

## LESSON 9: INTRODUCTION TO GPS

### Grade-Level Outcomes

#### Primary Outcomes

**Movement concepts, principles & knowledge:** Applies the terminology associated with exercise and participation in selected individual-performance activities, dance, net/wall games, target games, aquatics and/or outdoor pursuits appropriately. (S2.H1.L1)

**Movement concepts, principles & knowledge:** Identifies and discusses the historical and cultural roles of games, sports and dance in society. (S2.H1.L2)

**Rules & etiquette:** Exhibits proper etiquette, respect for others and teamwork while engaging in physical activity and/or social dance. (S4.H2.L1)

**Lifetime activities:** Demonstrates competency and/or refines activity-specific movement skills in 2 or more lifetime activities (outdoor pursuits, individual-performance activities, aquatics, net/wall games or target games). (S1.H1.L1)

#### Embedded Outcomes

**Working with others:** Uses communication skills and strategies that promote team or group dynamics. (S4.H3.L1)

**Rules & etiquette:** Examines moral and ethical conduct in specific competitive situations (e.g., intentional fouls, performance-enhancing substances, gambling, current events in sport). (S4.H2.L2)

### Lesson Objectives

The learner will:

- use a GPS to find the longitude and latitude of a specific spot on the planet.
- accurately place a cache on campus.
- describe the history and etiquette involved in geocaching.
- use GPS terminology correctly.

### Equipment and Materials

- Global positioning system (GPS)
- Cache (small mint container)
- Colored paper clips
- Index card
- Pencil

### Introduction

*Can anyone tell me what geocaching is? Have any of you ever tried it? (Begin with a personal story of a geocaching experience, and have students share personal stories.) Geocaching is like a treasure hunt. You use GPS coordinates to find a cache, then you check out the contents and put the cache back for the next person. Most people use geocaching websites to learn about caches in the area and track their finds. Today, we will have an introduction to using a GPS and place caches on campus.*

## Instructional Task: Geocaching Introduction

### ■ PRACTICE TASK

Lead a discussion about the history and etiquette involved in geocaching.

Look at the cache before moving or opening it so you can put it back the same way.

Never remove an object from the cache unless you are replacing it with one of equal or greater value.

Record your visit in the logbook.

## Guiding questions for students:

- Why would accuracy be important for setting up a geocache?
- What role does integrity play in the role of a geocache?
- What examples can you give of ethical behavior in geocaching?

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**EMBEDDED OUTCOME: S.4.H2.1.2.** Use the questions to prompt students to consider ethical conduct in this activity.

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## Student Choices/Differentiation

Use a poster or other visual aid to list key etiquette points.

## What to Look For

- Students are engaged.
- Students are asking good questions.
- Students are offering relevant examples.

## Instructional Task: Using a GPS Unit

### ■ PRACTICE TASK

Provide instructions on how to use a GPS to find the longitude and latitude of a specific point on the planet. Students follow along with their GPS units.

## Extension

Students practice using the GPS to find a cache or caches that you placed before class.

## Student Choices/Differentiation

- Students may use a variety of devices to find geocaches, including a handheld GPS unit or apps on their cell phones or tablets.
- Students may review a video clip showing the procedure for using GPS units.

## What to Look For

- Students are using the technology correctly.
- Students are able to locate the cache without redirecting.

## Instructional Task: Placing a Cache

### ■ PRACTICE TASK

Students work with a partner to hide a cache on campus. You assign a specific area for each group, but students choose the specific location, write down the longitude and latitude, and provide a clue for the cache.

## Student Choices/Differentiation

- Students may use a GPS or cell phone app.
- Students choose their partners.

## What to Look For

- Students are on task and making good decisions as they maneuver around campus.
- Students are collaborating on the cache placement.

## Instructional Task: Student Group Debrief

### ■ PRACTICE TASK

Collect the cards from the student groups, and lead a conversation about any problems students encountered during the activity.

#### Guiding questions for students:

- What are some challenges your group faced during the activity?
- Share one specific experience from the activity that demonstrates how you successfully worked together to overcome a challenge.

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**EMBEDDED OUTCOME: S4.H3.L1** As students share an experience that challenged them in the activity, point out how good communication skills contributed to success.

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#### What to Look For

- Students are engaged.
  - Students are sharing relevant examples.
  - Students provide sufficient detail on their cards.
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## Formal and Informal Assessments

Student cards with longitude, latitude, and clues

### Closure

- Why is it important to place the cache out of plain sight?
- What do you think will happen if a cache is not replaced in exactly the same spot after it is found?
- How might you feel if someone sabotaged your cache?

### Reflection

- Were students engaged in the activity?
- Did they act appropriately around campus?
- Do they need more practice with the GPS unit or are they pretty confident in using it?

### Homework

- Research geocaching in the local area, and provide the name of one geocache near your home or school, along with the coordinates. Optional: Provide a picture of yourself or your family along with the cache.
- Continue tracking your physical activity outside of school.

### Resources

Geocaching: [www.geocaching.com](http://www.geocaching.com)

Internet keyword search: "geocaching," "GPS"