



Year 3 Spatial Sense Reading Booklet

Lesson Series:

1. Recap on Year 2 Maps etc.
2. Maps, compasses and symbols
3. Symbols found on maps.
4. Grid references
5. A contrasting locality (Physical Geography)
6. A contrasting locality (Human Geography)
7. Assessment

Name: _____

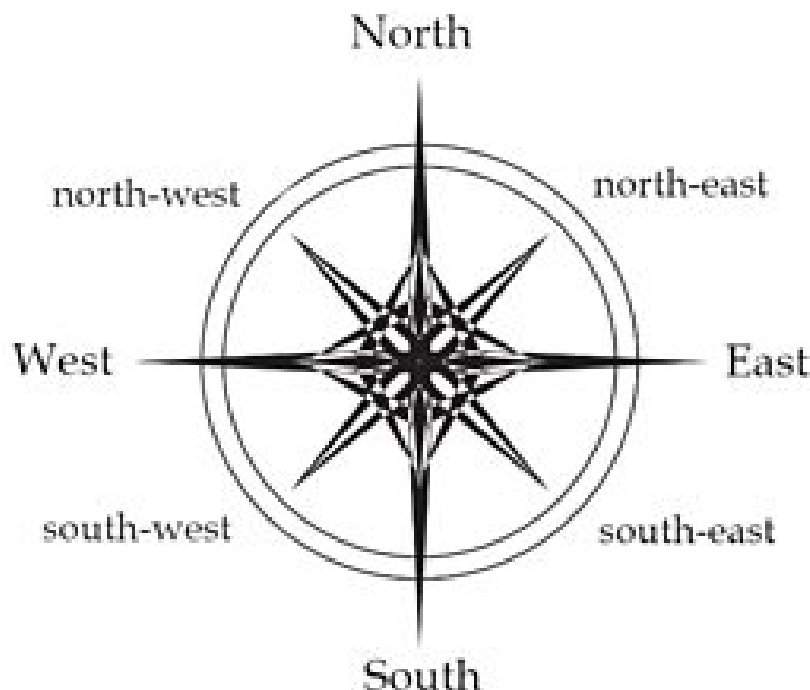
Class: _____

Lesson 1

Read this

What is a map? Maps are representations of the characteristics of a place. The craft of map making is called cartography. Simple maps have a title, geographical features (human and/or physical), compass directions, symbols and a key. Maps help us to learn about the world around us by showing the shapes and sizes of continents and countries, locations of particular places or features and distance between places. In addition to navigation, maps can be used to show how things are distributed around the world, such as maps showing where people live, where transport networks are located, and the location of volcanoes. Maps are used by meteorologists when they prepare weather forecasts, by shipping companies when they move goods around the oceans, by town planners when they decide where to build new homes or roads. Maps can also tell us about land use in a particular area.

Our school is on a site. Mr Sheldon is our site manager.



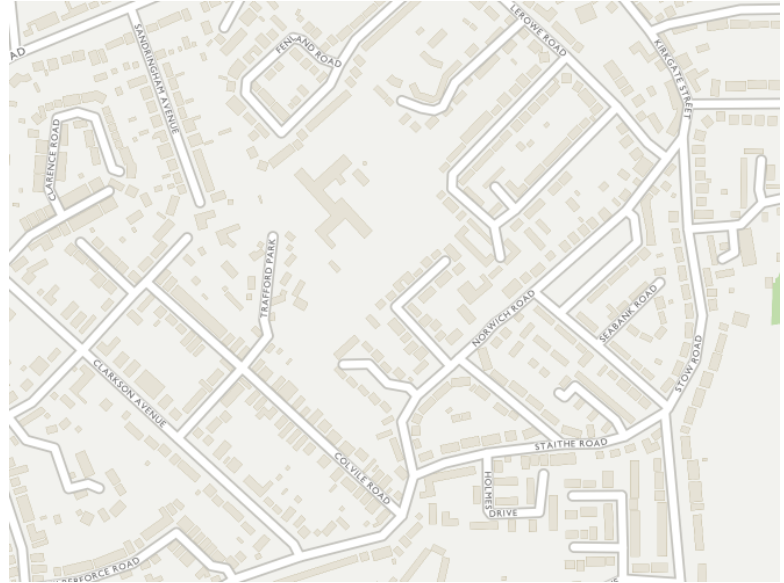
Lesson 2

Maps, Compasses and Symbols

Can you recognise any areas on this map?

Think about where it is?

What do you remember about map learning?



