«Science Lesson Plans

# GPS Lab: I am a Biologist.

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## Description

This GPS lab reviews terms and concepts related to life science, outlined by the Scott Foresman 5th Grade Science text. Students will also review common science equipment terms and cave concepts.

## Grade Level

5th grade

## Lesson Objective

* Students will review life science terms and vocabulary.

* Students will explore technology and learn terms related to GPS units.

* Students will use math skills to determine GPS waypoints.

* Students will review concepts learned about caves.

* Students will review science equipment terms.

## GLEs

· 4.1.A.a (DOK 1) - Among Organisms and Their Environment; Identify the ways a specific organism may interact with other organisms or with the environment (e.g., pollination, shelter, seed dispersal, camouflage, migration, hibernation, defensive mechanism)

· 4.3.C.b (DOK 2)-Identify specialized structures and senses and describe how they help animals survive in their environment (e.g., antennae, body covering, teeth, beaks, whiskers, appendages)

· 4.3.C.c (DOK 1)- Identify internal cues (e.g., hunger) and external cues (e.g., changes in the environment) that cause organisms to behave in certain ways (e.g., hunting, migration, hibernation)

· .3.C.d (DOK 2)- Predict which plant or animal will be able to survive in a specific environment based on its special structures of behaviors.

· 3.1.D.a (DOK 2)– *Scope and Sequence – Classification of Plants and Animals;* Compare structures (e.g., wings vs. fins vs. legs; gills vs. lungs; feathers vs. hair vs. scales) that serve similar functions for animals belonging to different vertebrate classes

· 3.1.E.a-c(DOK 1)- *Scope and Sequence – Classification of Plants and Animals;* Classify animals as vertebrates and invertebrates

· 3.1.E.a -d(DOK 1)- *Scope and Sequence – Classification of Plants and Animals;* Classify vertebrates animals into classes (amphibians, birds, reptiles, mammals, fish) based on their characteristics.

## Depth of Knowledge

Level 1

## Instructional Strategies

- Problem Solving Strategies
- Technology
- Collaborative Learning

## Time Needed

1- 50-60 minute time period

## Materials

- 6 GPS units
- String
- 14 Gallon Zip lock bags
- Per Student: Clipboard, Writing Utensil, Student Handout

## Academic Vocabulary

see list included in the lesson plan

## Lesson Plan

**Lesson Plan:**

**1.** Explain to students that each group has a different and unique set of instructions. Remind them that it will not be helpful to follow other groups because the order of the stations is not the same for every group.

**2.**Share that each group will start at the same waypoint and given their first "clue". Model for students how to solve a clue and find the waypoint in their GPS unit.

- Use the "find" command and scroll down until you find the listed waypoint number.
- Explain that all waypoints are three digits and have a J preceding it. Also share that for some waypoints a zero will need to be added to find the correct waypoint in the GPS unit. (e.g., 56 will need a zero—056)

3.Continue to explain that once a group has reached the correct waypoint, they will need to find their group's clue inside the bag. Express the importance of locating the correct clue based on their group's name. (In order to complete the course, all groups must follow their set of clues). Share that if there is not a clue for your group in the bag, then they are at the wrong waypoint and need to go back to their last waypoint. Discuss as a class reasons why there might be an error. (e.g., selected wrong waypoint, miscalculated math component, selected wrong clue, etc.)

4.Have students start the lab and continue until all groups have reached the target final waypoint.

- Extension: Have a special celebration and project waiting for groups who finish early.

5. After returning from the lab, reflect as class. Discussing how GPS technology works and review concepts reviewed within the clues.

**Vocabulary**

- Beaker
- Behavioral Adaptation
- Blind
- Classify
- Extinct
- Grasslands
- Habitat
- Hearing
- Invertebrate
- Kingdom
- Life
- Linear Measurement
- Magnifying Glass
- Microscope
- Niche
- Predator
- Sinkhole
- Sound
- Structural Adaptations
- Thermometer
- Troglobite
- Vertebrate
- Weight

### Resources

Student Handout and Questions-PDF

Lesson Overview-PDF

Group Waypoint Overview-PDF

Scotts Foresman 5th Grade Teachers Guide

### Literature links

Title: Animals with No Eyes

Author: Kelly Regan Barnhill

Publisher: Capstone Press

Year: 2008

Genre: Non-fiction

### Text book link(s)

Scott Foresman 5th Grade Unit A Life Science

**Key concepts:** life science; science equipment; caves