart pumps blood through two loops 729 Heart Valves 729 Atrium 729 Tricuspid atrioventricular valve 729 Ventricle 729 Semilunar pulmonary volve 729 Figure 19.9 Arrows and numbers show blood travels with each heartbeat 729 Mitral AV valve 730 Figure 19.10 Coronary arteries in heart **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



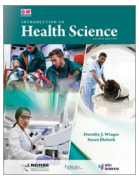
Standards	Correlating Text Pages
d. Describe the electrical conduction pathway. • SA node • AV node • Bundle of HIS • Right and left bundle branches • Purkinje Fibers	**Instruction:** 731 19.1-4 The Cardiac and Cycle and Vital Signs 731 Cardiac Cycle 731 Sinoatrial Node (SA node) 731 Atrioventricular node (AV node) 731 Bundle of HIS 731 Bundle Branches 731 Figure 19.11 Electrical centers of heart activity 731 Purkinje fibers **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
e. Describe the pathway of pulmonary and systemic circulation.	**Instruction:** 721 Circulatory System 726 pulmonary veins 728 Blood Flow in the Heart 728 Pulmonary loop 728 Systemic loop **Application:** 733 Lesso751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep n 19.1 Review
f. Define systole and diastole.	**Instruction:** 732 Blood Pressure 732 Systole – Systolic Pressure 732 Diastole – Diastolic Pressure 733 Hypertension 733 Figure 19.13 Hypertension **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



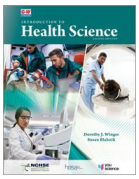
Standards	Correlating Text Pages
2. Discuss diseases and disorders of the cardiovascular system and related signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with cardiovascular diseases and disorders. • Arteriosclerosis • Atherosclerosis • Congestive heart failure • Hypertension • Iron deficiency anemia • Leukemia • Myocardial infarction • Sickle cell anemia	**Instruction:** 719 Chapter 19 The Cardiovascular System 719-720 Figure 19.1 Common Diseases and Disorders for the Cardiovascular System 722 Sickle-cell anemia 722 Leukemia 722 Iron Deficiency anemia 727 Congestive Heart Failure 730 Atherosclerosis 730 Myocardial infarction (MI) 733 Hypertension 733 Figure 19.13 Hypertension **Application:** 733 Lesson 19.1 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the cardiovascular system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT)



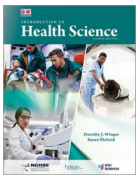
Standards	Correlating Text Pages
	564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 14: Respiratory System	
Competencies and Suggested Objectives	
1. Describe the structures and functions of the respiratory system. DOK2	
a. Define inspiration and expiration.	**Instruction:** 749 Lung Volume 750 Figure 19.26 Lung Capacity 750 Inspiratory reserve volume 750 Expiratory reserve volume 751 Factors Affecting Lung Volume **Application:** 751 Lesson 19.3 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify the structures of the respiratory system and their respective functions. • Alveoli • Bronchi • Bronchioles	**Instruction:** 742 Chapter 19 The Respiratory System 742 Figure 19.20 Common Diseases and Disorders for the Respiratory system 742 Asthma, Cystic Fibrosis, Tuberculosis



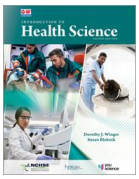
Standards	Correlating Text Pages
• Epiglottis • Larynx • Lungs • Nasal cavity • Nasal septum • Nose • Pharynx • Pleura • Sinuses • Trachea	744 19.3-1 Structures, Functions, and Diseases of the Respiratory System 744 Figure 19.21 Respiratory organs move oxygen 744 Mouth and Nose 744 Nasal Septum 744 Nasal Cavity 744 Nasal Conchae 744 Sinus Cavities 744 Cilia 745 Pharynx – Throat 745 Figure 19-22 Pharynx – three sections 746 Epiglottis 746 Aspiration 746 Larynx – voice box 746 Trachea – windpipe 746 Tracheotomy 746 Bronchi and Bronchioles 746 Asthma 746 Figure 19.23 Asthma Attach 747 Alveoli 748 Pleurae 748 Lungs 749 Lung Volume 750 Figure 19.26 Lung Capacities **Application:** 751 Lesson 19.3 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
c. Differentiate among internal, external, and cellular respiration.	**Instruction:** 748 19.3-2 The Two-Stage Process of Respiration 748 External Respiration 748 Internal Respiration 748 Pleurae 748 19.3-3 Variation in Respiratory Rate and Volume **Application:** 751 Lesson 19.3 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



