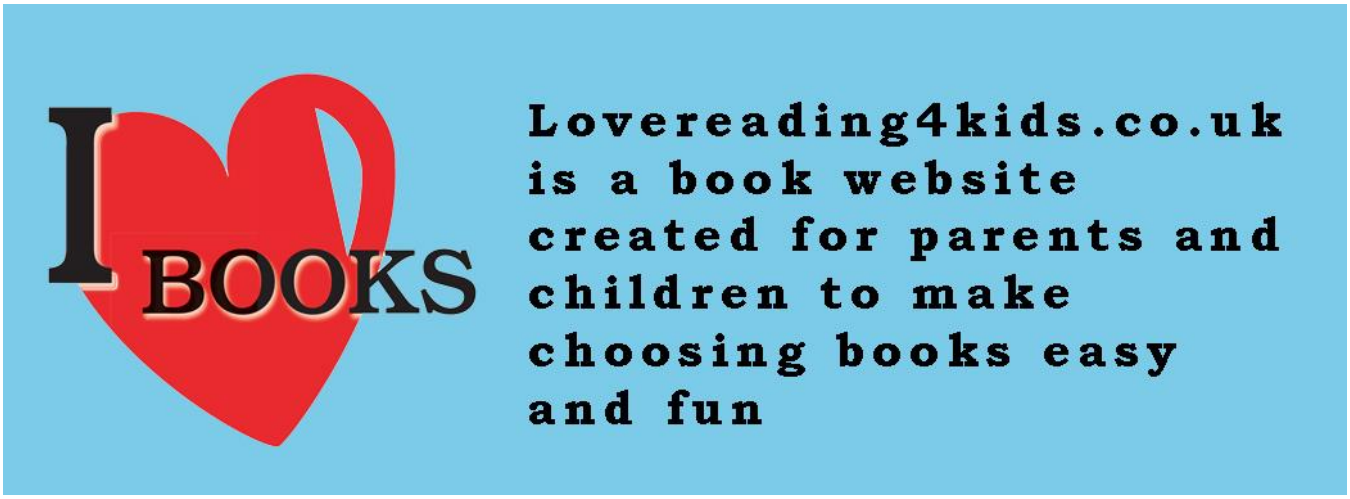

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Written by

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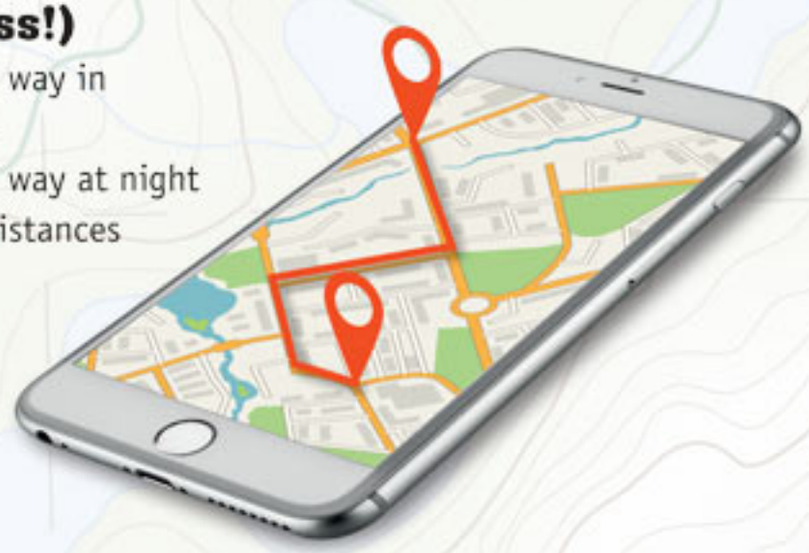


Whether you're looking for hidden treasure, trekking through the countryside, or just trying to get to the other side of town, being able to read a map is an essential skill. This book will give you all the tools you need to understand maps, make your own cartographic creations, and even head out on navigating adventures.

These days, incredibly detailed, interactive maps are available at the touch of a button on computers, cell phones, and other electronic devices.

USING MAPS

There are many different types of map. Some show an area's physical features while others give detailed information about routes. This chapter will introduce some of the most common types.

First things first. What exactly is a map? A map is a drawing or picture of a place, a country, or even the whole world as if seen from high up, like in a hot-air balloon, on a plane, or even from space!

