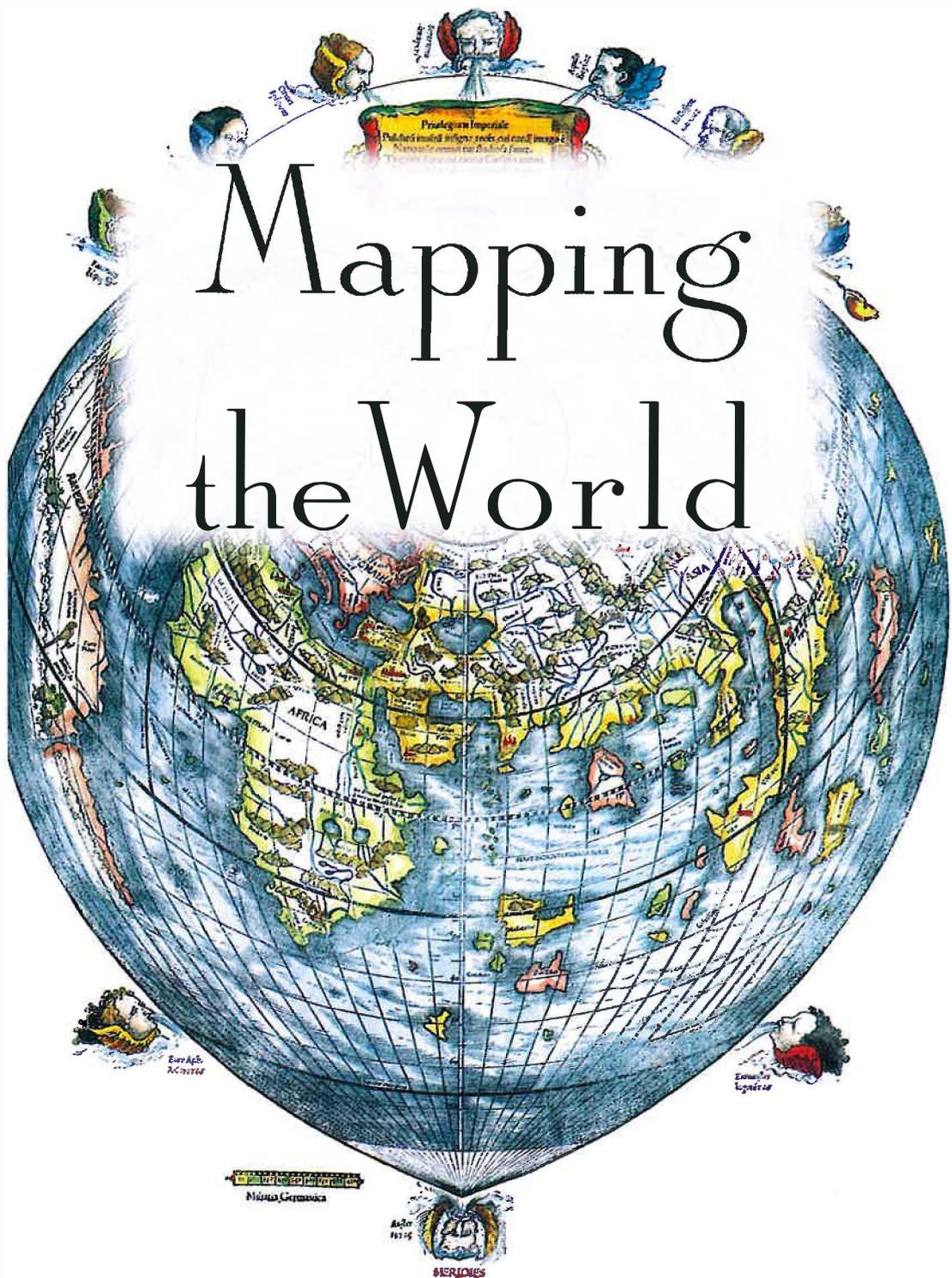
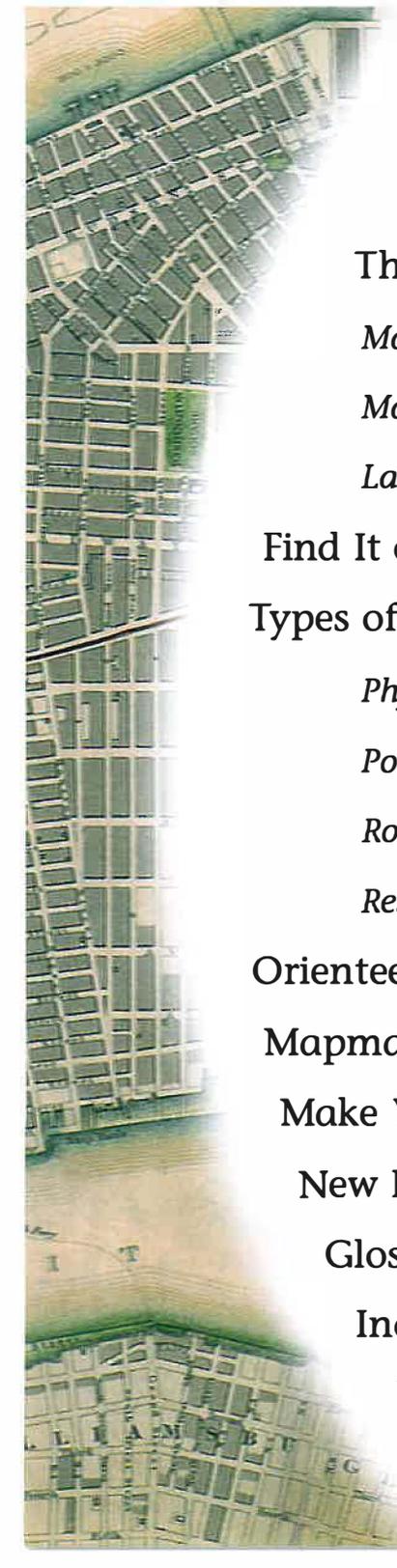


Mapping the World





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Features

TIME LINK

People have been making maps of the world around them for a long time. Find out more on page 4.

What's another name for a mapmaker? Find out on page 5.

WORD BUILDER

FACT FINDER

On which continent would you find the Gobi Desert? There's a clue on page 15.

TRY THIS!

Be a real mapmaker! Follow the steps in **Make Your Own Map** on page 26.

The World on a Map

People have made maps of the places where they lived since early times. They made maps from materials such as clay and sticks.

In ancient times, no one knew much about the world, so maps were not very accurate. Many people thought that Earth was flat and you would fall off the edge if you sailed too far in one direction!

As travellers and explorers went further and further, however, they found they didn't fall off! They returned home with more information for mapmakers.



From the 1300s, **compass roses** have been drawn on maps to show directions.



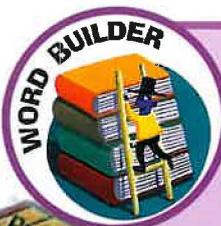
TIME LINK

Most ancient people believed that the world was flat.