Standards	Correlating Text Pages
2. Discuss diseases and disorders of the respiratory system and related signs, symptoms, and treatment methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with respiratory diseases and disorders. • Asthma • Bronchitis • COPD • Covid 19 • Emphysema • Influenza • Lung cancer • Pneumonia • Sleep apnea • Tuberculosis	**Instruction:** 569 COVID-19 719 Figure 19.1 Common Diseases and Disorders for the Cardiovascular system 735 Figure 19.14 Lung Cancer (Chart) 735 Influenza 742 Figure 19.20 Common Diseases and Disorders for the Respiratory system 742 Asthma, Cystic Fibrosis, Tuberculosis 746 Asthma 747 COPD 747 Bronchitis 747 Emphysema 747 Tuberculosis 747 Figure 19.24 COPD 747 Pneumonia **Application:** 751 Lesson 19.3 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the respiratory system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot



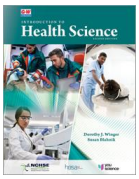
Standards	Correlating Text Pages
	564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 15: Digestive System	
Competencies and Suggested Objectives	
1. Describe the structures and functions of the digestive system. DOK1	
a. Describe the structures comprising the alimentary canal and their respective functions regarding the digestive process (pathway of food, digestion, nutrient absorption). • Mouth: teeth, tongue, hard palate, soft palate • Pharynx • Esophagus • Cardiac/esophageal sphincter • Stomach (include rugae) • Pyloric sphincter	**Instruction:** 808 Chapter 21The Digestive System 809-810 Figure 21.1 Common Diseases and Disorders of the systems for maintenance and continuation 810 21.1-1 Understanding the Digestive System 811 21.1-2 The Process of Digestion 811 Ingestion 811 Alimentary Canal 811 Figure 21.2 The process of digestion 812 Mouth and Teeth 812 Baby teeth, Permanent teeth 812 Figure 21.3 Different types of teeth 812 Figure 21.4 Tooth consists of several layers 813 Digestive



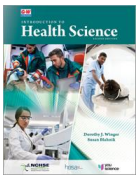
Standards	Correlating Text Pages
	813 Accessory organ, Salivary glands 813 Pharynx, Esophagus, and Stomach 813 Pharynx 813 Peristalsis 813 Esophagus 813 Stomach 814 Figure 21.5 Food passes through the organs 814 Pancreas 814 Duodenum 815 Liver and Gallbladder 815 Liver 815 Bile 815 Jaundice 815 Hepatitis A, B, and C 815 Gallbladder 815 Gallstones **Application:** 817 Lesson 21.1 Review 842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep

• Small intestine (include villi)
  ○ Duodenum
  ○ Ileum
  ○ Jejunum
	Instruction:
	815 Small Intestines
	816 Duodenum
	815 Absorption
	815 villi
	815 Figure 21.7 Villi in small intestine
	815 Jejunum
	815 Ileum
	
	Application:
	817 Lesson 21.1 Review
	842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep

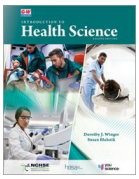
• Large intestine
  ○ Cecum
  ○ Ascending colon
  ○ Transverse colon
  ○ Descending colon
  ○ Sigmoid colon
• Rectum
• Anus
	Instruction:
	816 Large Intestines, Rectum, and Anus
	816 Cecum
	816 Large intestine
	816 Ascending colon
	816 Transverse colon
	816 Descending colon
	816 Sigmoid colon



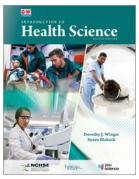
Standards	Correlating Text Pages
	816 Rectum 817 Defecation 817 Anus **Application:** 817 Lesson 21.1 Review
b. Describe the accessory structures of the digestive system and their respective functions regarding the digestive process (pathway of food, digestion, nutrient absorption). • Salivary glands • Pancreas • Liver • Appendix • Gallbladder	**Instruction:** 741 Appendix 813 Digestive 813 Accessory organ, Salivary glands 815 Liver and Gallbladder 815 Liver 815 Bile 815 Jaundice 815 Hepatitis A, B, and C 815 Gallbladder 815 Gallstones **Application:** 817 Lesson 21.1 Review 842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the digestive system and related signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the digestive system. • Appendicitis • Cholecystitis • Cirrhosis • Diverticulitis • Gastric ulcer • GERD • Hepatitis type B (HBV) • Pancreatitis • Ulcerative colitis	**Instruction:** 810 Cirrhosis (chart) 810 Gastric Ulcer (chart) 813 Gastroesophageal reflux disease- GERD 814 Pancreatitis 814 Langerhans cells 814 Hyperglycemia 815 Hepatitis A, B, and C **Application:** 817 Lesson 21.1 Review 842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the digestive system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare



