

The Real Map of Ireland Lesson Plans

Lesson plan 3: The Real Map of Ireland - Longitude and Latitude

Aim/ description:

This lesson introduces students to the concept of longitude and latitude and how it is used on maps. Students can learn how longitude and latitude is used to help locate countries, counties, towns and cities and even areas at sea.

This lesson gives students a sense of place and space. It introduces students to their location on the globe by acquiring, processing, and reporting information from a spatial perspective.

There are a number of websites that can be used to assist teaching students about longitude and latitude. The following notes have been sourced from www.geographyalltheway.com

Background:

How do people get around the world with out getting lost?

The world is so big that it would take an average person walking non stop 24 hours per day, nine months to walk around it.

With so much land and water that makes up the world, there have been lots of methods developed over time to navigate around it. Scale models of the world have been developed over time using items such as **Globes**.

As Globes are awkward to carry around, map projections taken from globes are used. The Mercator Map was invented in 1568 by Gerhardus Mercator who was a Flemish Geographer and mathematician. A Mercator projection is a mathematical method of showing a map of the globe on a flat surface.

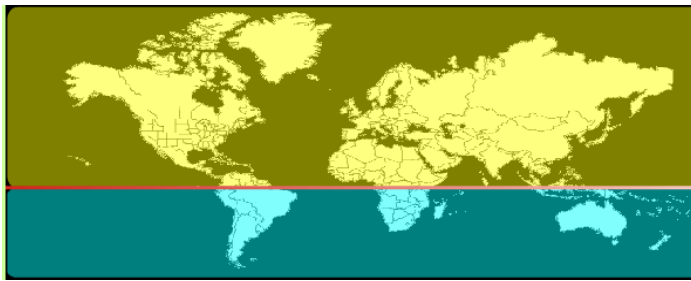
Before this time, navigation charts used by sailors did not correctly account for the proven fact that the world was round. Mercator's equations allowed cartographers (map-makers) to produce charts from which sailors could easily navigate around the world – showing shapes and directions.

Mercator Projection



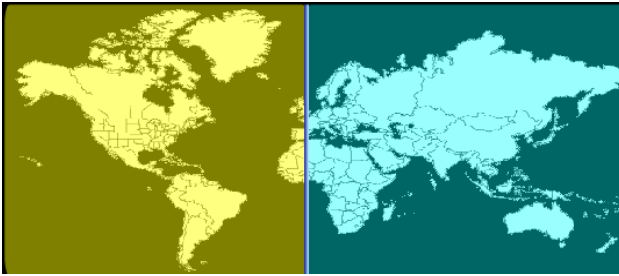
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A horizontal line drawn around the centre of the world dividing the northern and southern hemisphere is called the **Equator**. All other lines of latitude are parallel to the equator.



← The **Equator**

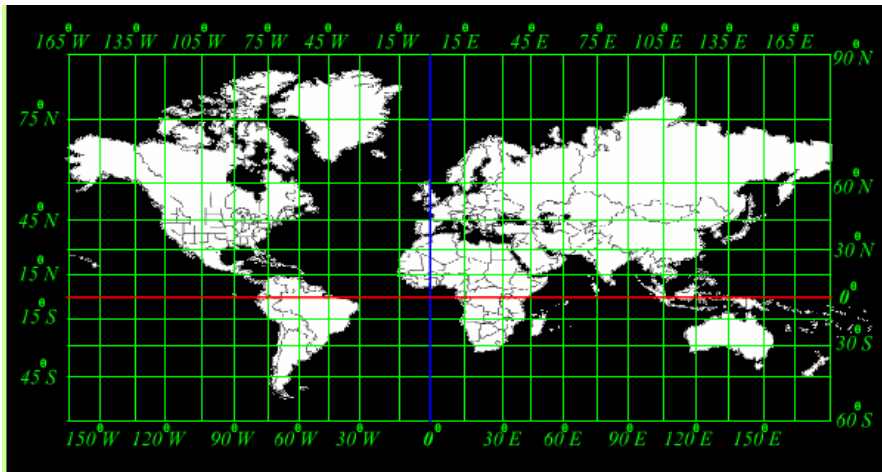
Lines of longitude, called meridians run from the North to the South poles. The line that divides the Eastern from the Western Hemisphere is called the **Prime Meridian**. This passes through the city of Greenwich, England.



↑ The **Prime Meridian**

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How do we use these lines to find places?



The basic unit for measurement on maps is a degree. Degree marks on maps are used to represent the lines where longitude and latitude intersect.