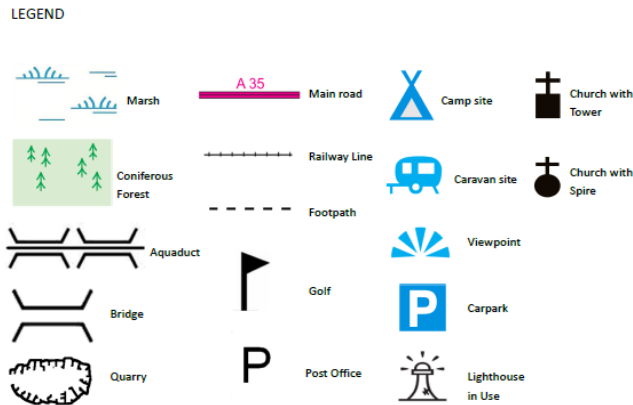
How to use a map The top of most maps is **north** and a **compass** can be used to find which **direction** north is. Compasses show four directions - north, **east**, **south** and **west**. The needle always points north, so when that is lined up with the map it is easy to see in which direction things are. Maps are not drawn to the same size as the ground because they would be far too big! Instead they are drawn to a smaller **scale**. The scale on a map is a set of numbers that can be used to compare distances and can be written, for example, as 1:25,000. This means that the actual size of the ground is 25,000 times bigger than it is on the map. The same scale can also be written as 4cm to 1km, so every four centimetres on the map is one kilometre in real life.

Compasses have been used for over 2,000 years, first originating in China. Before compasses were used, people used landmarks, the sun and stars to navigate. The compass allowed people to navigate with some accuracy even during cloudy times, or in places where landmarks were not visible. The invention of the compass saw an increase in sea trade as sailors could navigate waters with more success than before.



Lesson 3

Symbols found on maps



Have you seen these symbols on a map?

Which would be useful for a holiday?



The Ordnance Survey is Britain's mapping agency. The organisation has been producing maps since 1745 when they began to map the Scottish Highlands in response to the [Jacobite rebellion](#). William Roy, who undertook the survey, spent eight years measuring and sketching the landscape. He was only 21 years old and did not have extensive military experience, so his success in making 'The Great Map' recording roads, hills, rivers, land and settlements, is quite remarkable.

Later, during the French Revolution, the defence ministry began to survey the southern coasts of England to find out where might be vulnerable to attack. Without good maps, it was difficult to position troops in the best places for defending the country. Over time, more than just military information was added to maps. There was often dispute over correct place names, as locals would disagree with each other. The first complete OS map was finished in 1801 and mapped Kent, the area that was most vulnerable to French invasion. It took seventy years to map the whole of England and Wales.



Lesson 4

Grid References

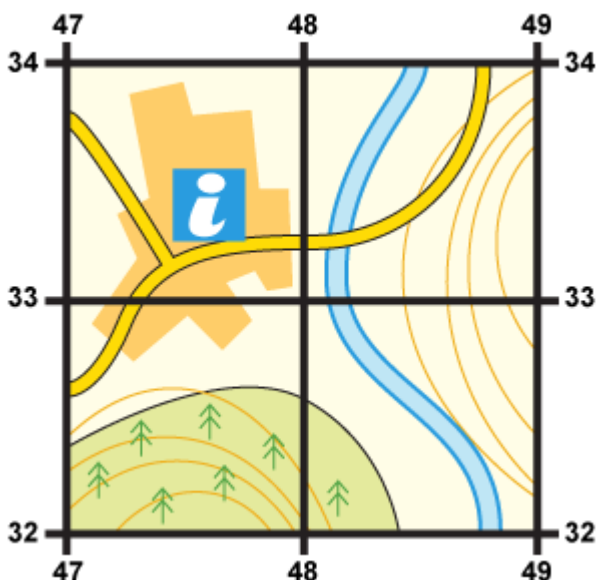
Grid references are a tool for identifying specific locations on a map. A simple grid reference consists of two pieces of information, sometimes a letter and a number, sometimes two numbers. Horizontal lines on a grid will have each square labelled with a letter or number. Horizontal lines on a map are called eastings. The number on each horizontal line increases to the east. The vertical lines are called northings as the numbers increase to the north.



There are two parts to a grid reference:

- The 1st **letter** or **number** tells you how far across the map something is.
- The 2nd **letter** or **number** tells you how far up the map something is.

Four-figure grid references can be used to pinpoint a location to within a square. To find the number of the square:



Start at the left-hand side of the map and go east until you get to the bottom-left-hand corner of the square you want. Write this number down.

1. Move north until you get to the bottom-left corner of the square you want. Look at the number of this grid line and add it to the two-digit number you already have. This is your four-figure grid reference.