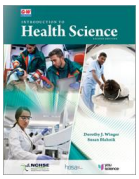
Standards	Correlating Text Pages
	18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review



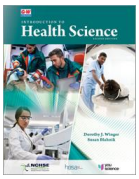
Standards	Correlating Text Pages
Unit 16: Urinary System	
Competencies and Suggested Objectives	
1. Explain the structures and functions of the urinary system as they relate to the formation, composition, and elimination of urine. DOK1	
a. Identify urinary system structures and their respective functions. • Bladder (include rugae) • Bowman's capsule • Cortex • Glomerulus • Hilum • Kidneys • Medulla • Nephrons • Renal pelvis • Ureters • Urethra • Urinary meatus	**Instruction:** 818 Chapter 21 The Excretory (Urinary) System 818 21.2-1 The Excretory System and Waste Removal 818 Excretion 818 Figure 21.9 Organs of the Excretory System 819 Sweat glands 819 Hemodialysis 820 Figure 21.10 Dialysis equipment 820 Figure 21.11 Color of Urine 820 The Urinary system and Blood Filtration 821 Kidneys and Filtration 821 Figure 21.12 The structure of the kidney 821 Filtration 821 Renal Cortex 821 Glomerulus 821 Bowman's capsule 821 Nephron 821 Reabsorption 821 Secretion 822 figure 21.13 Nephron 822 Renal Medulla 822 Calyces 822 Renal pelvis 822 Ureters, Bladder, and Urethra 822 Ureter 822 Hilum 822 Bladder 822 Rugae 822 Urethra **Application:** 824 Lesson 21.2 Review 842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the urinary system and related causes, signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general causes, signs, symptoms, treatment, and prevention methods associated with diseases of the urinary system. • Cystitis • Glomerulonephritis • Pyelonephritis	**Instruction:** 821 Kidney Failure 823 Urethritis **Application:** 824 Lesson 21.2 Review 842 Chapter 21 Summary, Professional Vocabulary,



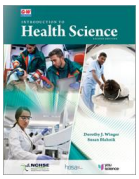
Standards	Correlating Text Pages
• Renal calculus • Renal failure • Uremia • Urethritis	Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Define disorders of the urinary system. • Albuminuria • Anuria • Dysuria • Hematuria • Incontinence • Nocturia • Oliguria • Polyuria • Proteinuria • Pyuria • Retention	**Instruction:** 823 Nocturia 823 Incontinence 823 Nocturia 824 Retention **Application:** 824 Lesson 21.2 Review 842 Chapter 21 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the urinary system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models



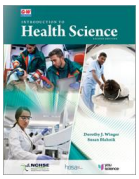
Standards	Correlating Text Pages
	564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 17: Lymphatic System	
Competencies and Suggested Objectives	
1. Explain the structures and functions of the lymphatic system. DOK1	
a. Identify structures of the lymphatic system and their respective functions. • Tonsils • Spleen • Lymph nodes • Thymus	**Instruction:** 733 Chapter 19.2 The Lymphatic system 734 Lymphatic 740 Lymph nodes 740 Figure 19.18 Organs of the Lymphatic system 740 Thymus – diagram 741 Inguinal Lymph nodes 741 Cervical lymph nodes 741 Tonsils and Adenoids 741 Removal and Destruction 741 Spleen 741 Appendix 801 Thymus **Application:** 741 Lesson 19.2 Review 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



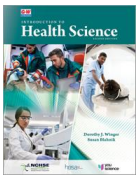
Standards	Correlating Text Pages
2. Discuss diseases and disorders of the lymphatic system and related causes, signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general causes, signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the lymphatic system. • Adenitis • Hodgkin's disease • Splenomegaly • Tonsillitis	**Instruction:** 735 Figure 19.14 Common diseases and disorders of the Lymphatic system 741 Tonsils 741 Spleen 751 Chapter 19 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the lymphatic system. DOK3	**Instruction:** 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding



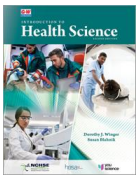
Standards	Correlating Text Pages
	568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 18: Nervous System	
Competencies and Suggested Objectives	
1. Describe the structures and functions of the nervous system. DOK1	
a. Identify the major structures of the nervous system and their respective functions. • Cerebellum • Cerebrum • Midbrain: pons, medulla oblongata • Diencephalon: thalamus, hypothalamus • Spinal cord • Meninges: dura mater, arachnoid membrane, pia mater • Ventricles • Cerebral spinal fluid	**Instruction:** 758 Lesson 20.1 The Nervous System 759-760 Figure 20.1 Common Diseases and Disorders for Body System of Regulation and Communication 760 20.1-1 Regulation and Communication in the 7body 760 Nervous System -body's main control system 760 Homeostasis 761 Figure 20.2 Functional Magnetic Resonance Imaging (fMRI) 761 20.1-2 The Neurons 761 Figure 20.3 Types of Neurons 761 Cell Body 761 Dendrites 761 Axon, Terminal branches 761 Innervate 762 Synapse 762 Neurotransmitter 762 Gray and White brain matter 762 Myelin – waxy sheath 762 The Central Nervous System (CNS) 762 Spinal and Brain 762 Peripheral Nervous system (PNS) 762 Sensory and motor nerves 762 The Brain



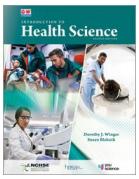
Standards	Correlating Text Pages
	763 Figure 20.4 Nervous System 763 Figure 20.5 Embryo brain 763 Cerebral Hemispheres 763 Corpus Callosum 764 Stroke or Cerebrovascular accident (CVA) 764 Ministroke or transient ischemic attack (TIA) 764 Figure 20.6 Signs of a Strok BE FAST 764 The Forebrain – Cerebrum 764 Cerebral Cortex 765 Fissures, sulci, and gyri 765 Frontal Lobes 765 Primary motor cortex 766 Figure 20.8 Motor homunculus 766 Parietal lobes 766 Occipital lobes 766 Temporal lobes 767 Figure 20.9 Midsagittal Section 767 Limbic system 768 Figure 20.10 Common Diseases and disorders affecting mental health 768 Hippocampus 769 The Midbrain 769 Thalmus 769 Hypothalamus 770 The Hindbrain 770 Cerebellum 770 Brainstem 770 Midbrain, Pons, Medulla Oblongata 770 Spinal Cord 770 20.1-4 Structures Protecting the Central Nervous System 770 Meninges 770 Dura mater, Arachnoid mater, Pia mater 770 Figure 20.12 Three layers meninges 771 Blood-Brain Barrier 771 Bones 772 Cerebrospinal Fluid (CSF) 772 Ventricles **Application:** 780 Lesson 20.1 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Describe the divisions of the nervous system. • Central nervous system • Peripheral nervous system	**Instruction:** 762 The Central Nervous System (CNS) 762 Spinal and Brain



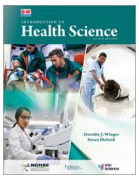
Standards	Correlating Text Pages
• Sympathetic • Parasympathetic	762 Peripheral Nervous system (PNS) 762 Sensory and motor nerves 773 20.1-6 Peripheral Nervous System 774 Sympathetic - fight or flight 774 Parasympathetic – rest and digest **Application:** 780 Lesson 20.1 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
c. Identify the structures of a neuron and the conduction process of a nerve impulse. • Dendrites • Axon • Myelin sheath • Synapse • Neurotransmitters	**Instruction:** 761 20.1-2 The Neurons 761 Figure 20.3 Types of Neurons 761 Cell Body 761 Dendrites 761 Axon, Terminal branches 761 Innervate 762 Synapse 762 Neurotransmitter 762 Gray and White brain matter 762 Myelin – waxy sheath **Application:** 780 Lesson 20.1 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the nervous system and related causes, signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general causes, signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the nervous system. • Alzheimer's disease • Amyotrophic lateral sclerosis • Cerebral palsy • Cerebrovascular accident • Dementia • Epilepsy • Meningitis • Multiple sclerosis • Parkinson's disease • Shingles • Traumatic Brain Injury/Concussion	**Instruction:** 759 Dementia 759 Figure 20.1 Common diseases and disorders 762 Multiple Sclerosis (MS) 764 Stroke or Cerebrovascular accident (CVA) 764 Ministroke or transient ischemic attack (TIA) 767 Parkinson's Disease 769 Alzheimer's disease (AD) 769 Post-traumatic stress disorder (PTSD) 769 Depression 770 Meningitis 773 Alzheimer's disease



