



## HEALTHCARE SCIENCE

**COURSE:** 25.552 Applications of Therapeutic Services

**UNIT:** 16.1 Cardiovascular System



## INTRODUCTION

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**Annotation:**

In this unit students will identify the basic structures in the cardiovascular system. They will recall the route of the blood flow through the heart, explain how blood travels through the rest of the body and basic changes that occur in the blood as it travels. Students will also identify some common disorders.

**Grade(s):**

X	9 <sup>th</sup>
X	10 <sup>th</sup>
X	11 <sup>th</sup>
X	12 <sup>th</sup>

**Time:**

Three 50 Minute periods

**Author:**

Pat Rutherford, RN EdS

**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

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### **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.

### **GPS Academic Standards:**

### **National / Local Standards / Industry / ISTE:**



## UNDERSTANDINGS & GOALS

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### **Enduring Understandings:**

- Recall the parts of the heart and the pathway of the blood through cardiopulmonary circulation.
- Understand how the cardiovascular system relates to other systems
- Identify basic disorders of the cardiovascular system

### **Essential Questions:**

- How does the cardiovascular system function?
- How does the cardiovascular system relate to other body systems?
- What are some common disorders of the cardiovascular system?

### **Knowledge from this Unit:**

### **Skills from this Unit:**



# ASSESSMENT(S)

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## 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:

Circulation Test

## Assessment(s) Description/Directions:

## Attachments for Assessment(s):



# LEARNING EXPERIENCES

## Sequence of Instruction

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

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.

### 2. Review Essential Questions.

### 3. Identify and review the unit vocabulary.

### 4. Assessment Activity.

- a) Introduce the Cardiovascular system using the multimedia presentation above and discuss the heart portion of the multimedia presentation

#### Day 1

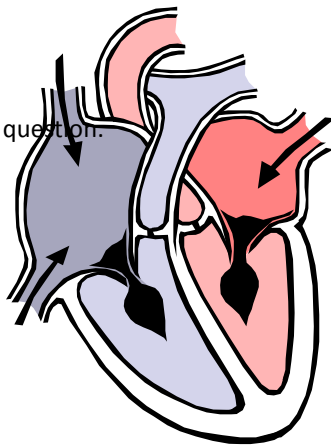
Review the answers: Use a tennis ball to gently toss it to the next student to answer a question.

#### Day 2

Have student explore the website on the heart fact worksheet and answer questions.

<http://www.pbs.org/wgbh/nova/heart/heartfacts.html>

Review the answers



#### Day 3

Draw a large heart outside in the parking lot with chalk.

Divide the students into groups of three 1-RBC 2-WBC 3 Platelets

Other students will become the gate keepers of the valves.

Students will begin at the Superior Vena Cava and walk through the heart, students are not to go to the next part until the valve opens to let them through. All students should take turns and walk through the giant heart in the correct direction of the blood flow.

**Alternate plan** if cannot draw in parking lot. Give students an index card with each step and valve printed on the card. Then instruct the students to get in the correct line-up for the blood flow through the heart

#### Day 4

Test over The circulation of the heart.

**Day 5**

LP Cardiovascular System WebQuest

**Attachments for Learning Experiences:****Notes & Reflections:**

The teacher can adapt this lesson plan as it best fits into their classroom.



## CULMINATING PERFORMANCE TASK (Optional)

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**Culminating Unit Performance Task Title:**

WebQuest

**Culminating Unit Performance Task Description/Directions/Differentiated**

This is a webquest that is on line, students will turn in the information at the conclusion of the assignment

**Attachments for Culminating Performance Task**

Within the WebQuest on line



## UNIT RESOURCES

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### Web Resources:

- <http://www.pbs.org/wgbh/nova/heart/heartfacts.html>
- <http://effinghamschools.schoolwires.com/107720926192818717/blank/browse.asp?A=383&BMDRN=2000&BCOB=0&C=56907> Cardiovascular system multimedia presentation by Laura Mesmer which includes all structures, and common disorders of the cardiovascular system
- <http://www.worldofteaching.com/biologypowerpoints.html> This website has multiple multimedia presentations on the circulatory system and blood with great graphics disorders will need to be added

### Attachment(s):

- Heart Flow Test
- Milestone of the Heart Information Sheet
- LP system WebQuest handout
- Circulation Test

### Materials & Equipment:

- Heart flow handout
- Heart Facts Worksheet
- Computer & Internet
- Sidewalk Chalk

### 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		