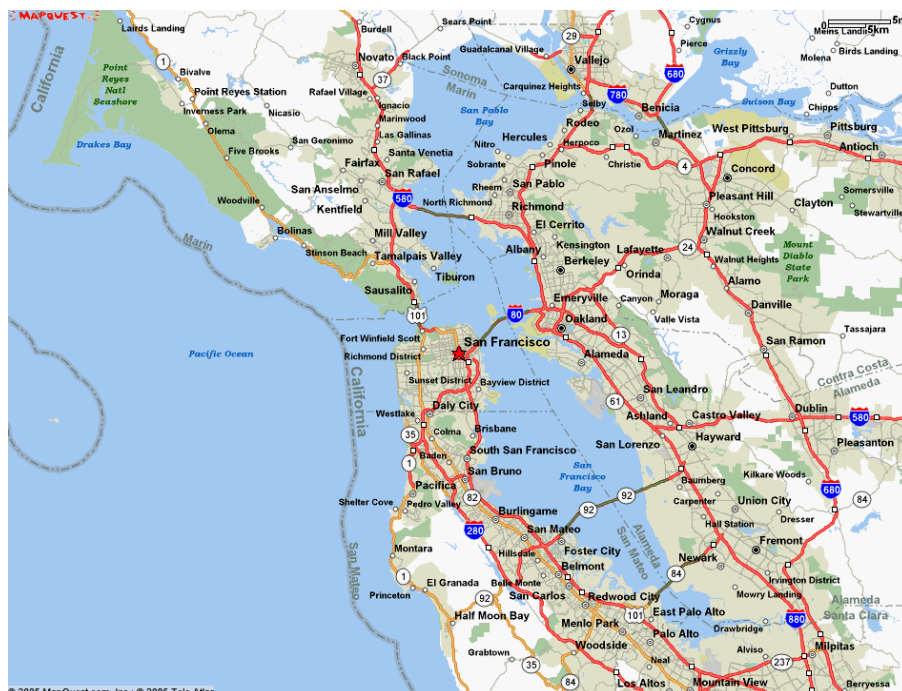
In this case, the tourist information office is in grid square 4733.

Lesson 5

A contrasting locality: Physical Geography



San Francisco, California as a location for comparison. San Francisco is a city located on the tip of a peninsula on the coast of northern California. A peninsula is a piece of land almost entirely surrounded by water, but it is connected to the mainland. It is surrounded on three sides by water; the Pacific Ocean, the Golden Gate strait and the San Francisco Bay. The city is built on around 40 steep hills that reach heights of almost 1,000 feet, this creates very steep slopes. San Francisco is known for its fog. When warm air from mainland California hits the cooler air from the Pacific Ocean, thick fog is created, often on summer mornings. Sea Lions are a well-known sight in San Francisco and many of them enjoy basking in the sun on Pier 39.



Lesson 6

A contrasting locality: Human Geography



San Francisco has a network of cable cars that take people up and down the steep hills and around the city. The cable cars are a very popular tourist attraction. It is thought that their inventor, Andrew Smith Hallidie has seen horses struggling to pull a carriage up a steep, wet, cobbled street and knew a better solution was needed. The city of San Francisco is built in a grid formation. The grid formation of cities dates back to Ancient times, there is evidence of this formation being used in Babylon, Egypt, Greece and Italy.

In [urban planning](#), the **grid plan**, **grid street plan**, or **gridiron plan** is a type of [city plan](#) in which [streets](#) run at [right angles](#) to each other, forming a [grid](#). The infrastructure cost for regular grid patterns is generally higher than for patterns with discontinuous streets.

Costs for streets depend largely on four variables: street width, street length, [block](#) width and pavement width. Two inherent characteristics of the grid plan, frequent intersections and orthogonal geometry, facilitate [pedestrian](#) movement. The geometry helps with orientation and [wayfinding](#) and its frequent intersections with the choice and directness of route to desired destinations.

In [ancient Rome](#), the grid plan method of land measurement was called [centuriation](#). The grid plan dates from antiquity and originated in multiple cultures; some of the earliest [planned cities](#) were built using grid plans.



Knowledge Organiser- Spatial Sense (Geography Year 3)

Key Vocabulary	Definition
Eight-point compass	A tool used for navigation, shows the following directions; north, north-east, east, south-east, south, south west, west and north west.
Grid reference	A set of information (often a letter and a number) that locates a place on a map.
Symbols	Small simple pictures that represent different things on a map.
Key	A key gives information about the symbols included on a map.
Human features	Man-made features of an area, for example, buildings, bridges and roads.
Physical features	Natural features of an area, for example, rivers, hills, valleys.

San Francisco Area

Insert Map

Map of the Local Area

Insert Map

Eight Point Compass

