

# Introduction to GPS

## Summary

This lesson is based on a PowerPoint presentation that explains the history of GPS, how it works, it's uses today, how a receiver works & about geocaching.

## Time Frame

1 class periods of 45 minutes each

## Life Skills

Communication

## Materials

All equipment needed to show a PowerPoint presentation: computer & projector.

## Background for Teachers

Teacher should have a basic understanding of what GPS is, how it started, what it's uses are today. Experience with a GPS unit is helpful.

## Student Prior Knowledge

Little prior knowledge is needed.

## Intended Learning Outcomes

Students should know what GPS is, what systems it is used for & how satellites work in conjunction with GPS. Students should be able to explain various careers and activities that use GPS. Explain the use of triangulation as it relates to GPS & satellites. Explain how a GPS unit could be helpful to a sportsman, a soldier & a farmer.

## Instructional Procedures

1) Teacher should set-up projector & load PPT onto computer. 2) Introduce the lesson & get students attention by showing a GPS unit and asking students if anyone knows what the unit is. 3) Explain that you will be showing a presentation about GPS that should help to answer most of their questions & arouse interest in the subject. 4) Explain or write on the board the intended outcomes of the lesson. 5) Show the Presentation 6) Answer any questions and wrap-up lesson.

## Strategies for Diverse Learners

You may provide handouts of the PPT to students with special needs. In addition, you may ask gifted students who may have any experience with Geocaching to share a story with the class.

## Extensions

This lesson is intended to get students familiar with GPS. The next step is to get a GPS unit in the hands of students and prepare some Geocaching activity on school grounds for them. Let them experience the technology for themselves.

## Assessment Plan

Students will be assessed informally using questions & observations as you go. In addition a quiz will be given at the end of the lesson. The quiz is attached.

## Bibliography

From a Distance- NASA site with Information and Lesson Plans

<http://wwwedu.ssc.nasa.gov/fad/default.asp> All About GPS (tutorial)

<http://www.trimble.com/gps/index.html> GIS and GPS Lesson Plan Resources

<http://www.gis2gps.com/GIS/lessons/lessons.html> What is Latitude and Longitude

<http://www.rain.org/campinternet/gis/gis-lat-long-what-is.html> How GPS Receivers Work

<http://electronics.howstuffworks.com/gps.htm> GPS Guide for Beginners (PDF download)

<http://www.garmin.com/aboutGPS/manual.html> Dixon, Conrad. Using GPS. 2nd ed. Dobbs Ferry:

Sheridan House, 1999. Letham, Lawrence. GPS Made Easy. Seattle: The Mountaineers, 1996.

McNamara, Joel. Geocaching for Dummies. Hoboken: Wiley Publishing, 2004.

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