GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

HEALTHCARE SCIENCE

COURSE: 25.562 Concepts of Emergency Medicine

UNIT: 9.1 Endocrine System

INTRODUCTION

Annotation:

This unit will cover the anatomy, physiology, and pathophysiology of the endocrine system. Students will complete and present a group project on endocrine system disorders.

Grade(s):

	9th
	10th
X	11th
X	12th

Time:

Two 50 minute periods

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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 that the endocrine system is comprised of glands that secrete hormones. These hormones have a purpose/function and affect how the human body functions. They will further understand the common diseases and processes of the endocrine system, how these diseases are treated and how, if possible, each can be prevented.

Essential Questions:

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

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

Knowledge from this Unit:

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

Skills from this Unit:

- Student can demonstrate technique to measure blood glucose level.
- Student can recognize and treat diabetic emergencies appropriately.

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
X 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
X 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:

- Endocrine Disorder Group Multimedia Presentation
- Endocrine System Unit Exam

Assessment(s) Description/Directions:

- Endocrine Disorder Group Multimedia Presentation: Use combination of two rubrics: HS Peer Group Evaluation and Group Multimedia Grading Rubric (attached); rubric should be distributed when project is assigned so that students know expectations.
- Endocrine System Unit Exam

Attachments for Assessment(s): Please list.

- HS Peer Group Evaluation
- Group Multimedia Grading Rubric
- Endocrine System Unit Exam

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

3. Identify and review the unit vocabulary.

Have students label diagram from quiz or go online to sites listed below to practice labeling and practice taking quiz; define unit vocabulary as homework.

hypothyroidism	hyperthyroidism	hormones
Pituitary gland	giantism	dwarfism
Ovaries	oxytocin	lutenizing hormone
Parathyroid glands	Cushing's syndrome	Addison's Disease
goiter	thymus	placenta
Graves disease	pancreas	diabetes mellitus
Acromegaly	adrenal glands	testes
Insulin	Diabetic Coma	Insulin Shock

4. Assessment Activity. Endocrine Disorder Group Multimedia Presentation:

Assign groups of 3-4 students to research a randomly assigned endocrine disorder (hypothyroidism, giantism, dwarfism, Cushing's syndrome, Addison's disease, Graves disease, diabetes mellitus, acromegaly, etc.). Each group is to create a multimedia presentation including minimum of five slides and three pictures plus a works cited slide. Students will then present multimedia to class in five to eight minute presentations. (Day One = research and preparation; Day Two = presentations).

5. Have students watching presentations take notes and remind them that the information presented by their peers will be on the unit exam.

6. After presentations are complete, have students complete and hand-in peer evaluation rubrics.

7. Wrap-up activity.

Ask students to raise hand and tell class new fact they learned from another student's presentation today OR tell class how something presented today relates to their own life personally (remind them to maintain confidentiality at all times).

Attachments for Learning Experiences: Please list.

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

- To reduce transition time between group presentations during class, teacher can assign one student to be the master organizer (or teacher can choose to do this him or herself). Have all student groups email their presentations to master organizer; cut and paste all presentations into ONE multimedia presentation before class starts (or at least into one file folder).
- For classrooms with limited computer access, may modify this assignment and make poster presentations instead of multimedia. Use textbook or medical journals for research instead of computer.
- Invite willing student, teacher, or community member w/ diabetes to speak to class about disease, demonstrate use of glucometer, and show insulin pump.
- Invite endocrinologist from community to speak to class.
- Call American Diabetes Association for handouts and/or speakers.
- Refer to endocrine system information from Applications of Healthcare Science course for additional resources

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://www.zerobio.com/quiz9.htm Endocrine System Review Quiz

http://msjensen.cehd.umn.edu/webanatomy/endocrine/endo_glands_1_s.html Endocrine system online labeling quiz

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

Materials & Equipment:

- Computers for student research

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		