

Spatial Sense

Year 5

Key end points of this unit, Spatial Sense, are:

- To be able to read and understand how to use a range of maps
- To understand that cartographers draw imaginary lines to divide the world into sections. Lines of latitude are parallel to the equator running from east to west. Lines of longitude run from north to south.
- To know there are four hemispheres. The Equator divides the Southern and Northern hemispheres, and the Prime Meridian divides the Eastern and Western hemispheres.
- To use coordinates to locate places on a map.
- To use map scale and understand it is the proportion between the distance on a map and the actual distance on the earth's surface.
- To interpret a relief map and know that it shows the height of land.

This unit builds on all of the previous spatial sense units as children learn and remember more over time. In Year 2 children looked at **maps** of the school site and the **four-point compass**, in Year 3 they learned about the **eight-point compass** and **grid references**. In Year 4 children learned about lines of latitude and longitude and revisited the equator and the poles. They practiced using grid references and learned how to read and use **map scale**. Children then used their geographical understanding to look at **change over time** in their local area. The Spatial Sense units in Year 5 and 6 are a culmination of previous learning. If children have gaps in their learning, for example if they struggle with grid references, you may wish to adapt this unit to include opportunities to secure that knowledge.

In this unit children will look again at lines of longitude and latitude and will learn more about the Prime Meridian and why it was agreed. They will explore coordinates and will use them to identify locations on a map. They will reconnect to their previous learning about map scale and will have opportunities to secure their understanding of calculating distance on a map.

As children work through KS2 geography they will use and apply their geographical skills, such as map reading, using symbols, grid references etc in many different contexts as they learn about places around the world. Over time children will get better at the skill of **map reading** using a wide range of maps as they learn more and remember more of the curriculum.

Lesson Sequencing:

The sequence of lessons in this unit has been designed to build on prior knowledge and introduce new material in small manageable steps. Lesson 1 reconnects to prior learning about **the poles and the equator** and lines of **longitude and latitude**. Children will return to this knowledge as they work through the curriculum, and it will help them to be able to identify regions and locations around the world. In this lesson we introduce children to the concept of 'geographical information systems' but we do not expect them to fully understand at this stage, understanding will establish over time and children will learn more about GIS in Year 6. Lesson 2 builds on the first lesson and looks more closely at the Prime Meridian and the history of how and why it was agreed upon. Children will learn more about hemispheres, building on their knowledge of how geographers describe locations around the world.

In Lesson 3 children will learn about co-ordinates and will use their understanding of longitude, latitude, the Prime Meridian and hemispheres to use co-ordinates to locate places around the world. Children will think about how coordinates would be useful in a geographical information system.

During Lesson 4 children will use their knowledge of maps and will build upon their learning from Year 4 to learn more about scale. Children will use Ordnance Survey maps to calculate distance between two points. They will hear again about the difference between small and large scale maps.

Lesson 5 introduces relief maps and contours. As children have become more skilled at map reading, they will use their previous learning and apply it to a new context when looking at the colours on a relief map. They will think about how we represent height of land on a flat map and will explore how contours on large scale maps can help us to understand the height and the shape of land.

Finally, to assess understanding children are tasked with an extended piece of writing about what a cartographer needs to think about when creating a map. This gives children a chance to showcase their knowledge about map drawing, coordinates, scale and relief maps. It also helps children to develop disciplinary understanding around how cartographers work.

The key substantive concepts focused on in this unit are place and space.

The key disciplinary understanding in this unit focusses on cartography and how maps give us information about the world around us.