

Could you imagine a world without maps? Early maps were drawn with large areas of land missing. In the past, explorers thought that the Earth was flat. They also included drawings of many imaginative creatures, monsters and giants that a traveller might find in these lands. As more of the world was discovered and explored, maps improved. It is amazing that many more sailors and explorers did not get lost at sea. By the late 1500s, maps were more accurate and there were even round globes of the Earth.



In 1585, the Belgian cartographer Gerardus Mercator created the first map book, called an atlas. This world map was included in the atlas.

- How does this map compare to the map of the world we know today?
- Which continents were drawn bigger?
- Can you locate Ireland on the map?
- What countries are missing?
- Why, do you think, were some countries missing from the map?

Word Watch!

A **cartographer** is a person who makes maps.

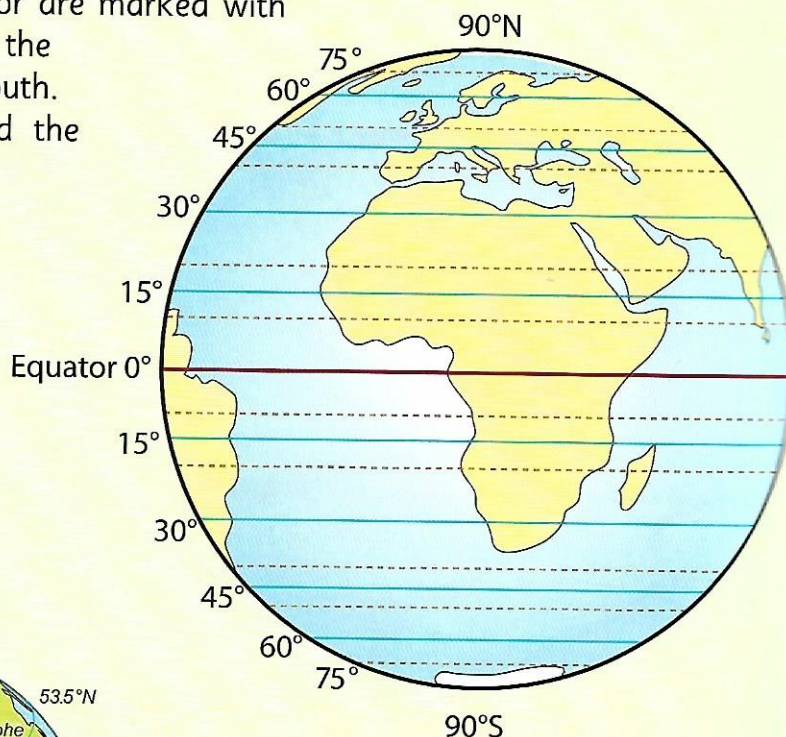
Cartographers in the Middle Ages drew lines on the maps to help people to locate places more easily. These lines were called lines of **latitude** and **longitude**. They are used by people navigating the oceans. The basic unit of measurement on a map is a **degree**.

Latitude

A line of latitude is an imaginary line that runs from east to west across the Earth. The Equator runs around the middle of the Earth, dividing it into two hemispheres. The two hemispheres are called the northern and southern hemispheres. The Equator is also the starting point for measuring latitude. Lines of latitude that are north of the Equator are marked with an N for north. Lines of latitude below the Equator are marked with an S for south. The North Pole is 90 degrees N and the South Pole is 90 degrees S.

Word Watch!

The **Equator** is an imaginary line that runs around the middle of the Earth.



Did You Know?

Dublin is 53.5 degrees north of the Equator. Other cities that are on the same latitude are Mohe in China, Attu in Alaska and Liverpool in England. However, they are thousands of kilometres apart and have different climates.

As lines of latitude are very far apart, we cannot rely on these alone to find the location of a place. To pinpoint exact locations, we also need lines of longitude. This is how ships and airline pilots can find their destinations. They can also be used to find people in an emergency who need help at sea or on mountains.

Longitude

A line of longitude is an imaginary line that runs from north to south. Think of the Earth as an orange; peel back the skin to uncover the lines of longitude. The Prime Meridian at Greenwich, England, is the starting point at 0 degrees. Lines of longitude to the east of Greenwich are marked E for east, and those to the west are marked W for west. Lines of longitude run from 0 to 180 degrees east and west. At 180 degrees east and west, the lines of longitude meet and are called the International Date Line.

