

Longitude and latitude lesson

VELS

Civics and Citizenship: Community Engagement: L4, 5, 6

Geography: L 4, 5; History: L 5: Knowledge and Understanding

Finding a ship's position on the open ocean is not an easy thing to do, nevertheless it is essential in navigating from port to port.

Navigation has taken many forms throughout human history. Early navigators used the stars or the position of the sun to determine their direction of travel (celestial navigation).

During the early period of European ocean exploration (15th to 18th centuries), navigators needed a more reliable, accurate way of navigating than just using the stars and sun. The longitude and latitude system was the result of both improved technology and the need for accurate navigation.

Longitude describes East / West locations. It is measured from the Prime Meridian (0°) which passes through Greenwich in the UK.

Latitude describes North / South locations and is measured from the Equator (0°) to the Poles (90° North or 90° South). Each degree of latitude is approximately equal to 111km.

To pinpoint a location requires coordinates given in degrees, minutes and seconds for both longitude and latitude.

This exercise aims to introduce students to the concepts of longitude and latitude and how they can be used to accurately describe any location on Earth. The lesson can also be extended to cover specific weather conditions at specific latitudes e.g. the Roaring Forties – an area of strong winds at 40° South.

Equipment:

Outline world maps for each group of students:

<http://www.nationalgeographic.com/xpeditions/atlas/>

Outline maps of Australia for each group of students:

<http://www.nationalgeographic.com/xpeditions/atlas/index.html?Parent=oceani&Rootmap=austra&Mode=d&SubMode=w>

Activities:

1. What are Melbourne's coordinates? (just longitude and latitude, not minutes and seconds)
 - i. Introducing the system: North / South coordinates first, then East / West
 - ii. Where longitude and latitude are measured from (prime meridian and equator).
2. Give the students a list of coordinates of cities / ports.
 - i. Students should identify where the cities are and their names (best guess).
3. Provide students with a list of coordinates that describes a sea journey.
 - i. Where does their journey start?
 - ii. Where does it finish?
 - iii. Where did they visit on the way?
 - iv. Students should plot the shortest sea-course between them, compare with other groups.
(mention Suez and Panama canals as short cuts)

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