



HEALTHCARE SCIENCE

COURSE: 25.552 Applications of Therapeutic Services

UNIT: 12.1 Skeletal System



INTRODUCTION

Annotation:

In this unit students will identify at least 25 bones of the skeletal system and recognize at least 3 diseases of the skeletal system. The students will also analyze the interdependence of the skeletal system as it relates to the protection, support and movement of the human body.

Grade(s):

| | |
|-------------------------------------|------------------|
| <input type="checkbox"/> | 9 th |
| <input checked="" type="checkbox"/> | 10 th |
| <input checked="" type="checkbox"/> | 11 th |
| <input checked="" type="checkbox"/> | 12 th |

Time: Five 50 minute periods

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Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

HS-ATS-8:

The student will analyze the anatomy, physiology and basic pathophysiology of each of the body's systems and apply knowledge in performance of evaluating, monitoring, and treatment of client(s) and/or simulations.

- a. Analyze anatomical structures in relationship to their physiological functions.
- b. Analyze the interdependence of the integumentary, skeletal, and muscular systems as these relate to the protection, support and movement of the human body.

GPS Academic Standards:

SAP1: Students will analyze anatomical structures in relationship to their physiological functions.

SAP2: Students will analyze the interdependence of the integumentary, skeletal, and muscular systems as these relate to the protection, support and movement of the human body.

SAP3: Students will assess the integration and coordination of body functions and their dependence on the endocrine and nervous systems to regulate physiological activities.

SAP4: Students will analyze the physical, chemical, and biological properties of process systems as these relate to transportation, absorption and excretion, including the cardiovascular, respiratory, digestive, excretory and immune systems.

National / Local Standards / Industry / ISTE:



UNDERSTANDINGS & GOALS

Enduring Understandings:

- Understand the important functions of the skeletal system including its relationship to other body systems.
- Identify the main bones of the skeletal system
- Understand how common disorders affect the skeletal system

Essential Questions:

- How does the skeletal system function and work with other body systems to maintain the human body?
- What are the names of the major bones of the skeletal system?
- How is the skeletal system affected by disease/disorders?

Knowledge from this Unit:

- List 3 functions of the bones and the bones relationship to the body.
- Identify at least 3 common diseases/disorders and signs and symptoms of the disease/disorders as well as prevention and treatment.

Skills from this Unit:



ASSESSMENT(S)

Assessment Method Type:

- ☐ Pre-test
- ☒ Objective assessment - multiple-choice, true- false, etc.
 - ☐ Quizzes/Tests
 - ☒ Unit test
- ☐ Group project
- ☐ Individual project
- ☐ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☐ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☐ Practice quizzes/tests
- ☒ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ Observe students working with partners
 - ☐ Observe students role playing
- ☐ Peer-assessment
 - ☐ Peer editing & commentary of products/projects/presentations using rubrics
 - ☐ Peer editing and/or critiquing
- ☐ Dialogue and Discussion
 - ☐ Student/teacher conferences
 - ☐ Partner and small group discussions
 - ☐ Whole group discussions
 - ☐ Interaction with/feedback from community members/speakers and business partners
- ☐ Constructed Responses
 - ☐ Chart good reading/writing/listening/speaking habits
 - ☐ Application of skills to real-life situations/scenarios
- ☐ Post-test

Assessment(s) Title:

Skeletal Test

Assessment(s) Description/Directions:

This is a written test about the structure and function of the skeletal system

Attachments for Assessment(s):



LEARNING EXPERIENCES

Sequence of Instruction

- 1. Identify the Standards. Standards should be posted in the classroom for each lesson.**
- 2. Review Essential Questions.**
- 3. Identify and review the unit vocabulary.**
- 4. Assessment Activity.**
 - a) Outline of the skeletal system
 - b) Students to complete the worksheet
 - c) Identify the bones using the classroom skeleton if the classroom has one. Alternate, make a transparency and trace the skeletal system onto a large piece of paper using an overhead projector.
 - d) Have student work in small groups to learn the bones
 - e) Review using the internet resources
 - f) If time allows, complete the WebQuest <http://webpages.shepherd.edu/ERYAN01/WebQuest.htm>
 - g) Give student ID bone Test
 - h) Review the diseases of skeletal system that were included on the outline.
 - i) Give students final skeletal test

Attachments for Learning Experiences:

Notes & Reflections:



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

ID the Bones

Culminating Unit Performance Task Description/Directions/Differentiated

The teacher will randomly point to the bones of a skeleton and have the students write the correct name of the bone on the test paper. Teacher can make own 1-10 or another number for the students to record their answers.

Attachments for Culminating Performance Task

The Bones ID Sheet



UNIT RESOURCES

Web Resources:

- <http://www.gamequarium.com/humanbody.html> interactive game site
- <http://www.studystack.com/matching-34580> study stack is a great site to practice and learn about many medical related topics and well as other academic areas.
- <http://www.quia.com/jg/272497.html> Skeletal and muscular review together.
- <http://webpages.shepherd.edu/ERYAN01/WebQuest.htm> this is a webquest with helpful resources and information. May use as an alternate assignment.

Attachment(s):

Materials & Equipment:

- Classroom Textbook
- Skeletal System Outline
- Skeletal System Worksheet
- ID Bones Test Sheet
- Skeletal Test
- Computer
- Internet

What 21st Century Technology was used in this unit:

| | | | | | |
|--------------------------|-------------------------|-------------------------------------|--------------------|--------------------------|---------------------------------|
| <input type="checkbox"/> | Slide Show Software | <input type="checkbox"/> | Graphing Software | <input type="checkbox"/> | Audio File(s) |
| <input type="checkbox"/> | Interactive Whiteboard | <input type="checkbox"/> | Calculator | <input type="checkbox"/> | Graphic Organizer |
| <input type="checkbox"/> | Student Response System | <input type="checkbox"/> | Desktop Publishing | <input type="checkbox"/> | Image File(s) |
| <input type="checkbox"/> | Web Design Software | <input type="checkbox"/> | Blog | <input type="checkbox"/> | Video |
| <input type="checkbox"/> | Animation Software | <input type="checkbox"/> | Wiki | <input type="checkbox"/> | Electronic Game or Puzzle Maker |
| <input type="checkbox"/> | Email | <input checked="" type="checkbox"/> | Website | | |