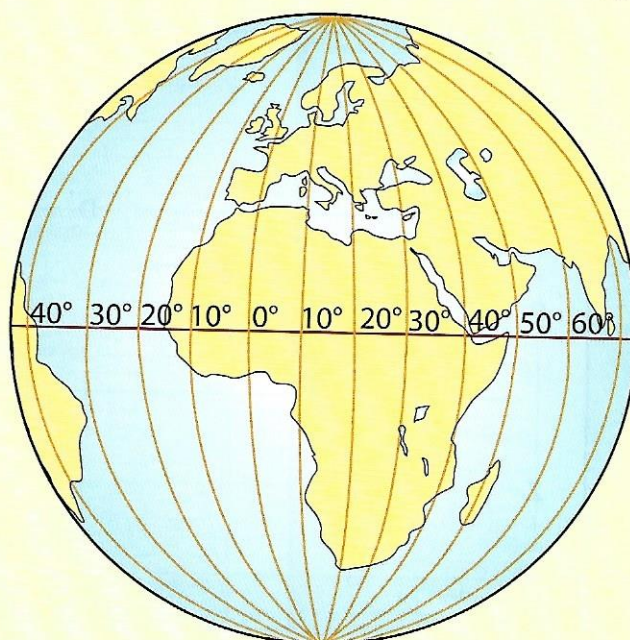
Word Watch!

Prime Meridian is the line of longitude at 0 degrees.

Greenwich Meridian is the line of longitude that passes through Greenwich.

Word Watch!

The International Date Line is an imaginary line that is located at 180 degrees. When you cross that line, you go forward or back one day, depending on which way you are travelling.



Did You Know?

Galway is 9 degrees west of the Prime Meridian. Other cities that are on the same longitude are Lisbon in Portugal and Ganta in Liberia, Africa. However, they are thousands of kilometres apart.



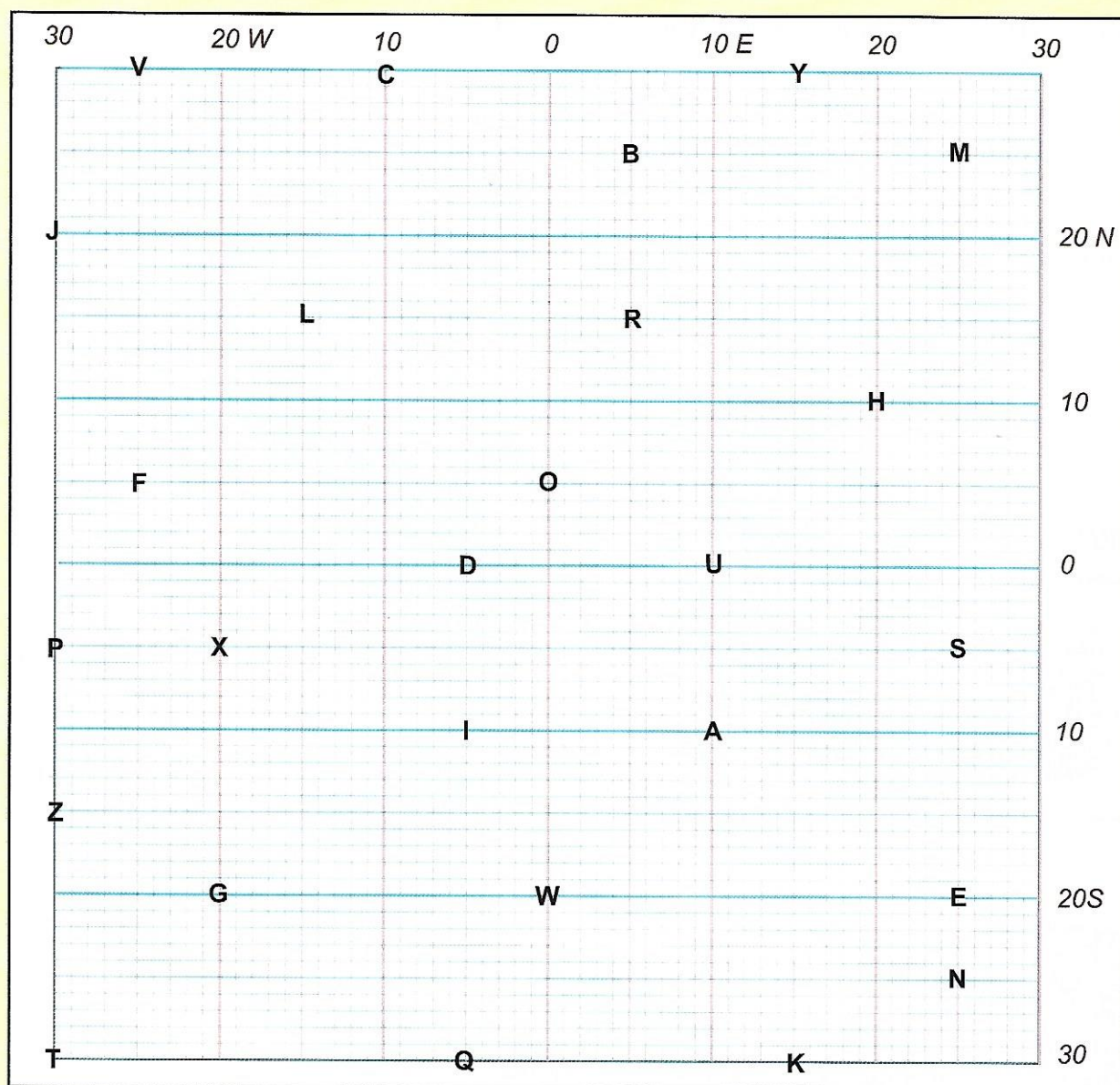
Any location on the Earth can be described with just two numbers, its latitude and longitude. A **confluence** is the point where a line of latitude and a line of longitude meet.