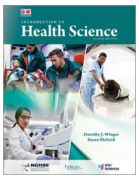
Standards	Correlating Text Pages
	Application: 780 Lesson 20.1 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the nervous system. DOK3	**Instruction:** 13 Safe to Sleep Campaign – SIDS decline 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 New technologies could produce new illness and conditions 18 Video game provoke seizures 18 Virtual reality produce PTSD 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs



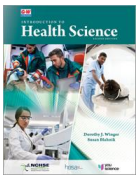
Standards	Correlating Text Pages
	568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 19: Endocrine System	
Competencies and Suggested Objectives	
1. Identify the structures and functions of the endocrine system. DOK1	
a. Differentiate between endocrine and exocrine.	**Instruction:** 680 Two types of Exocrine glands 680 Sebaceous Glands 680 Acne, Boil 680 Sudoriferous glands (derms) 680 Sweat or perspiration 795 Endocrine Glands 795 Hormones 795 Growth and Metabolism 796 Figure 20.35 Hormones 797 Figure 20.36 Hormones travel through circulatory system 797 Negative feedback system 798 Figure 20.37 Homeostasis **Application:** 801 Lesson 20.3 Review 802 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
b. Identify the structures comprising the endocrine system and their respective functions. (see table below)	**Instruction:** 798 Pituitary Gland or Master Gland 798 Hypothalamus 799 Anterior Lobe



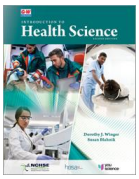
Standards	Correlating Text Pages
	799 Posterior Lobe 799 20.3-3 Functions of Endocrine Glands 799 Figure 20.38 Mayor organs and glands of endocrine system 799 Thyroid and Parathyroid Gland 799 Goiter 799 Parathyroid Glands 799 Adrenal Glands 799 Epinephrine and Norepinephrine 799 Epinephrine or adrenaline 799 Figure 20.39 Adrenaline feats 800 Ovaries and Testes 800 Placenta 800 Pancreas 800 Islets of Langerhans 800 Thymus 800 Pineal gland **Application:** 801 Lesson 20.3 Review 802 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the endocrine system and related causes, signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general causes, signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the endocrine system. • Acromegaly • Cushing's syndrome • Diabetes mellitus (Type 1 and 2) • Dwarfism • Giantism • Graves' disease • Hyperthyroidism • Hypothyroidism	**Instruction:** 688 Dwarfism 719 Common diseases and Disorders for Cardiovascular System 719 Cushing Syndrome, Hyperthyroidism, Hyperparathyroidism 796 Acromegaly 799 Goiter 800 Type 1 Diabetes or juvenile diabetes 800 Type 2 Diabetes or adult-onset diabetes 800 Figure 20.40 Incidence of diabetes **Application:** 801 Lesson 20.3 Review 802 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the endocrine system. DOK3	**Instruction:** 13 Safe to Sleep Campaign – SIDS decline



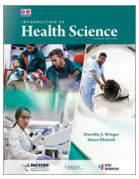
Standards	Correlating Text Pages
	17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 New technologies could produce new illness and conditions 18 Video game provoke seizures 18 Virtual reality produce PTSD 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function



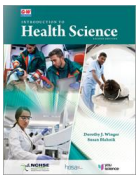
Standards	Correlating Text Pages
	Application: 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review
Unit 20: Sensory Organs	
Competencies and Suggested Objectives	
1. Identify the basic structures and functions associated with the sensory organs. DOK1	
a. Identify sensory organs' structures and describe their respective functions. • Eye: ○ Aqueous humor ○ Choroid coat ○ Conjunctiva ○ Cornea ○ Iris ○ Lacrimal glands ○ Lens ○ Pupil ○ Retina ○ Sclera ○ Vitreous Humor	**Instruction:** 789 20.2-5 Vision 789 Photosensitive 789 Photoreceptors 791 Figure 20.31 Eyes are photosensitive 791 Lacrimal glands 791 Figure 20.32 Eyes 791 Parts of the eye 791 Sclera 791 Strabismus 791 Cornea 791 Aqueous humor 791 Pupil 791 Iris 791 Lens 792 Astigmatism 792 Glaucoma 793 Choroid 793 Retina 793 Macular degeneration 793 Fovea 794 Color Blindness **Application:** 794 Lesson 20.2 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep