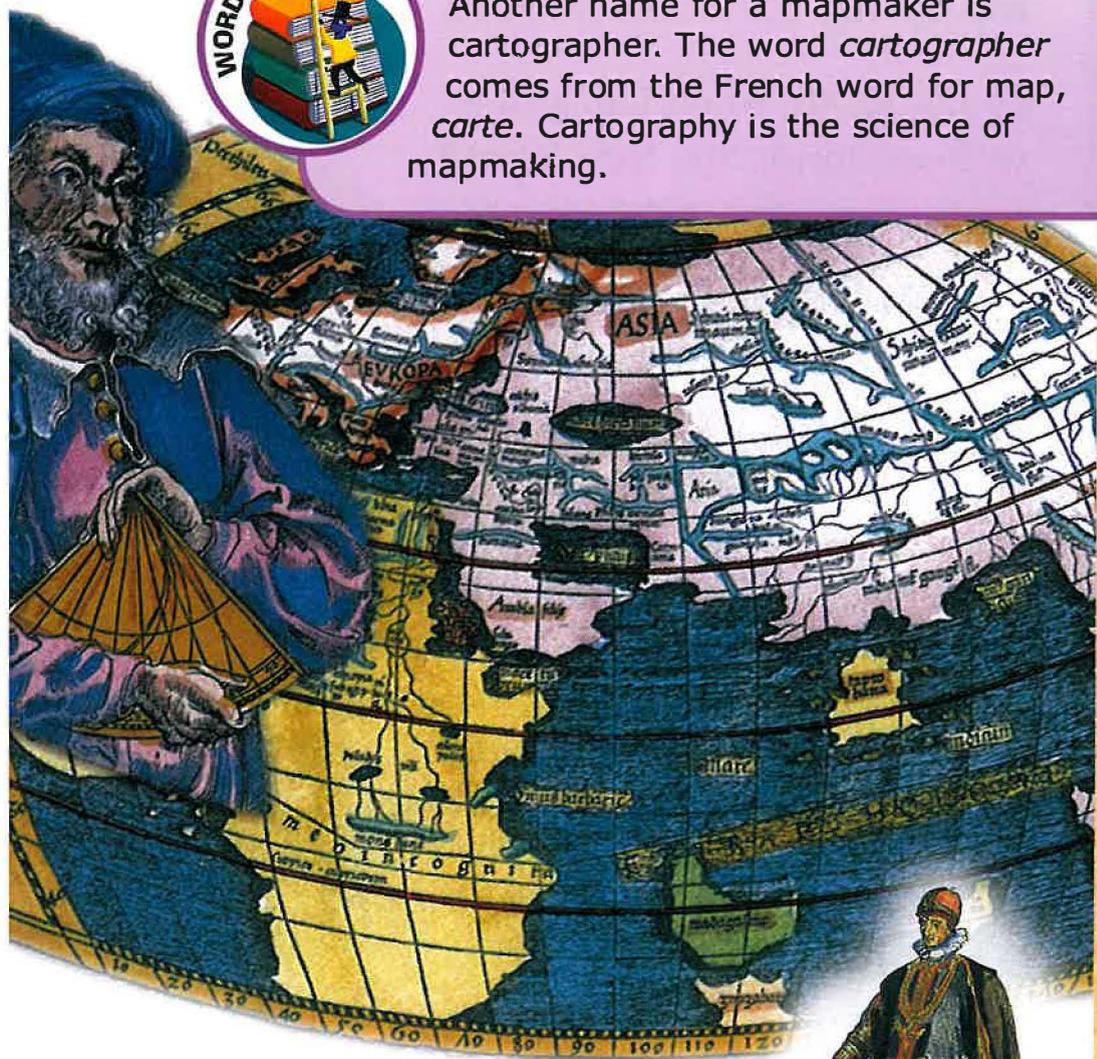
5,000 years ago

Ptolemy, a Greek mapmaker, lived from about Year 85 to about Year 165. He believed that Earth was round.

2,000 years ago



Another name for a mapmaker is cartographer. The word *cartographer* comes from the French word for map, *carte*. Cartography is the science of mapmaking.



Ptolemy's maps were rediscovered and used by the Europeans.

1400s

Christopher Columbus reached the Americas.

1492

Mapping the New World

In the 1500s, when Europeans were exploring the **New World** for the first time, Spanish and Portuguese explorers collected important mapping information.

For as long as they could, the Spanish and Portuguese governments kept this information secret because they wanted to be first to take the New World's riches. Soon, however, explorers from other countries were also sailing to these new lands and drawing maps of them.



Ferdinand Magellan led the first voyage all the way around the world.

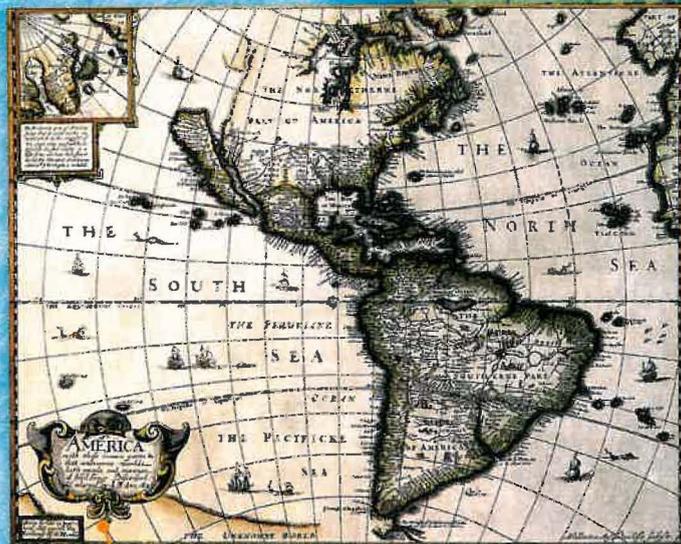
Gerardus Mercator published the first world map that included North and South America.

1500s

1519-1522

1538

Atlantic Ocean



Map of North and South America in the 1600s

South America

Map of North and South America Today

Henry Hudson explored and mapped present-day New York and the Hudson River in the USA, and part of Hudson Bay in Canada.

1600s



Abel Tasman was the first European to discover Australia and New Zealand.

1642

Mapping the Pacific

In the 1700s Europeans didn't know much about the South Pacific because they hadn't been there before.

Some people knew roughly where Australia and New Zealand were, but many people believed that these two countries were joined together.

Captain James Cook made three voyages to the South Pacific. He proved that New Zealand is two large islands, separate from Australia.

Captain Cook also mapped the east coast of Australia, Hawaii, the islands of Tahiti and other Pacific islands.



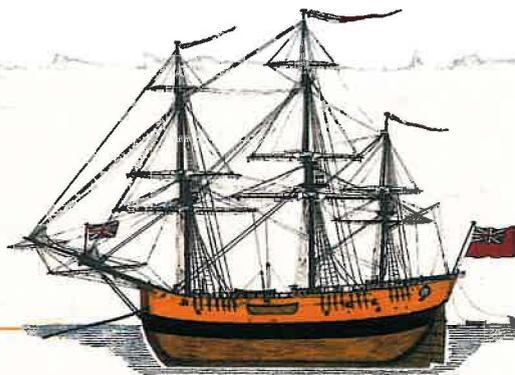
TIME LINK



Captain Cook sailed to Australia, New Zealand and Tahiti.

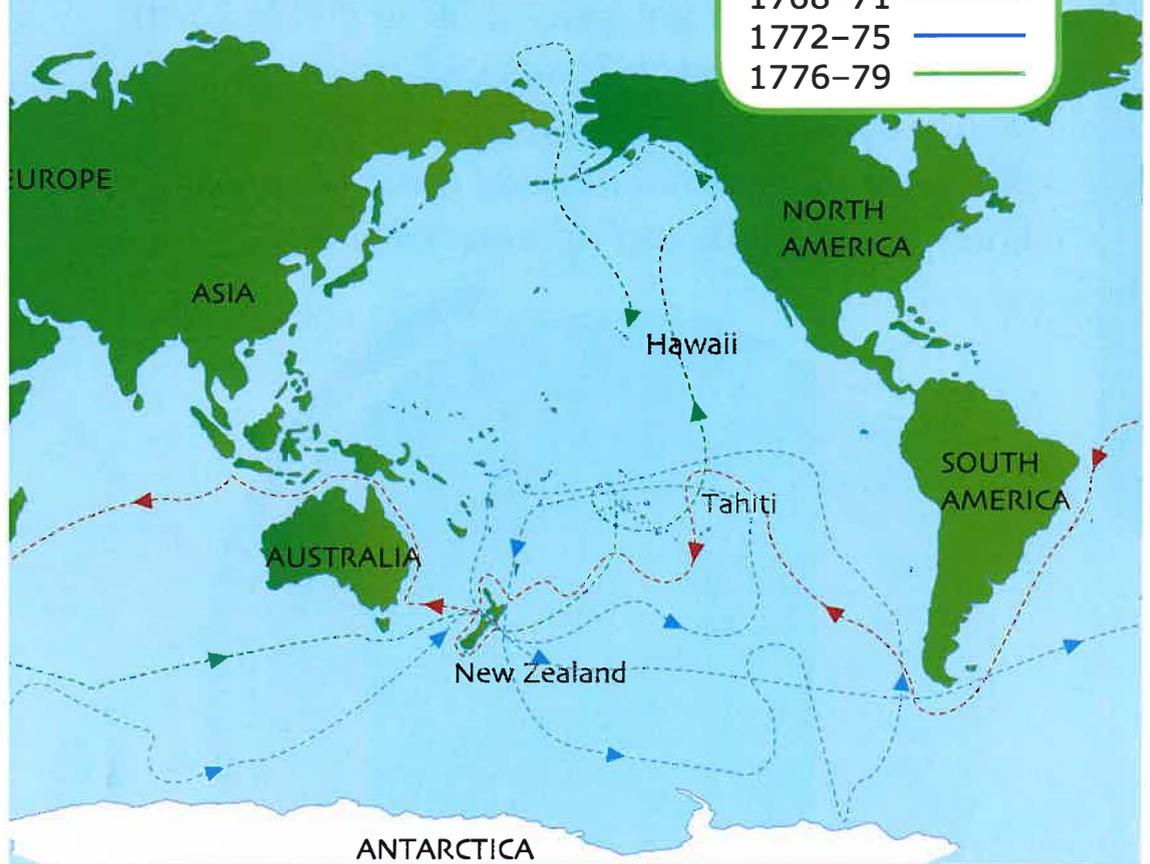
1700s

1768



Key to Captain Cook's Voyages

- 1768–71 —
- 1772–75 —
- 1776–79 —



Captain Cook sailed into Antarctic waters. He guessed correctly that there is a large frozen land around the South Pole.

