Year 5 Spatial Sense Reading Booklet

Lesson Series:

1. **Maps: dividing the world into sections**
2. **Eastern and Western hemispheres**
3. **Maps: using co-ordinates to locate places**
4. **Maps: drawn to different scales**
5. **Relief maps**
6. **Assessment**

Name: _____

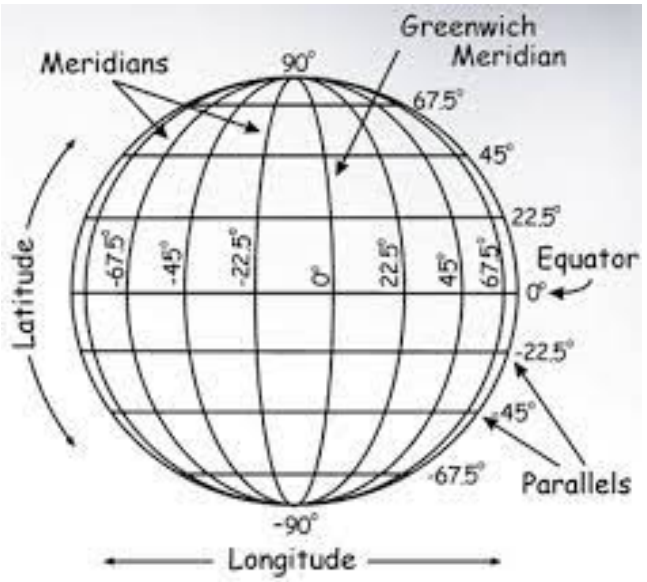
Class: _____

Lesson 1.

Maps: dividing the world into sections

Cartographers (map makers) draw and produce maps. The use of imaginary lines aids accuracy when locating places on a map.

The **Equator** is at the centre of the lines of latitude and is at 0° latitude. Anything lying south of the Equator is in the **Southern Hemisphere** and is labelled °S. Anything lying north of the Equator is in the **Northern Hemisphere** and is labelled °N. The North Pole is 90° N and the South Pole is 90° S.
The line labelled 0° longitude is called the **Prime Meridian** or the **Greenwich Meridian** and runs through London. Anything lying east of the Greenwich Meridian is in the **Eastern Hemisphere** and is labelled °E. Anything lying west of the Greenwich Meridian is in the **Western Hemisphere** and is labelled °W.
Latitude lines are parallel to the equator and longitude lines are parallel to the meridian line.



Lesson 2

Eastern and Western hemispheres

World maps sometimes divide the Earth into hemispheres. A **hemisphere** is a Greek word meaning half of a sphere. The **equator** divides the earth into the Northern Hemisphere and the Southern Hemisphere. The earth can also be divided into the Eastern and Western Hemispheres, with the **Prime Meridian** line dividing the two. The Prime Meridian line runs through Greenwich in London. A long time ago, in 1852, when the system of longitude and latitude began to be used, Greenwich was home to the Royal Observatory where people watched the stars. Mapmakers agreed to use this location for an imaginary line, as important as the equator, but running from North Pole to South Pole. The Prime Meridian line is marked 0º.

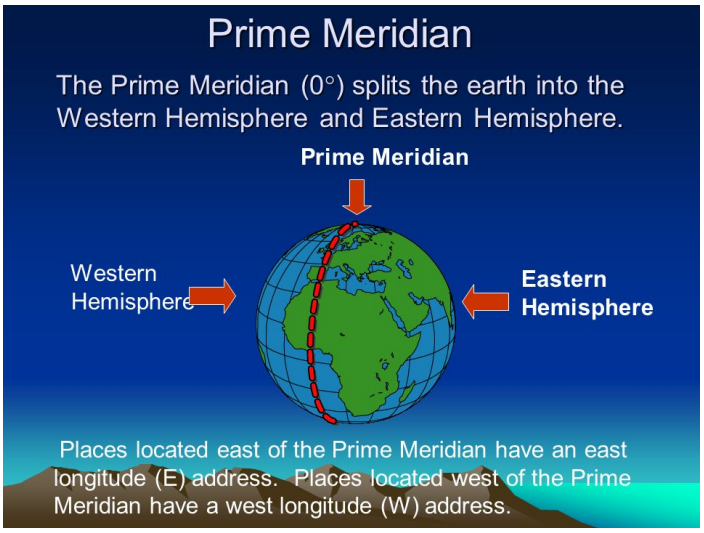
The **International Date Line**, established in 1884, passes through the mid-Pacific Ocean and roughly follows a 180 degrees longitude north-south **line** on the Earth. It is located halfway round the world from the prime Meridian.

Eastern Hemisphere

The Eastern Hemisphere refers to the area of the Earth east of the prime meridian and west of the International Date Line. This includes much of Europe, Africa, Asia, Australia, and the islands of Oceania. A map centered on the Eastern Hemisphere will have the Indian Ocean basin at the center.