Standards	Correlating Text Pages
• Ear: ○ Auditory canal ○ Cochlea ○ Eustachian Tube ○ Organ of Corti ○ Ossicles ○ Pinna/Auricle ○ Semicircular canal ○ Tympanic membrane	**Instruction:** 785 Lesson 20.2-4 Hearing 785 The Ear 785 Pinna 785 Auditory Canal 785 Tympanic membrane or eardrum 785 Ossicles 785 Tympanic membrane 785 Malleus, Incus and Stapes 785 Cochlea 785 Vestibular canals 785 Organ of Corti 785 Balance and Position 785 Figure 20.26 Structure of ear 790 Figure 20.30 American Sign Language **Application:** 794 Lesson 20.2 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• Tongue: ○ Papillae	**Instruction:** 783 Saliva 783 Papillae 783 moat 783 Taste bud 783 Figure 20.24 Taste sensory organs 783 Five basic tastes **Application:** 794 Lesson 20.2 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
• Nose: ○ Olfactory receptors	**Instruction:** 784 Lesson 20.2-3 Smell 784 Olfaction 784 Odors 784 Figure 20.25 Chemoreceptors for smell and taste 784 Olfactory receptor cells 784 Olfactory Bulb **Application:** 794 Lesson 20.2 Review 801 Chapter 20 Summary, Professional Vocabulary,

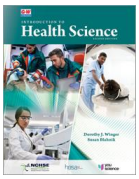


Standards	Correlating Text Pages
	Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
2. Discuss diseases and disorders of the sensory organs. DOK2	
a. Identify the general causes, signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the sensory organs. • Amblyopia • Astigmatism • Cataract • Conjunctivitis • Glaucoma • Hearing loss (conductive, sensory) • Meniere's disease • Otitis externa • Otitis media • Otosclerosis • Strabismus	**Instruction:** 759 Figure 20.1 Common Diseases- Cataracts 788 Hearing Loss 788 Presbycusis 788 Noise-induced hearing loss (NIHL) 788 Figure 20.29 Protective earplugs or earmuffs 789 Conductive hearing loss 789 Cerumen or earwax 789 Sensorineural hearing loss 789 Mixed hearing loss 789 Hearing Aids 791 Parts of the eye 791 Sclera 791 Strabismus 792 Astigmatism 792 Glaucoma **Application:** 793 Lesson 20.2 Review 801 Chapter 20 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep
3. Research the impact of emerging technology on the sensory organs. DOK3	**Instruction:** 13 Safe to Sleep Campaign – SIDS decline 16 Prostate Cancer Research 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 New technologies could produce new illness and conditions 18 Video game provoke seizures 18 Virtual reality produce PTSD 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics

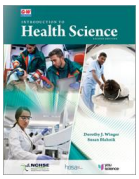


Standards	Correlating Text Pages
	20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes 21 Nanotechnology 21 Stents 21 Pacemakers 21 Figure 1.17 Tiny origami robot 564 Increasing Technology 564 Information Technology (IT) 564 Telehealth, Virtual reality, and interconnected wearable devices 564 Computer Simulations and Robots 564 Artificial Intelligence (AI) problem solving models 564 Biotechnology, DNA, and AI together 564 Computer Algorithms 564 Figure 14.24 Autonomous medical robots 568 Biotechnology Research Funding 568 Figure 14.28 Lengthy development and approval process for new drugs 568 Patent 568 Stem cell production lines, techniques for diagnostic testing 568 Generic 570 Advances in Biotechnology 570 Figure 14.30 Antibiotic-sensitivity tests 570 Precision medicine 686 Looking for new technologies to relieve pain and improve function 783 Current research – five basic tastes- Umami 783 Umami – newest flavor discovery 783 new research for taste enhancers 793 Stem cell new photoreceptors 793 Retinal Implants **Application:** 21 Lesson 1.2 Review 27 Chapter 1 Summary, Professional Vocabulary, Reflect on Your Reading, Review and Recall, Build core Skills, Activate Your Learning, Think and Act like a HealthCare worker, Go to the Source, HOSA Event Prep 571 Lesson 14.3 Review 697 Lesson 18.2 Review 793 Lesson 20.2 Review