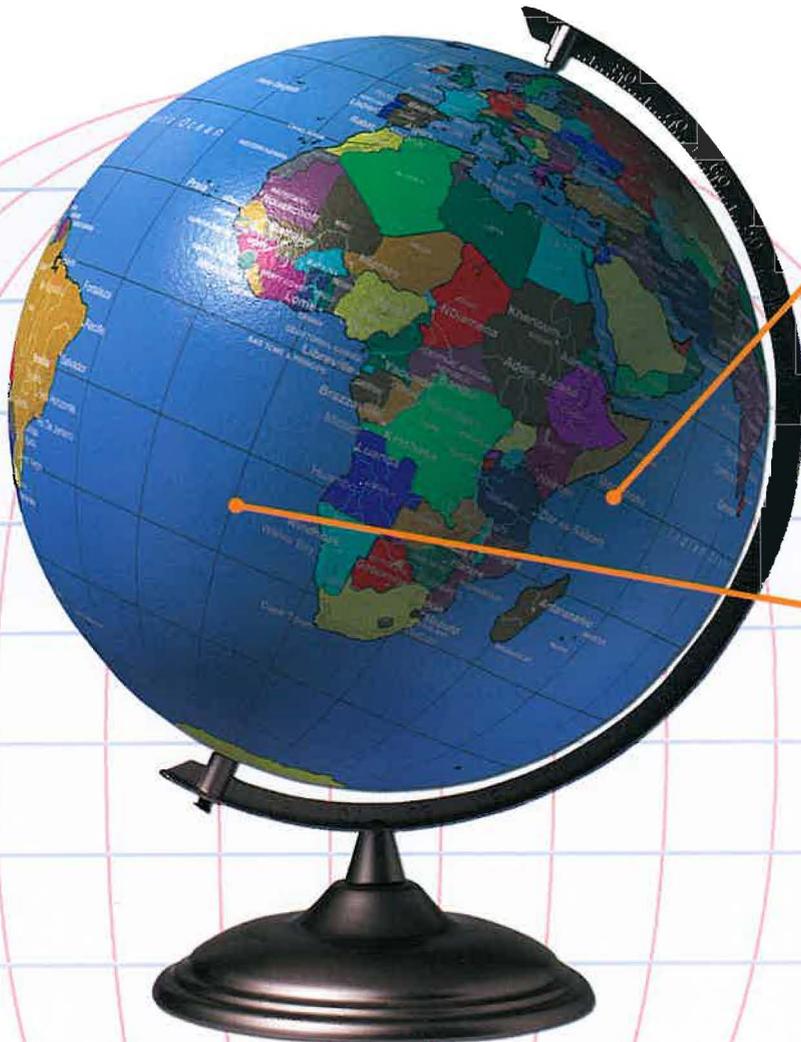
1772

Captain Cook sailed to the North Pacific and "discovered" Hawaii.

1776

Latitude and Longitude

Mapmakers use imaginary lines to divide Earth into sections. You can locate any point on Earth using special lines called lines of latitude and lines of longitude. Lines of latitude run across a map. Lines of longitude run up and down a map.



Latitude

The equator is an important line that runs across the exact middle of a world map. It divides the world into the Northern and Southern **Hemispheres**. Latitude is measured by its distance from the equator towards the North or South Pole.



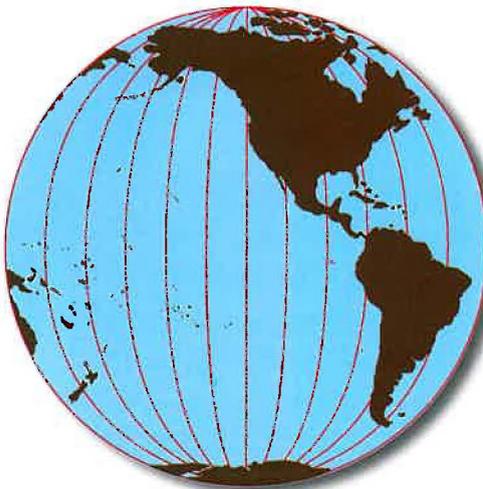
North Pole

South Pole

North Pole

Longitude

To measure longitude, mapmakers divide a map with 360 lines running north and south. Each line is called a **meridian**. Meridians are the main lines of longitude on maps. Degrees of longitude are used to measure east and west distances on maps. They are measured from the Prime Meridian, which is in Greenwich, England.



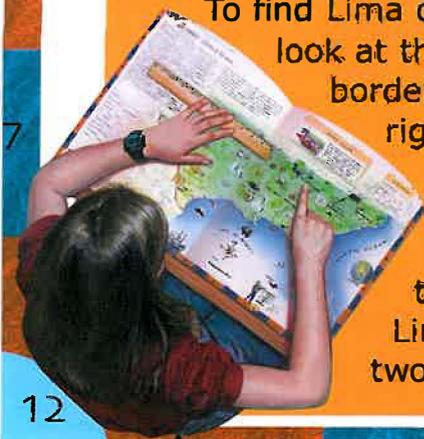
South Pole

Find It on a Map

Mapmakers use different tools to make maps and to make sure their maps are easy for people to read. Maps often use a grid system to make it easier for people to locate places. Maps usually have a series of letters along the top and bottom of the page and a series of numbers down the sides.

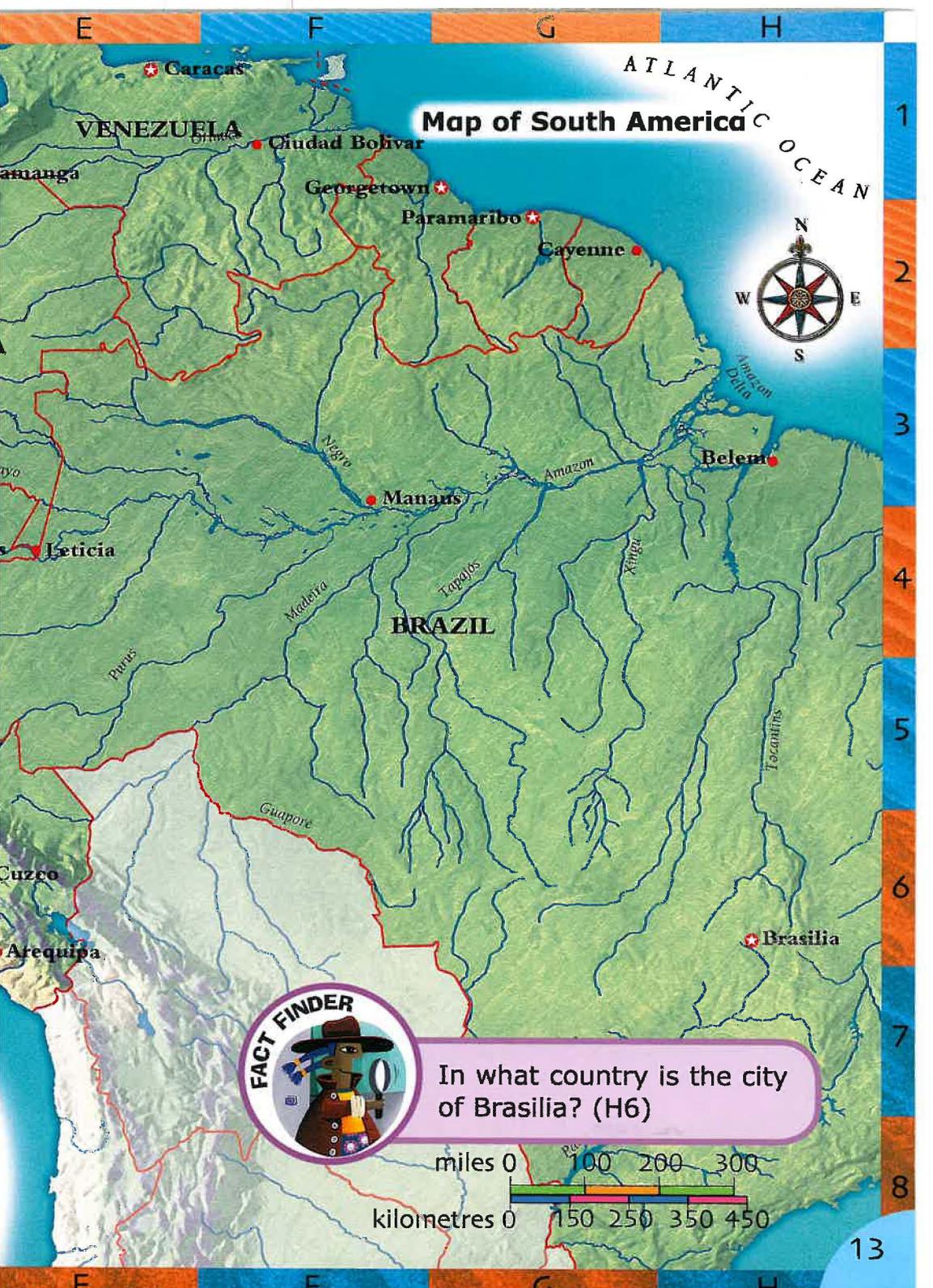
An **atlas** has a list of place names at the back. Each place name has a page number and a grid reference so you can find it on a map.

