Global Positioning Systems

LEARNING AREA: Read, Listen & View
EDUCATIONAL LEVEL: High School
STANDARD: Technical Reading

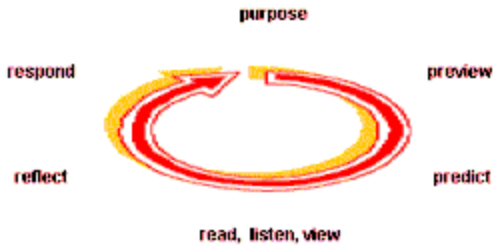
Read Complex Information

1. Comprehend and evaluate complex information in a variety of English language non-fiction reading, viewing and listening skills.

Technical Reading

1. Read and apply technical information from a variety of English language documents or electronic media.

LARGE PROCESSES/CONCEPTS:



ASSESSMENT TASK: Global Positioning Systems

DESCRIPTION:

Student will learn specialized vocabulary and apply information from technical resources. Student will initialize, setup, and save data with Global Positioning System from manuals and guidelines in technical manuals. Set up, adjust, record data, and maintain components used to service, enhance, or maintain GPS components.

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ASSESSMENT TASK: Global Positioning System

PRODUCTS/EVIDENCE OF LEARNING:

Student will:

1. Identify make and model of GPS units being used.
2. Identify basic units components such as receiver, keypad, screen, etc.
3. Comprehend keys and keypad functions.
4. Comprehend screens and related information.
5. Explain menus and their applications.
6. Identify add on components and explain their functions.
7. Identify power sources (battery replacement, type, and additional power sources.)

OVERVIEW:

Student must use and interpret information from technical manuals during work in the classroom, lab, or outdoors. Teacher will check student's work periodically to monitor progress and student must be prepared to discuss the work using specialized technical vocabulary. Referring to the technical manual, the student will answer teacher's questions during progress checks about the technical specifications of the GPS Unit and its parts. Further questions of the correct procedures for connecting or disconnecting components, locating screens, etc. using appropriate diagrams will be answered. Lab activity sheets with step-by-step guides will lead student through appropriate procedures. The teacher may provide a variety of methods for students to record their work (written work reports or detailed lab activity sheets are examples). Examples of appropriate GPS Units include, but not limited to Garmin 45XL, Garmin III plus, Eagle Explorer, Magellan 2000, etc.

Prerequisites: Units, "Maps, Navigation, and Orientation," and "Global Positioning Systems."

Student Procedure:

1. Acquire GPS unit and owner's manual from instructor.
2. From owner's manual identify unit features (antenna, function keys, power/backlight key, rocker keypad, LCD display, and battery door.)
3. From owner's manual and "Quick Reference Guide (Garmin)," student will determine the functions of each key.
4. Through the use of the owner's manual and appropriate video tape (example "Garmin III"), student will determine the function and use of each screen of the GPS unit.
5. With aide of the owner's manual along with teacher assistance, student will demonstrate the use of additional accessories (examples: GBR 21 Differential Beacon Receiver, remote antenna, and cigarette lighter adapter).
6. With aide of the teacher, owner's manual, and teacher prepared worksheets student will replace batteries, use cigarette lighter adapter, and alternative power sources.
7. Using the hand held GPS unit student will demonstrate knowledge of the use the unit by locating the coordinates of the following locations (teacher may determine different sites).
8. Student will enter these locations as waypoints in the GPS unit with appropriate symbols.

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ASSESSMENT TASK: Global Positioning System

POSITION

North/West_____
Goal Post_____

Home Plate_____
Baseball Field_____

First Base_____
Softball Field_____

Swing Set_____
Playgound_____

CHECK LIST: Global Positioning System

STUDENT	TEACHER	
_____	_____	Appropriate and accurate technical vocabulary is used correctly.
_____	_____	All necessary and accurate information from technical manuals and resources is selected and applied.
_____	_____	Information from technical manuals on charts and tables is accessed and used accurately.
_____	_____	Multiple sources of information are accessed to acquire information, when necessary.

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