Web Watch!

Play the latitude and longitude map game locating Hannah on the map at:
<http://www.kidsgeo.com/geography-games/latitude-longitude-map-game.php>
 Play the game 'Find Your Longitude' and get lost on the high seas at:
<http://www.pbs.org/wgbh/nova/shackletonexped/navigate/find.html>

Coordinates



Study this grid. Write the letter that you find at the line where the coordinates meet:

- 1 20 S, 20 W 20 S, 25 E 5 N, 0 20 S, 20 W 15 N, 5 E
10 S, 10 E 5 S, 30 W 10 N, 20 E 30 N, 15 E

Write the word formed by these letters: _ _ _ _ _

- 2 20 S, 25 E 30 S, 5 W 0, 10 E 10 S, 10 E 30 S, 30 W
5 N, 0 / 15 N, 5 E Write the word formed by these letters: _ _ _ _ _

- 3 Write your name using coordinates: _____

- 4 Using coordinates, write a secret message for your friends to decode:

Exploring Europe



Study the map of Europe and use the lines of latitude and longitude to help you to answer the following questions.

1 What country lies at each of these coordinates?

- (a) 45 N, 0 _____
- (b) 40 N, 5 W _____
- (c) 50 N, 10 E _____
- (d) 60 N, 15 E _____
- (e) 65 N, 20 W _____
- (f) 45 N, 25 E _____
- (g) 50 N, 30 E _____

2 Name **two** European countries east of the Prime Meridian.

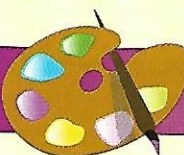
3 Name **two** European countries west of the Prime Meridian.

4 In what hemisphere is Europe located?



Question Time

- 1 What is a line of latitude?
- 2 What is a line of longitude?
- 3 On what line of latitude is Dublin located?
- 4 Why, do you think, is it important to be able to use lines of latitude and longitude?
- 5 Name **three** people who would use lines of latitude and longitude in their work.
- 6 What is the line of latitude at 0 degrees called?
- 7 In which hemisphere do we live?



Creative Time

Create your own treasure map. Steep a sheet of paper in tea bags and cold tea overnight. Leave it to dry. When it is dry, draw your own treasure map. Include different natural features on the map using a key. Remember to include lines of latitude and longitude. Give clues and some grid references to help people to locate the treasure.

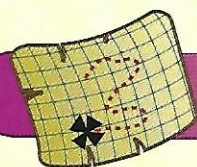


Puzzle Time

Mystery Country!

Can you recognise this mystery country? It is located at coordinates of 27 South and 133 East. It is often described as being 'Down Under'. Many unique animals such as koalas and kangaroos are found here.

What is the name of this country?



Map Time

Use your atlas to help you to locate the latitude and longitude of the following cities:

- | | |
|---------------------------------|-------------------------|
| 1 Sydney, Australia _____ | 2 London, Britain _____ |
| 3 New York, USA _____ | 4 Beijing, China _____ |
| 5 Moscow, Russia _____ | 6 Calcutta, India _____ |
| 7 Buenos Aires, Argentina _____ | 8 Cairo, Egypt _____ |
| 9 Your hometown _____ | 10 Rome, Italy _____ |