The grid reference for the city of Lima is D6. To find Lima on this map of South America, look at the letters on the top or bottom border and find D. Then find 6 on the right border. Imagine a line running down the page between the two Ds, and another one running between the two 6s—use a ruler to help, if you like. You will find Lima near the point where these two lines meet.



Map of South America

ATLANTIC OCEAN



In what country is the city of Brasilia? (H6)



Types of Maps

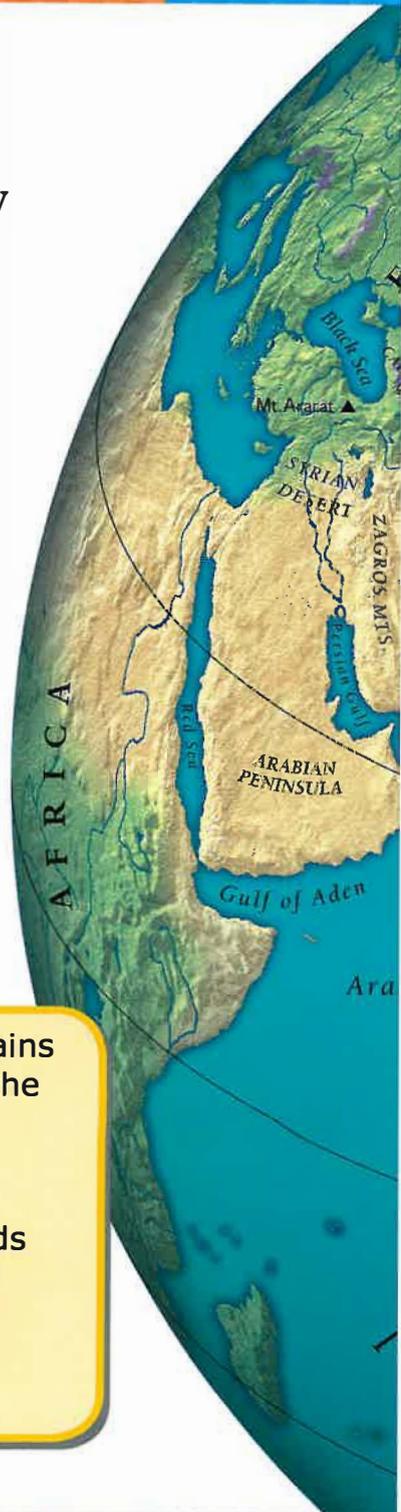
Different types of maps can show different information.

Physical Maps

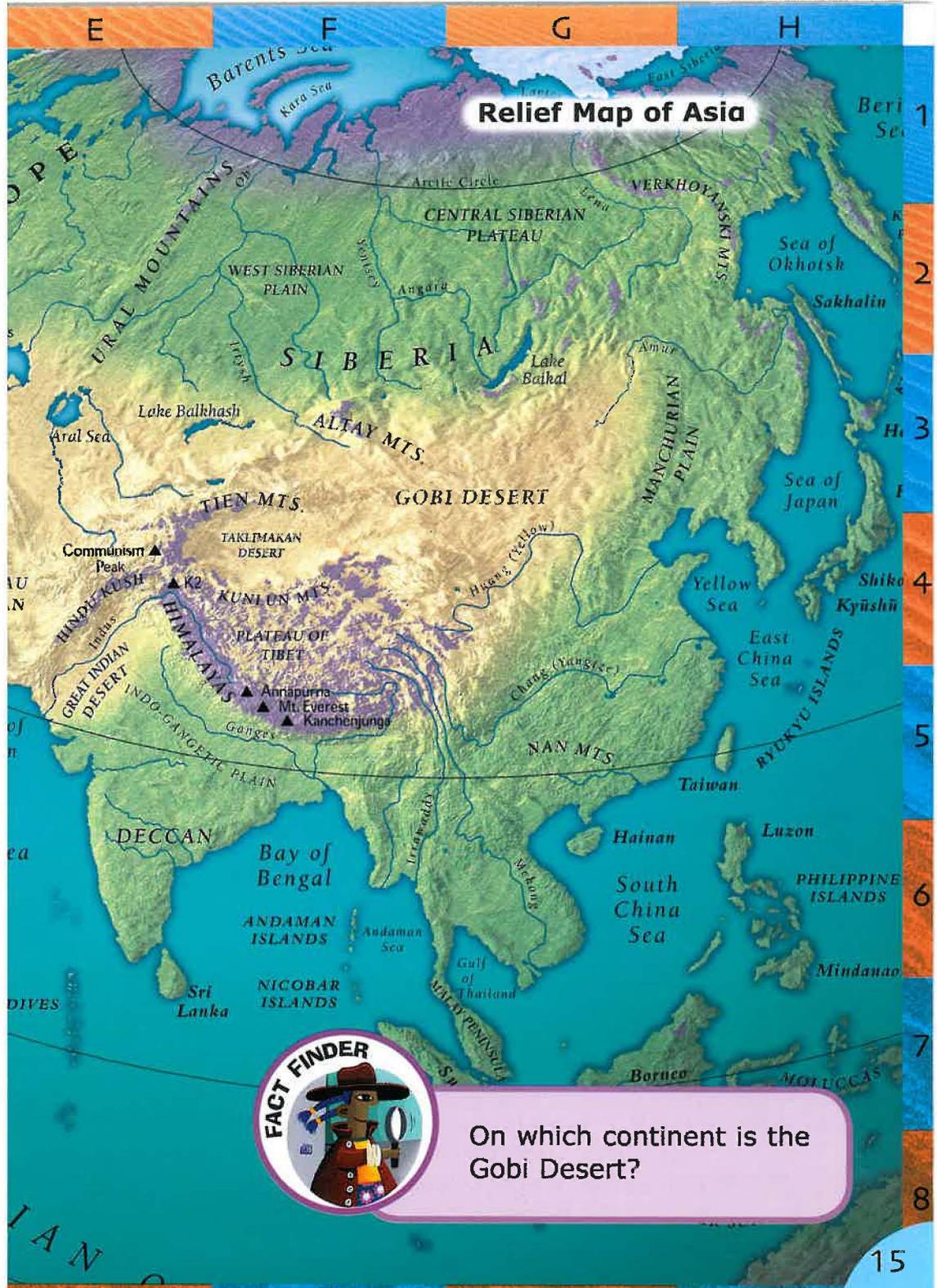
Physical maps show the natural features of a place, such as mountains, rivers, lakes and oceans. Physical maps are also called **topographic maps**. Relief maps are a kind of physical map. Relief maps look a little like a picture taken from above.

Maps often have a key which explains what the colours and symbols on the map mean.

Key		desert
		forest and grasslands
		ice
		tundra
		water



Relief Map of Asia



On which continent is the Gobi Desert?

Political Maps

Maps can show much more than just physical features. Lines that separate one **state** or country from another are called **boundaries** or borders. Political maps show the boundaries of different states, territories and countries. Mapmakers use many colours to show political regions.