Western Hemisphere

The Western Hemisphere refers to the area of the Earth west of the Prime Meridian and east of the International Date Line. This includes North and South America. The Western Hemisphere is a purely geographic term and should not be confused with other mentions of the "western" world, which is often used to describe parts of Europe, North America, and other world regions that share some economic, social, and cultural values.

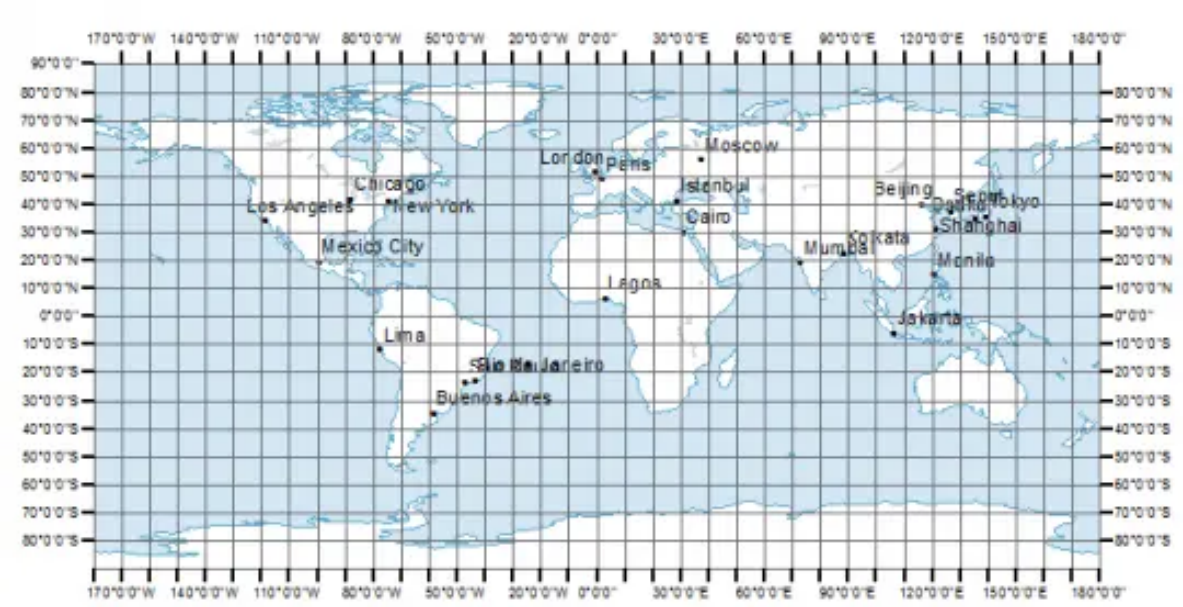


Lesson 3
Maps: using co-ordinates to locate places

A **co-ordinate** is a point where parallels and meridians intersect or cross over. Each parallel and meridian has its own number. The **Prime Meridian** line and the **Equator** both are 0º. We can locate places on a globe by looking at where parallels and meridians **intersect**. When we write **co-ordinate**s, we write how far north or south from the equator a place is first; the latitude, then how far west or east of the prime meridian a place is second; the longitude.

Definition of **co-ordinate**: 'co-'means together and 'ordinate' comes from a Latin word, ordinatio, meaning order or arrangement. A **co-ordinate** is a number used to describe a location. There are two pieces of information together in a set order, first is the latitude and second comes the longitude.

- New York has a longitude coordinate of 74°W (West) and Cairo has a longitude coordinate of 31°E (East).
- Latitude and longitude coordinates are written as decimals with up to 4 decimal places to make sure they are accurate. For example, New York is 74.0059°W.
- If you combine a latitude coordinate with a longitude coordinate you can plot any point on the Earth. For example, 64.1265° N, 21.8174° W takes you to Reykjavik, the capital city of Iceland.



Lesson 4

Maps: drawn to different scales

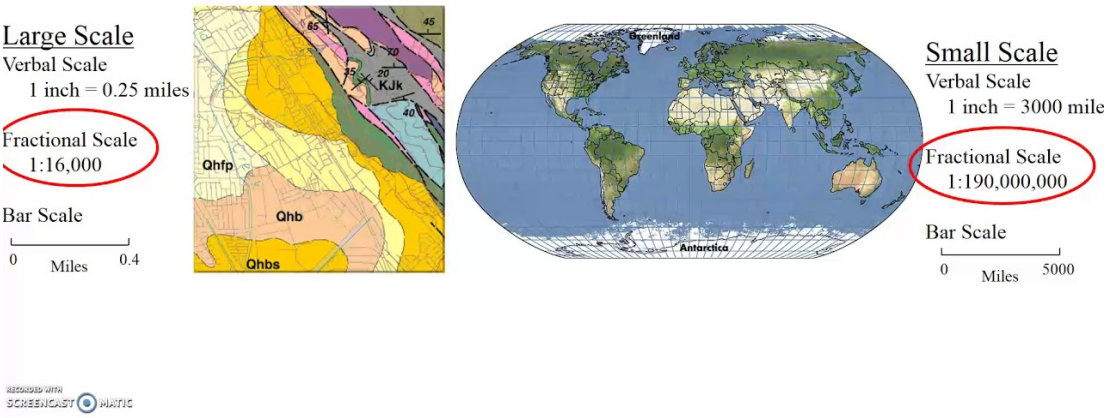
Maps show us information about places. But maps can be very different. Some maps show us small areas such as our school, other maps show us whole countries or continents.

