

LIFESAVING VOLUNTEERS TO THE RESCUE

Level: 5 & 6

Activity: 1

Overview

In order to get to the rescue site and assist the person in trouble, the pilot uses a GPS navigation unit to fly the helicopter to the location. If the exact coordinates are known, the pilot will enter these into the GPS. During this activity, students will be introduced to the concept of latitude and longitude. They will then use these coordinates to find locations, including aquatic environments, within their local community via Google Maps.

Resources

- Computer access for students
- Appendix A: *Photo of Global Positioning System (GPS) (From Panorama 2 - Inside the Chopper!)*

Activity

ENGAGE

Ask students to find a partner. Choosing a location in the schoolyard, students need to give their partner directions to find their secret location. As a group discuss what strategies were used, what worked and what didn't work. Make a list of the directional language used on the board. Next, look at the *Photo of Global Positioning System (GPS) (Appendix A)* and ask students what information they can see on the screen, focusing on the GPS coordinates shown. Explain that these coordinates are known as 'latitude' and 'longitude'.

EXPLORE

Ask students to locate their town using Google Maps. By clicking and holding, ask them to find the latitude and longitude of this location. Encourage them to find the location of aquatic environments in their town eg. beach, lake, channel, pool etc. They might also like to find their home, school or sports club. Ask them to make a note of the latitude and longitude of each.

EXPLAIN

Watch the '[Latitude and Longitude](#)' video. Clarify students' understanding by asking:

- What do you notice about the latitudes and longitudes for the locations you have found? What changes/what doesn't change? (i.e. if they are close together the degrees may be the same, but minutes and seconds may change)
- How are the values for latitude and longitude labelled? (eg. degrees, minutes, seconds and compass direction)
- If we started at our school and went directly north, which value would change?
- What would change if we went east?

ELABORATE

Using Google Maps, students now need to choose three points of interest in the local community (one of these MUST be an aquatic environment) and find their latitude and longitude (to the nearest second). Swapping coordinates with a partner, they then need to find each other's chosen locations.

EVALUATE

Asks students to discuss the following questions with their partners and then share their thoughts with the whole group:

- What are the benefits of using latitude and longitude in giving directions? Are there any drawbacks?
- When would/wouldn't it be useful in giving directions?
- Why would the rescue team use GPS to navigate the helicopter to the rescue site?

Curriculum Links



Victorian Curriculum

Foundation–10

Level 5		
MATHEMATICS	<u>Measurement and Geometry:</u> Location and transformation	Use a grid reference system to describe locations. Describe routes using landmarks and directional language (VCMMG199)
GEOGRAPHY	<u>Geographical Concepts and Skills:</u> Data and information	Interpret maps and other geographical data and information using digital and spatial technologies as appropriate, to develop identifications, descriptions, explanations and conclusions that use geographical terminology (VCGGC090)
Level 6		
GEOGRAPHY	<u>Geographical Concepts and Skills:</u> Data and information	Interpret maps and other geographical data and information using digital and spatial technologies as appropriate, to develop identifications, descriptions, explanations and conclusions that use geographical terminology (VCGGC090)

Sample Report Comments

{Name} understands how latitude and longitude can be used to pinpoint any location on Earth.

{Name} can describe a location using a grid reference system and can use coordinates to find a given location.

{Name} can describe the location of some aquatic environments in the local community.

References

Andy Jensen, 2010. *Latitude and Longitude*. [online video] Available at: <https://www.youtube.com/watch?v=swKBi6hHHMA> [Accessed 27 March 2018].

Appendix A

Photo of Global Positioning System (GPS)