Political maps can change if there is a war or a change of government. The name of a state or country sometimes changes too. When the Soviet Union broke up in 1991, for example, fifteen new states took its place. Some of these states were new countries.

People who travel to different countries must have a passport. A passport is an official booklet that proves you are a citizen of a country. In some countries, your passport is stamped whenever you cross a border.



FAEROE ISLANDS
(DENMARK)

UNITED
KINGDOM

IRELAND



Political Map of Europe

Key to Very Small Countries ■

- 1 - Liechtenstein
- 2 - Andorra
- 3 - Monaco
- 4 - San Marino
- 5 - Vatican City
-  - boundary



FACT FINDER

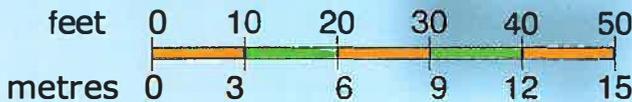
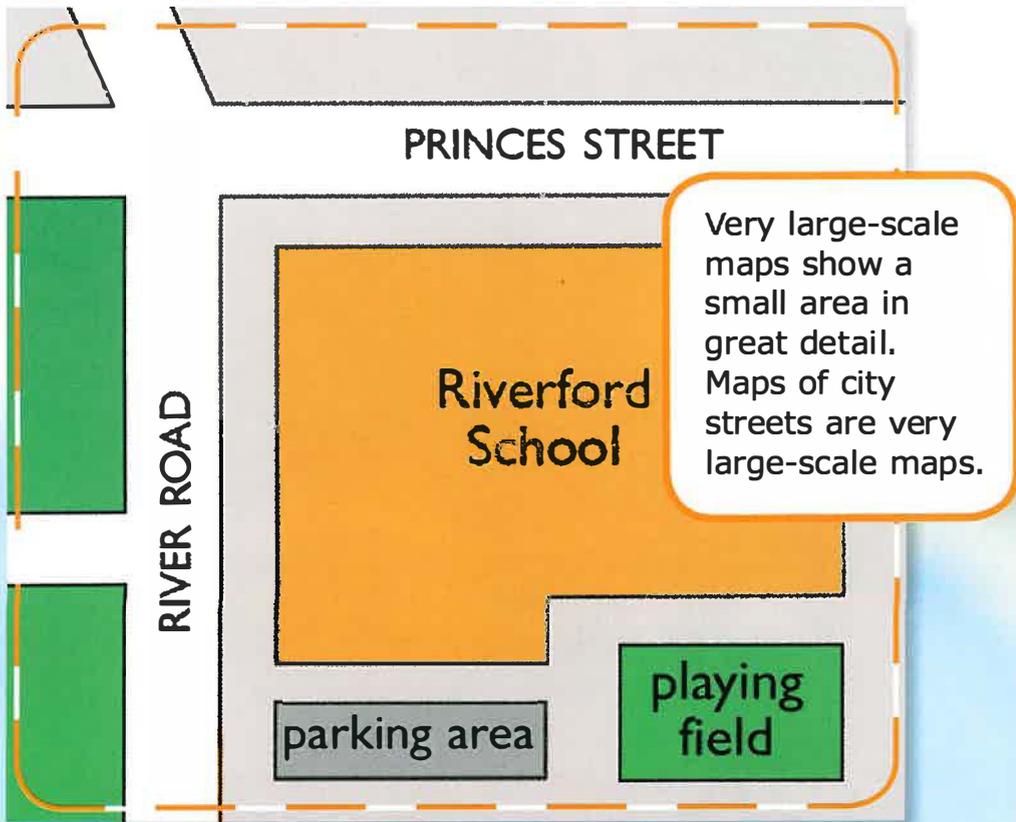


Can you name two very small countries inside Italy?

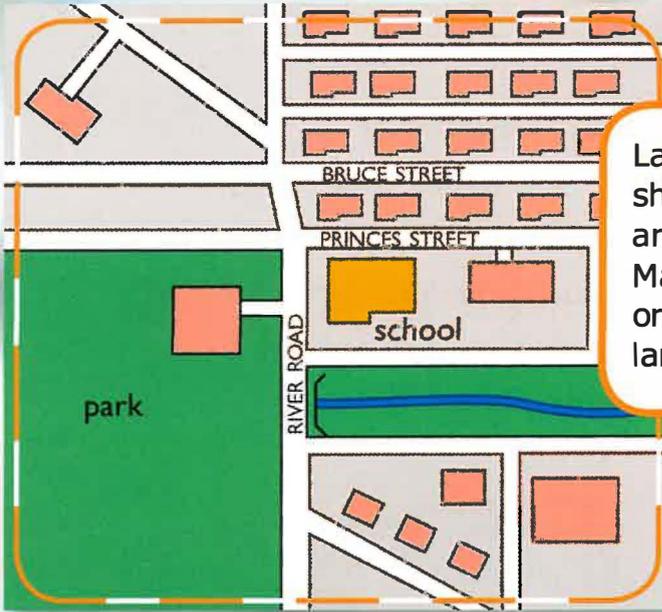
Road Maps

Road maps are another kind of map that many people use every day. Road maps can be different in scale. They can show the main roads across a whole country or every street in a small town.

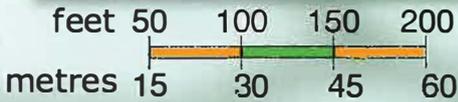
Very Large-scale Map



Large-scale Map



Large-scale maps show a greater area in some detail. Maps of a state or region are large-scale maps.



Small-scale Map



Small-scale maps show a very large area. Maps of countries are small-scale maps.

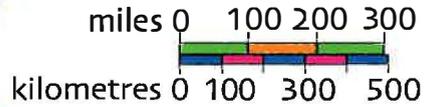


Resources Maps

Natural resources can be shown on a map. A natural resources map can have a key or show symbols directly on the map. A products map shows where things such as fruit and vegetables are grown and where animals are raised for food.



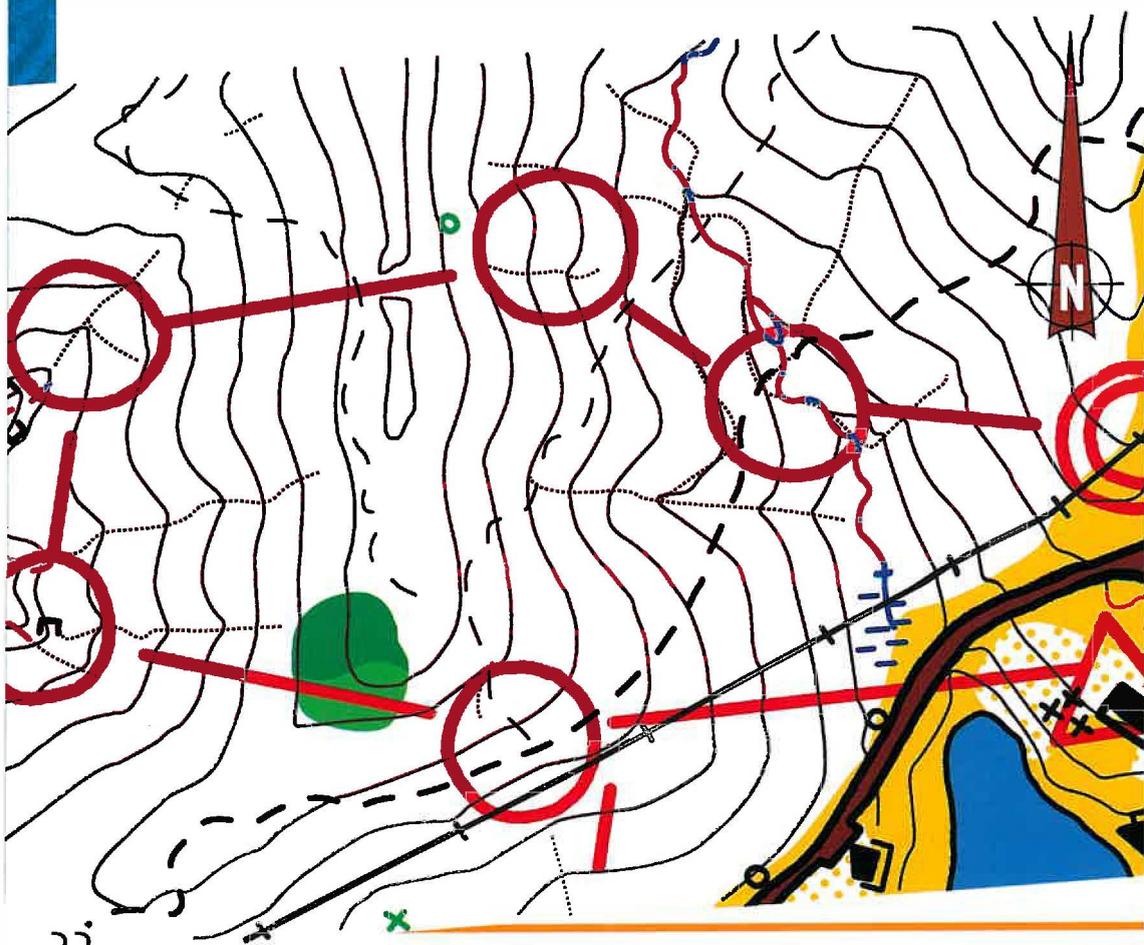
A products map has a key or shows symbols on the map. These maps often show natural resources as well.