Starting at the equator, the full circle around the earth is 360 degrees. This means that each hemisphere (half of the earth) is 180 degrees each way (East and West) from the mid point.

The points of longitude can be broken down into equal divisions i.e. giving a total 360°. The letters “W” and “E” are used to show which direction to go along the latitude lines. (Refer to a map projection and demonstrate how to move West means to move left or move East means to move right from the point at the centre of the Equator and Prime Meridian).

Moving up and down from the equator we use the lines of latitude. The letters “N” and “S” are used to represent North and South. (Refer to a map projection and demonstrate how to move North and South along the Prime Meridian line from the Equator)

Because a map projection shows the world as if it were flat, we are able to move 90° North or 90° South in each hemisphere.

By combining the use of longitude and latitude it is possible to find any location on the map. Location points are written as “30°N, 60°E”. Guesses must be made for points that fall between the gridlines.

When finding a location always:

1. Begin at the prime meridian and equator intersect.
2. Move north or south based on the degrees indicated.
3. When you have found your point on the prime meridian, move west or east based on the degrees indicated.

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Materials:

Teachers will need

- Map of the world with lines of longitude and latitude
- Globe

Students will need

- 1 x Map of the world – showing longitude and latitude lines
- 1 x Real Map of Ireland – showing longitude and latitude lines
- Worksheet 3 The Real Map of Ireland - Longitude and Latitude

Lesson in action:

- Give each student a map of the world and a copy of the Real Map of Ireland showing longitude and latitude lines.
- Ask the students to look at the maps and discuss and describe in a class discussion about the things they know or notice about the maps. This can range from the shapes of the countries to where they are placed.
- Ask students to find Ireland and compare it to where other countries are placed.
- Explain the lines across the page are lines of latitude, and the lines up and down the page are lines of longitude.
- Ask students to contribute their ideas as to why these lines might have been drawn on the map. Ensure that the students understand that the lines are drawn on the map to help people locate places on the map more easily.
- Introduce stories of how seafarers use maps with longitude and latitude to find their way around the world. Discuss with students how people travelling from different countries hundreds of years ago used to navigate their way.
- Have students find the locations of their town, other cities in Ireland using latitude and longitude.
- Once they have done this use latitude and longitude to find other places on the Real Map of Ireland.
- Have students look at the world map or globe and find places. Use this as an opportunity to go over the general climate patterns that occur as latitude increases.
- Discuss the seasonal temperature variations. The main thing students should know is that areas further away from the equator such as Ireland tend to be cooler than countries that are closer to the equator. Use this as an opportunity to introduce the concept of currents around the ocean and how these can affect weather patterns (e.g. Gulf Stream / North Atlantic Drift etc).
- Ask the students to use the maps in order to find the areas on Worksheet 3.

Outcome:

- Students will become familiar with the areas on the Real Map of Ireland
- Students learn geographical investigation skills by
 - Analysing information by reading maps
 - Learn about places on the Real Map of Ireland



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The Real Map of Ireland – Longitude and Latitude Answers

New York, USA 35°11' N 103°36' W

Name of area **Latitude** **Longitude**

Global:

Hawaii, USA 20°57' N 157°15' W

Auckland, New Zealand 36°84' S 174°71' E

Cape Town, South Africa 33°55' S 18°22' E

Hong Kong, China 22°20' N 114°11' E

Berlin, Germany 52°30' N 13°25' E

Barcelona, Spain 41°23' N 02°09' E

Manchester, England 53°30' N 02°15' W

Liverpool, England 53°35' N 02°85' W

Edinburgh, Scotland 55°94' N 03°36' W

London, England 51°32' N 00°05' W

Birmingham, England 52°25' N 01°55' W



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Local / Regional:

Galway, Ireland	53°13' N	09°10' W
Dublin, Ireland	53°20' N	06°15' W
Killybegs, Co. Donegal, Ireland	54°38' N	08°26' W
Newgrange, Co. Meath, Ireland	53°69' N	06°47' W
Giant's Causeway, Co. Antrim, Ireland	55°69' N	06°47' W
Tralee Bay, Ireland	52°16' N	09°52' W
Bantry Bay, Co. Cork	51°32' N	09°50' W
Clew Bay, Co. Mayo	52°23' N	08°09' W

The Real Map of Ireland:

Rockall Plateau	55°00' N	19°00' W
Celtic Shelf	50°00' N	08°00' W
Edoras Bank	55°00' N	22°00' W
Goban Spur	49°00' N	12°00' W
Feni Ridge	54°00' N	18°00' W