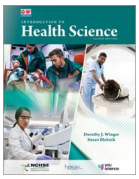
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Standards	Correlating Text Pages
Unit 21: Reproductive System	
Competencies and Suggested Objectives	
1. Discuss the structures and functions of the male and female reproductive systems. DOK1	
a. Identify the major structures of the male and female reproductive system and their respective functions. • Male: ○ Cowper's gland ○ Ejaculatory ducts ○ Epididymis ○ Penis ○ Prostate gland ○ Scrotum ○ Seminal vesicles ○ Testes ○ Urethra ○ Vas deferens	**Instruction:** 824 Lesson 21.3-1 The Male Reproductive Organs 826 Testes- Testicles or gonads 826 Sperm – Gametes 826 Seminiferous tubules 826 Figure 21.14 Male Reproductive System 827 Epididymis 827 Scrotum 827 Vas deferens or ductus deferens 827 Semen 827 Prostate Gland 827 Bulbourethral glands or Cowper gland 827 Penis 827 Figure 21.15 Sperm/Egg 827 Glans 827 Prepuce 827 Circumcision **Application:** 841 Lesson 21.3 Review
• Female: ○ Bartholin's glands ○ Breasts ○ Fallopian tubes ○ Ovaries ○ Perineum ○ Uterus: endometrium ○ Vagina ○ Vulva: mons pubis, labia majora, labia minora	**Instruction:** 827 Lesson 21.3-2 The Female Reproductive Organs 827 Ovaries 827 Ova 827 Figure 21.16 The female Reproductive System 828 Puberty 828 Menopause 829 Fimbriae 829 Fallopian Tube 829 Uterus 829 Endometrium 829 Menstruation 829 Cervix 829 Vagina 829 Hymen, Labia **Application:** 841 Lesson 21.3 Review
2. Discuss diseases and disorders of the reproductive system and related signs, symptoms, treatment, and prevention methods. DOK2	
a. Identify the general signs, symptoms, treatment, and prevention methods associated with diseases and disorders of the reproductive systems. • Breast cancer • Cervical cancer	**Instruction:** 282 Cervical Cancer 735 Figure 19.14 Common Diseases and disorders of the lymphatic system 739 Breast Cancer



Standards	Correlating Text Pages
• Endometriosis • Epididymitis • Orchitis • Ovarian cancer • Pelvic inflammatory disease • Premenstrual syndrome • Prostate cancer • Prostatic hypertrophy • Testicular cancer • Uterine cancer	829 Lesson 21.3-3 Sexually Transmitted Infections (STIs) 829 Human Papillomavirus (HPV) 829 Cervical Cancer 829 Chlamydia 829 Gonorrhea **Application:** 841 Lesson 21.3 Review
b. Identify the general signs, symptoms, treatment, and prevention methods associated with sexually transmitted infections (STIs). • Human Immunodeficiency Virus • Chlamydia • Gonorrhea • Herpes • Human Papillomavirus • Pubic lice • Syphilis • Trichomoniasis	**Instruction:** 55 Trichomoniasis 590 Syphilis 680 Pediculosis - lice 829 Lesson 21.3-3 Sexually Transmitted Infections (STIs) 829 Human Papillomavirus (HPV) 829 Cervical Cancer 829 Chlamydia 829 Gonorrhea **Application:** 841 Lesson 21.3 Review
3. Research the impact of emerging technology on the reproductive system. DOK3	**Instruction:** 13 Safe to Sleep Campaign – SIDS decline 16 Prostate Cancer Research 17 1.2-3 Technology and Medicine 17 Healthcare Professions: The Evolving Nature of Healthcare 18 New technologies could produce new illness and conditions 18 Video game provoke seizures 18 Virtual reality produce PTSD 18 Virtual Reality 18 Data Mining and Artificial Intelligence 19 Microdevices 19 Machine Learning 19 Voice Technologies – Vocal biomarkers 19 Digital Devices 19 Healthcare Apps 19 Biomechanical Technologies 19 3D Printing – Prosthetics 20 Brain Implants 20 Telesurgery 20 Robots 20 Robots Assist with lifting 20 Robots- moving patients 20 Figure 1.16 Robot disinfects a hospital room in 10 minutes



Standards	Correlating Text Pages
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