Orienteering

Orienteering is a popular sport that uses maps. Runners race over rough country, finding their way using a map and a compass.

Special maps are used for orienteering. These maps are very detailed, even showing features such as rocks and trees.





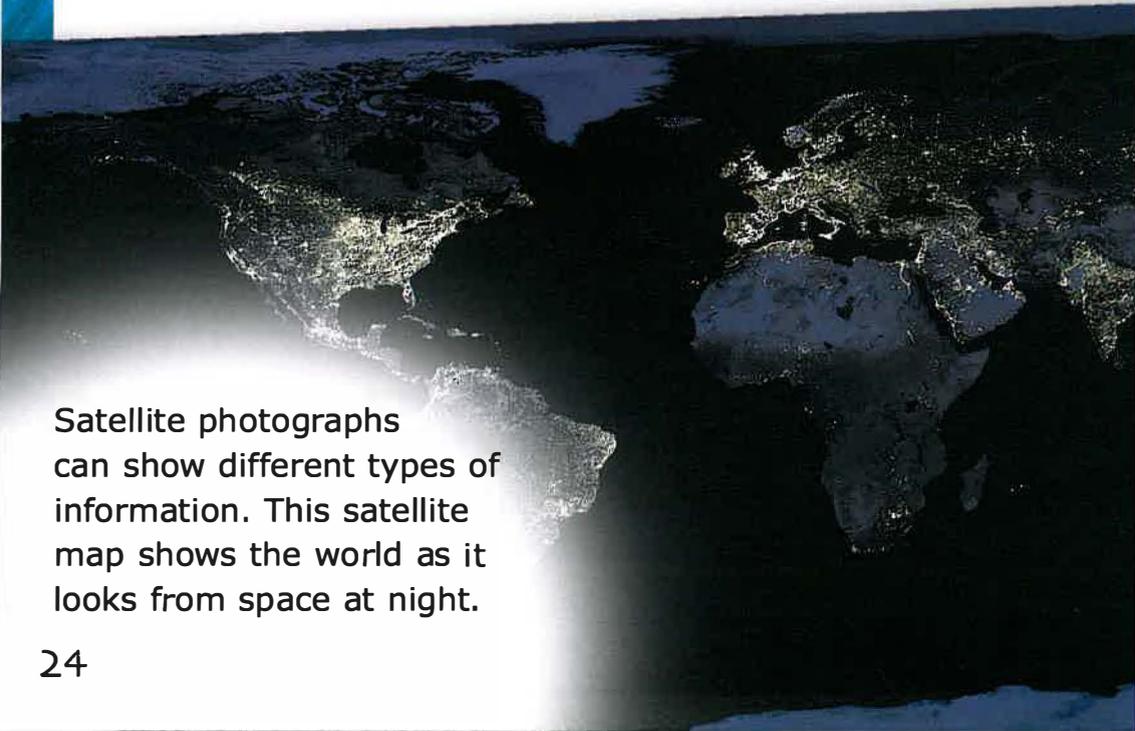
Orienteering Map Key

- Black symbols are used for features such as rocks, cliffs, stony ground, roads, trails and fences. Black symbols are also used to show buildings.
- Brown symbols are used for landforms such as hills, ditches and banks.
- Blue is used for lakes, ponds, rivers, streams and marshes.
- Yellow shows grass. Bright yellow is for lawns, and pale yellow is for fields with high grass.
- Green shows thick trees and shrubs that will slow down an orienteer. Dark green areas are almost impossible for an orienteer to run through.
- White shows forest that an orienteer can run through.
- Red marks the orienteering course.

Mapmaking Today

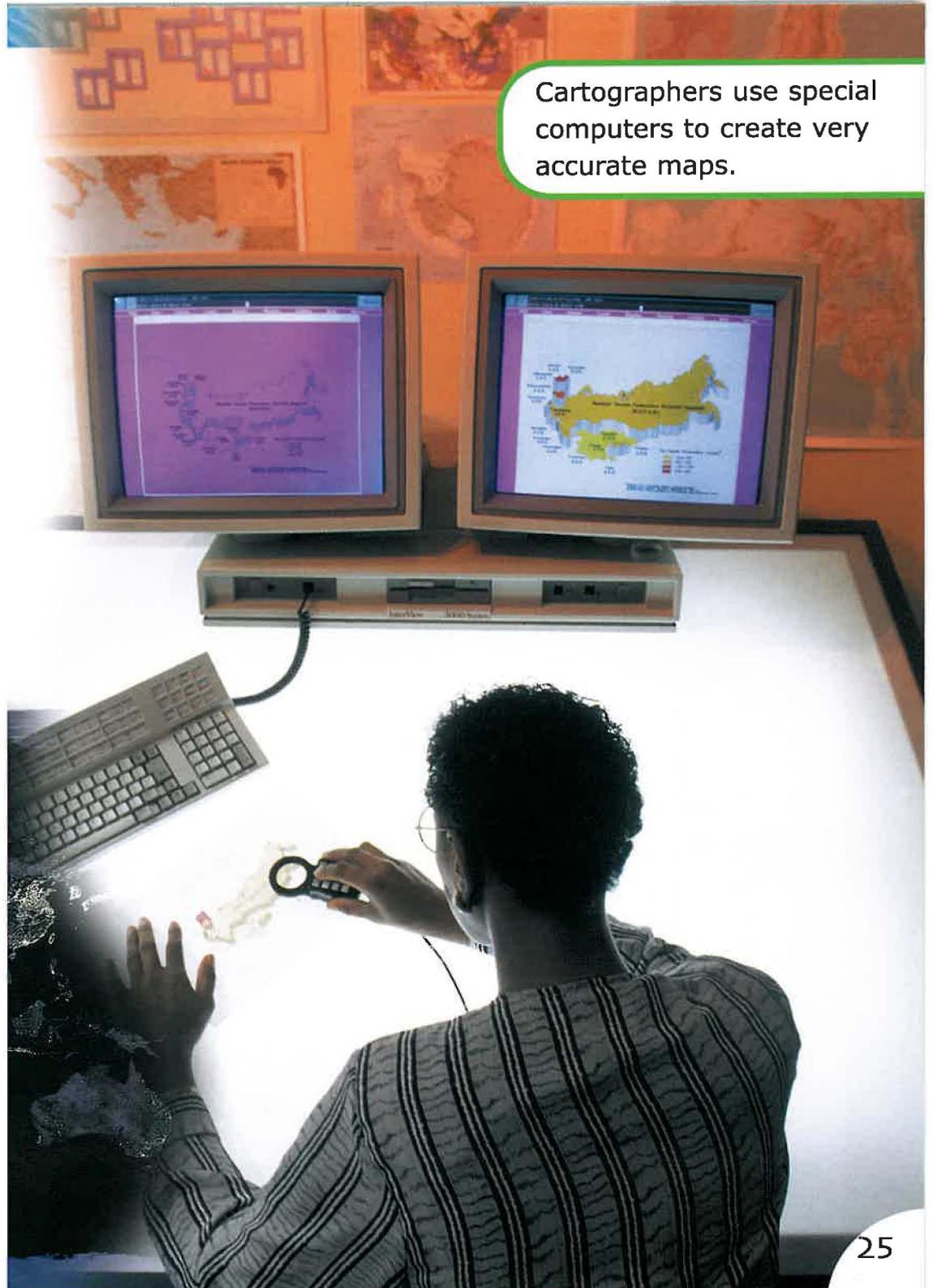
Today maps are more often drawn by special computers than by hand. These computers are able to record and store a lot of mapping information.

Modern mapmakers often use existing maps to help them create new ones. They might also use aerial or satellite photographs to help make a new map. Photographs and other information, such as measurements of latitude and longitude, can be entered into the computers. The computers then use this information to create the map.



