GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

HEALTHCARE SCIENCE

COURSE: 25.562 Concepts of Emergency Medicine

UNIT: 10.1 Circulatory System

INTRODUCTION

Annotation:

This unit will cover the anatomy, physiology, and pathophysiology of the circulatory system.

Grade(s):

	9th
	10th
X	11th
X	12th

Time:

Two 50 minute periods

Author:

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Additional Author(s):

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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: Please list the standard and elements covered.

HS-CEM-5. Students will demonstrate knowledge of the different systems of the body and how they relate to patient care.

a. Summarize the importance of the Emergency Medical Services Provider's knowledge of the body's anatomy and physiology in relation to providing competent care and accurate communication to other health care providers.

b. Demonstrate knowledge of the body's anatomy and physiology to provide competent patient care and accurate communication to other health care providers.

GPS Academic Standards:

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

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

ELA11C1. The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

National / Local Standards / Industry / ISTE:

UNDERSTANDINGS & GOALS

Enduring Understandings:

Students will understand the anatomy and physiology of the circulatory system, common diseases and processes of the circulatory system, how these diseases are treated and how, if possible, each can be prevented.

Essential Questions:

- Why is the circulatory system important?
- What are common disorders and diseases related to the circulatory system?
- Which circulatory system diseases are preventable, and what steps should be taken to do so?

Knowledge from this Unit:

- Student can identify structures of the circulatory system.
- Student can explain the function of the circulatory system.
- Student can describe the cause(s), signs/symptoms, and treatment of three disorders or diseases related to the circulatory system.

Skills from this Unit:

- Student can differentiate between angina pectoris and myocardial infarction, and take appropriate emergency action steps.
- Student can communicate patient information to emergency care providers using appropriate medical terminology.

ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

____ Pre-test
X Objective assessment - multiple-choice, true- false, etc.
__ Quizzes/Tests
__ Unit test
____ Group project
____ Individual project
X 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:

- Circulatory System Unit Exam

Assessment(s) Description/Directions:

- Circulatory System Unit Exam: administer exam upon completion of unit.
- Circulatory System Exam Review Sheet: hand out day prior to exam for student self-study.

Attachments for Assessment(s): Please list.

- Circulatory System Unit Exam & key
- Circulatory System Exam Review Sheet

LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

HS-CEM-5. Students will demonstrate knowledge of the different systems of the body and how they relate to patient care.

SAP1. Students will analyze anatomical structures in relationship to their physiological functions.
SAP3. Students will assess the integration and coordination of body functions and their dependence on the endocrine and nervous systems to regulate physiological activities.
ELA11C1. The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

2. Review Essential Questions.

- Why is the circulatory system important?
- What are common disorders and diseases related to the circulatory system?

- Which circulatory system diseases are preventable, and what steps should be taken to do so?

3. Identify and review the unit vocabulary.

Pre-assign unit by having students read chapter in text and define terms. Have students take self-quizzes before lesson and as a review for the exam

http://msjensen.cehd.umn.edu/webanatomy/cardiovascular/default.html

Aortic valve	arteries	blood	capillaries	diastole	endocardium
Erythrocytes	hemoglobin	left atrium	left ventricle	leukocytes	mitral valve
Myocardium	pericardium	plasma	pulmonary valve	right atrium	
Right ventricle	septum	systole	thrombocyte	tricuspid valve	
Veins	venules				

4. Assessment Activity.

LESSON ONE

1. Warm-up Activity: Ask students if they know what blood type they are. Use information at http://chapters.redcross.org/br/northernohio/INFO/bloodtype.html for this discussion. Determine who in class can potentially donate organs to which other students based on blood types.
2. Show slides 1-19 from the slideshow presentation on circulatory system and have students take notes.
3. Hand out the heart coloring worksheet (attached) and have students complete.
4. Wrap-up Activity: have students locate various pulse points (temporal, carotid, radial, popliteal, etc.)

LESSON TWO

1. Warm-up Activity: Circulatory System Teamwork Game. Divide class into two teams. Using attachment, use one set of cards per team. Give one card to each student in team. Direct teams to organize themselves in the order of the pathway of the blood through the heart; beginning with the superior/inferior vena cava. First team to finish wins. (Good prize: red and white lifesavers to represent red and white blood cells).

2. Show remainder of circulatory system slideshow presentation and have students take notes.

3. Wrap-up Activity: have students divide blank sheet of paper into two halves. Title one half "AMI" and the other "Angina Pectoris." Without looking at notes, have students write down as many symptoms for each column as they can recall. Compare notes with classmate.

Attachments for Learning Experiences: Please list.

- Circulatory System Slideshow Presentation
- Circulatory System Teamwork Game
- Heart Coloring Worksheet

Notes & Reflections: May include notes to the teacher, pre-requisite knowledge & skills, suggestions, etc.

- Invite cardiologist to speak to class.
- Ask local hospital for old pacemaker to show to class.

CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

Culminating Unit Performance Task Description/Directions/Differentiated

Attachments for Culminating Performance Task

UNIT RESOURCES

Web Resources:

http://msjensen.cehd.umn.edu/webanatomy/cardiovascular/default.html

http://chapters.redcross.org/br/northernohio/INFO/bloodtype.html

Refer to circulatory system information from Applications of Healthcare Science course for additional resources.

Attachment(s): Supplemental files not listed in assessment, learning experiences, and performance task.

Materials & Equipment:

What 21st Century Technology was used in this unit:

X	Slide Show Software		Graphing Software		Audio File(s)
	Interactive Whiteboard		Calculator		Graphic Organizer
	Student Response System		Desktop Publishing		Image File(s)
	Web Design Software		Blog		Video
	Animation Software		Wiki		Electronic Game or Puzzle Maker
	Email	X	Website		