COMMON MAP TYPES

Physical maps, like this one of India, use colors to highlight an area's natural features, such as mountains, deserts, forests, and rivers. **They are also often shaded to look three-dimensional and to show the different heights of the land.**

Road maps are flat plans that show streets and roads to help drivers, cyclists, and pedestrians find their way around, but they don't show hills, mountains, or valleys. **Road maps also show important or useful buildings and landmarks, such as hospitals and parking lots.**

Topological maps only show the basic information of where places are on a route. They are so simple that they look like diagrams. **A good example of topological maps are maps of subways, such as this map of the subway network in London, UK, known as the "Tube".**

TOPOGRAPHIC MAPS

Topographic maps give a detailed view of what's on the ground, including buildings, rivers, forests, and fields. These maps also show the height and steepness of hills and mountains by using lines called contours (see pp.32–33). Most topographic maps have lots of symbols (see pp.18–19) and are covered in grid lines, which make it easy to pinpoint locations (see pp.26–27).

Because they give so much detail, people use topographic maps to navigate in the countryside.

The first maps were etched on pieces of stone around 14,000 years ago, while the earliest portable maps were made on clay tablets. Modern cartographers use the latest computer and satellite technology to make sure their maps are as accurate as possible.

SATELLITE MAPS

Many modern maps are made using detailed images of the Earth taken by satellites. One of the great things about satellite maps is that, if you're looking at them on a computer, you can pan out to see an entire country or zoom right in to see a close-up of your street.

NORTH AND SOUTH

On most maps "North" is at the top of the page. But this is just because we are used to thinking about the world this way, which is why this map looks strange. But it isn't actually wrong. There isn't really an "up" or a "down" in the universe!

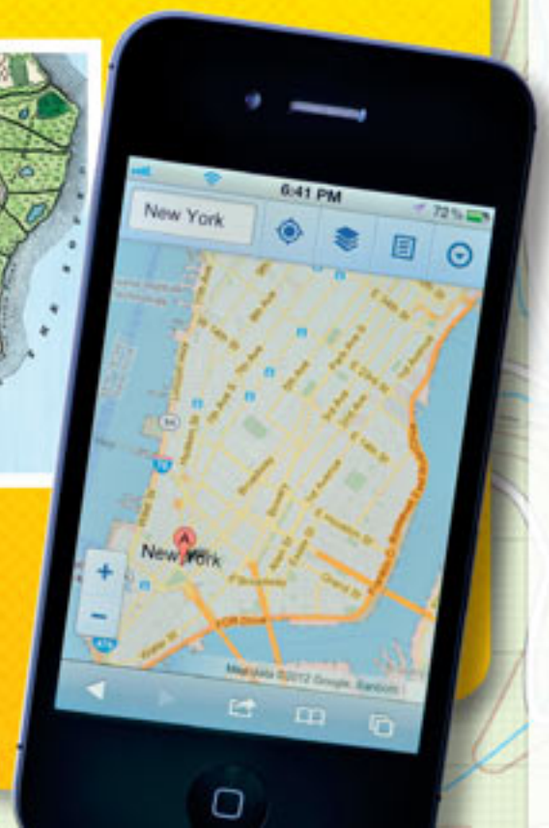
POLITICAL MAPS

Political maps show the boundaries between official areas, such as countries and states, counties and towns. Like this map of North America, they often use colors so it's easy to tell the diferent areas apart.

CHANGING THROUGH TIME

If you look at old maps of your home town, you can see how it has changed and evolved through history. Can you find out if your home was on a map 50 or 100 years ago?

These maps show how modern New York is a much less green and more built up place than it was in 1767.



The most accurate map of the Earth is a globe because it shows the planet's actual spherical shape. In order to turn a globe into a flat map, cartographers have to slightly distort the shapes of the countries. This is known as making a projection.

MAKING A PROJECTION

Turning a spherical globe into a flat map is a little like peeling the skin off of an orange. Once the surface has been flattened down, there will be gaps between parts of the world. Mapmakers have to stretch these parts to get them to join up. Over the centuries, they have come up with several different ways of doing this. You can see two different projections here.

Note how the size and shape of the countries are slightly different in each of the maps.