Satellite photographs can show different types of information. This satellite map shows the world as it looks from space at night.

Cartographers use special computers to create very accurate maps.



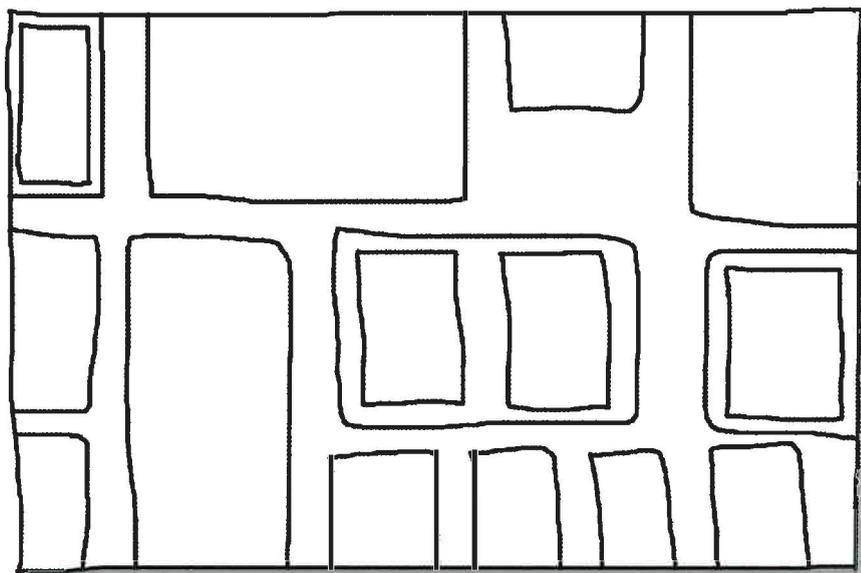


MAKE YOUR OWN MAP

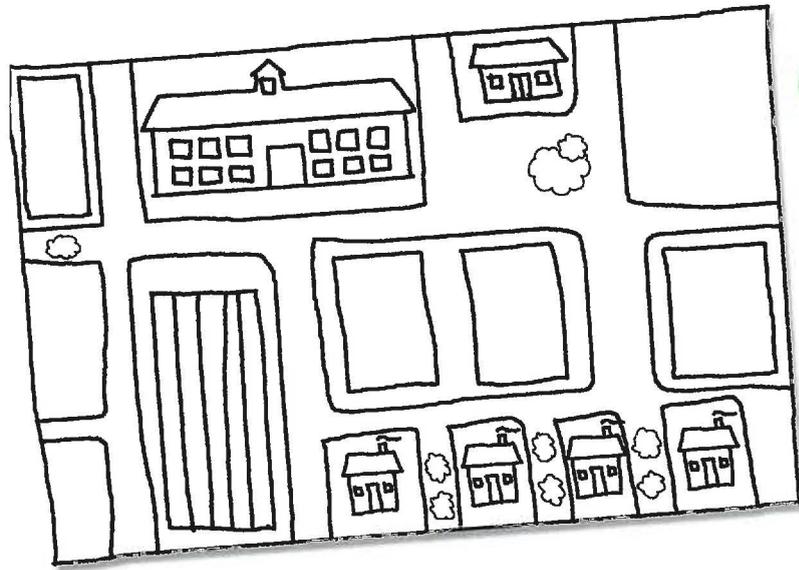
You can make a map of your school and its neighbourhood. You may need to go for a walk around your school and make a list of the things you want to show on your map.

Add these features to your map:

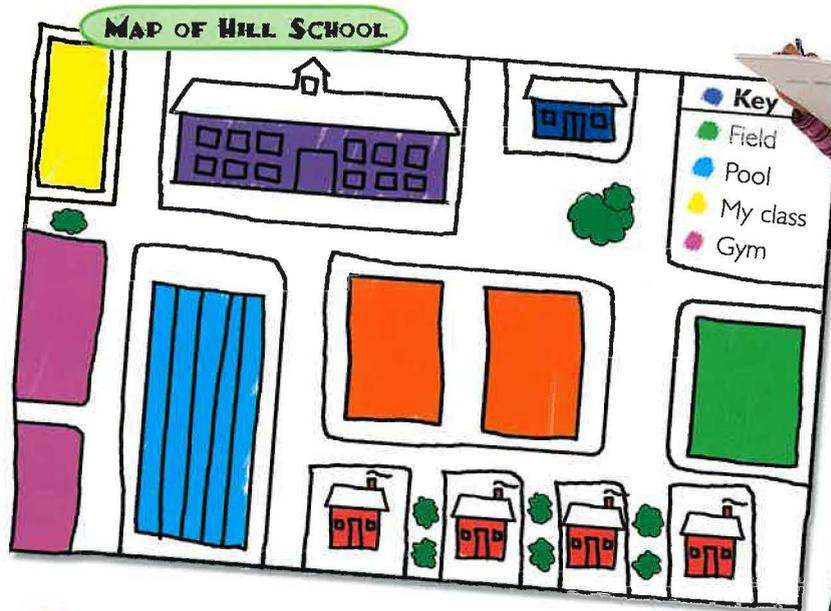
- a key
- a title
- a scale



- 1 Draw the street that your school is on. Work out a scale. One centimetre on your map could equal 20 steps in real distance.



- 2 Add shapes to show features such as buildings and playgrounds.



- 3 Now colour your map. Use one colour for buildings, one for roads or paths and so on. Draw a key to show what the colours represent. You can also add labels for important places such as your classroom.

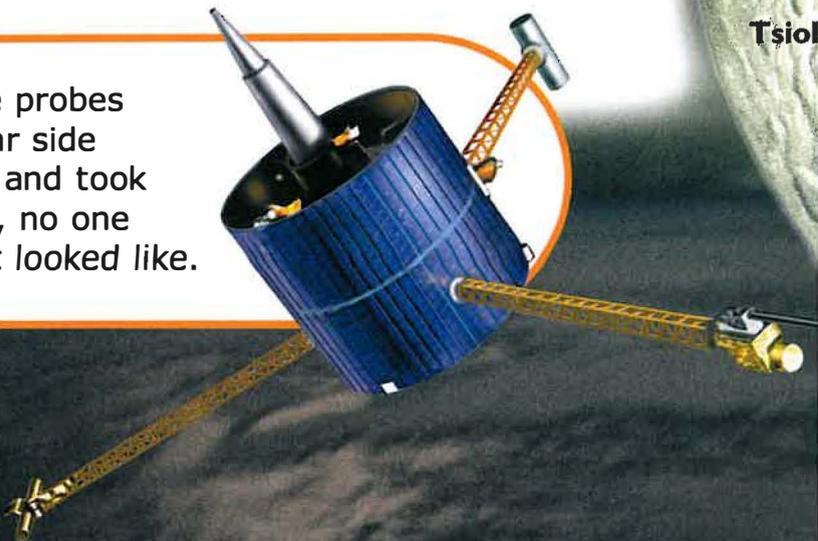


New Frontiers

Cartographers today can map anything on Earth, and they can even map the universe! Space probes go deep into space to take pictures of the planets. They also collect other kinds of information that mapmakers can use, such as measurements.