Maps are drawn to different scales. Scale is the proportion between the distance on a map and the actual distance on the earth's surface. For example, on one map, one centimetre might represent one kilometre, but on another map one centimetre might represent a hundred kilometres.

Maps that show us detail in a small area are called large scale maps, maps that show us a very large area are called small scale. To find out how much distance is represented on a map, we can look at the map scale, it is often located in the corner of a map and looks like a ruler. We can use scale to measure distances from place to place. If we measure the distance between two points on a map is 2cm, and the scale is 1cm = 1km, we know that 2cm = 2km. It is helpful to use map scale when planning a journey as we can work out the distance between places and decide if we walk or take a bus.

Large Scale vs. Small Scale

- Large scale – large amount of detail; can only show small area
- Small scale – small amount of detail; can show a large area

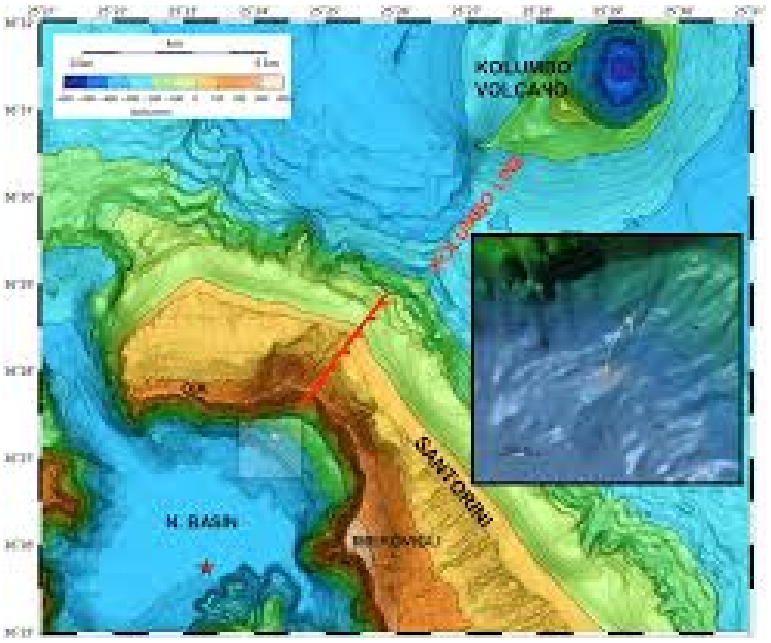


Lesson 5
Relief maps

A relief map shows you the higher and lower ground. There are two ways of showing heights on a map, 2 dimensional or 3 dimensional. Raised 3d relief maps were found in the tombs of Chinese Emperors as far back as 145 BC. It is thought that they were created to help represent the provinces.

On 2d relief maps, for a large area, you can colour areas at different heights in different colours. The colours range from dark green (at sea level) through yellow to brown at 1,000 metres up. So you can see the mountains on a map if you look for the yellow and brown areas.

For smaller areas, we use contours. Contour lines are lines drawn on a map that show a change in elevation. A contour line may look wavy or circular. Everything near that line is generally the same height from sea level. If the land is flat, there are very few contours. When contours are close together, the land is steep, when they are further apart the land is less steep. Relief maps are useful as they tell us about the shape of the land. If we were going on a walk, it would be helpful to know how steep the land is, and if there are any hills or even mountains to cross. Topography is the study of the shape of land.



Knowledge Organiser- Spatial Sense (Geography Year 5)

Key Vocabulary	Definition
Prime meridian line	An imaginary line that divides the earth into two sections to show the eastern and western hemispheres. It also used as the basis for world time zones.
Longitude	Imaginary lines parallel to the prime meridian line that help map makers locate places with accuracy. (Vertical lines)
Latitude	Imaginary lines parallel to the equator that help map makers to locate places with accuracy. (Horizontal lines)
Eastern Hemisphere	A term used to describe places that are east of the meridian line.
Western Hemisphere	A term used to describe places that are west of the meridian line.
Relief maps	A map that uses shading and colours to indicate the height of the land.

A relief map of Wales