ENCIRCLING THE GLOBE

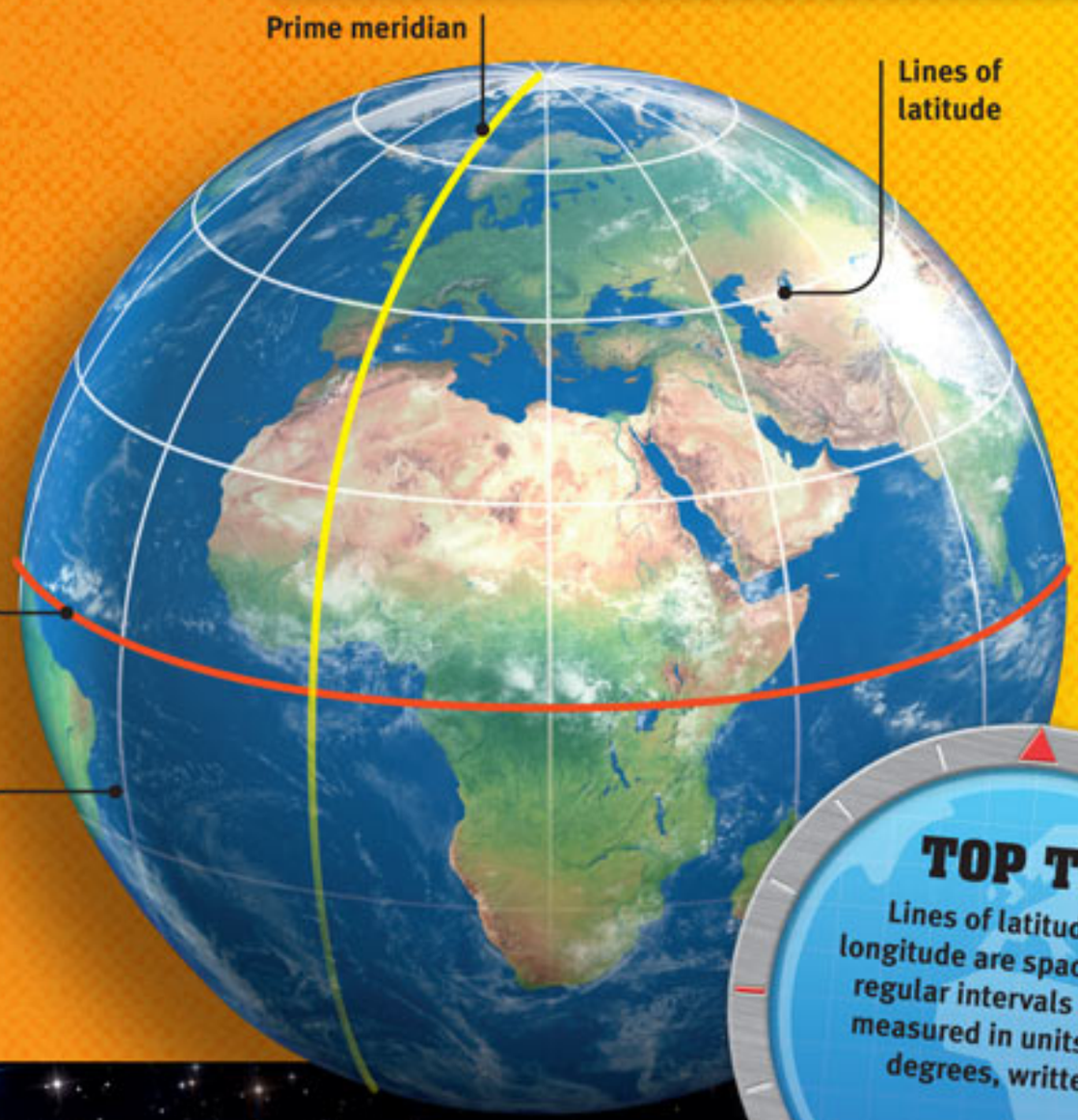
Lines of latitude and longitude form an imaginary grid covering the Earth, which can be used to pinpoint locations on its surface.

Lines of latitude run horizontally around the Earth, dividing it into a series of slices. Lines of latitude don't touch.

Lines of longitude run vertically around the world. Unlike lines of latitude, longitude lines meet at the North and South Poles. They divide the Earth into a series of wedge shapes.

The Equator is the line of 0° latitude. It runs around the middle of the Earth at its thickest point. All global positions are measured as being north or south of this line.

The Prime Meridian is the line of 0° longitude from which all directions east or west are measured.



TOP TIP

Lines of latitude and longitude are spaced out at regular intervals and are measured in units called degrees, written °.