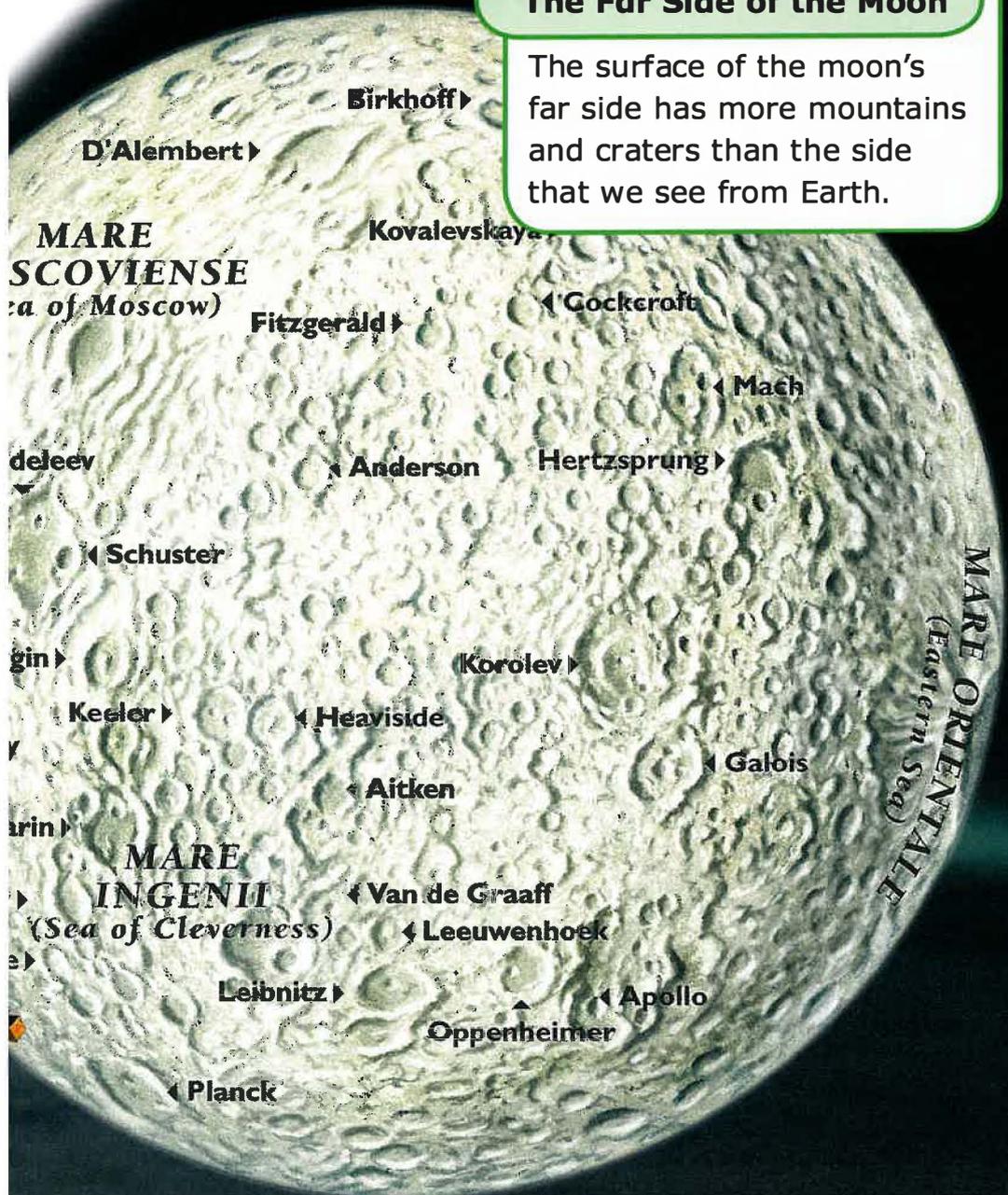
People have tried to make maps of the moon, the stars and the planets since ancient times. However, it is only recently that people have had technology powerful enough to make accurate maps of these places.

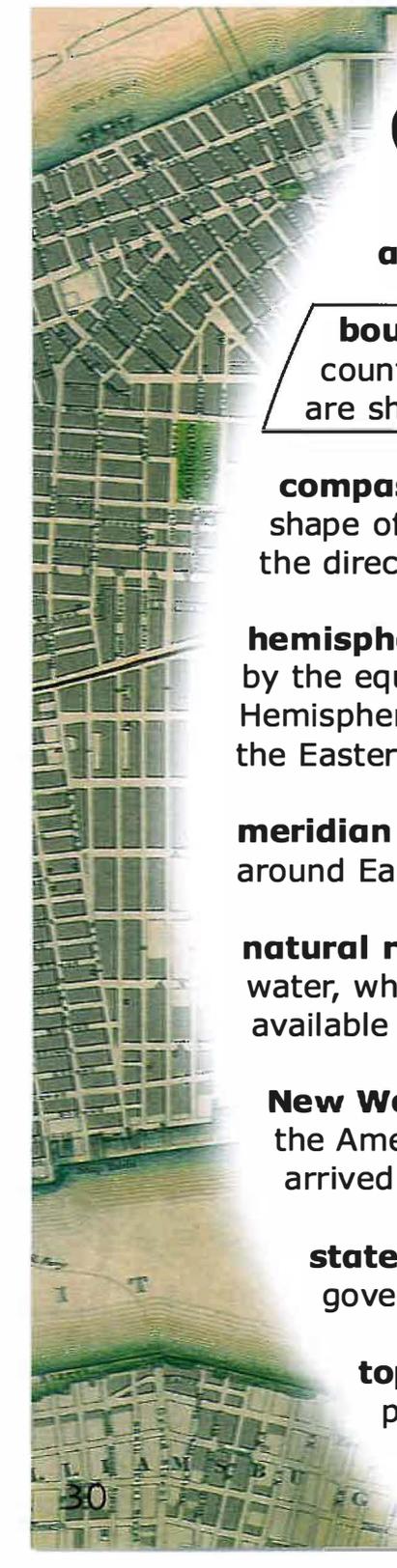
Before space probes visited the far side of the moon and took photographs, no one knew what it looked like.



The Far Side of the Moon

The surface of the moon's far side has more mountains and craters than the side that we see from Earth.



An aerial photograph of a city grid, showing a dense pattern of streets and buildings. The grid is mostly rectangular, with some irregularities. The colors are muted greens and greys, suggesting a topographic map style. The grid extends from the top left towards the bottom right of the page.

Glossary

atlas – a book of maps

boundary – a line that separates one country or state from another. Boundaries are shown on political maps, often in red.

compass rose – a circle, often drawn in the shape of a star or flower, with points showing the directions of north, east, south and west

hemisphere – any of the halves of Earth, divided by the equator into the Northern and Southern Hemispheres and by a meridian into the Eastern and Western Hemispheres

meridian – an imaginary line that forms a circle around Earth from the top to the bottom

natural resources – supplies, such as oil and water, which are found in or on Earth and are available for people to use

New World – the name Europeans gave to the Americas when Christopher Columbus arrived there

state – a group of people united under one government, or a part of a country

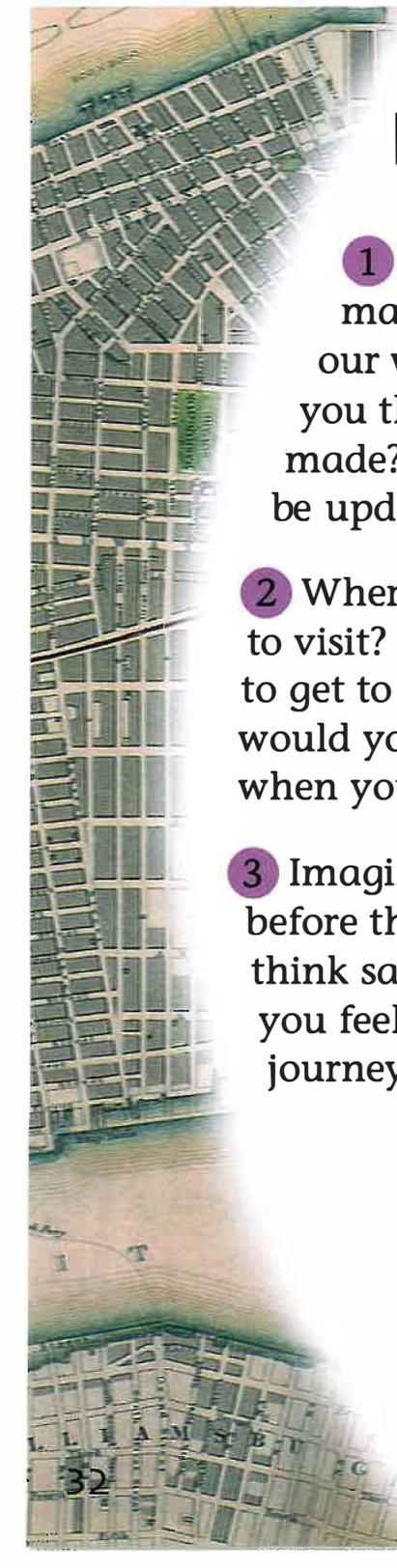
topographic – a map which shows the physical features of an area



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An aerial photograph of a city grid, showing a dense network of streets and buildings. The grid is partially obscured by a white, curved graphic element that frames the text on the right side of the page.

Discussion Starters

1 Modern cartographers can make maps of any place in the world, but our world is always changing. Why do you think new maps might need to be made? When would an old map need to be updated?

2 Where in the world would you most like to visit? What kind of map could you use to get to that place? What kind of map would you need to find your way around when you got there?

3 Imagine what it was like to be a sailor before there were good maps. How do you think sailors might have felt? How would you feel about setting out on a long journey with no map?

