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Types and Elements of Maps

Topics covered

- Types of maps
- Understanding size in maps—scale
- Reading maps—colours, symbols and directions

Tick the statements that you know about.

- A globe (model of the earth) shows where land and water are on earth. ☐
- Globes cannot give too many details about a place. ☐
- Maps can give many more details than a globe. ☐
- There are many different kinds of maps. ☐
- An atlas is a book that has maps. ☐
- Maps are also found on the Internet. ☐



TYPES OF MAPS

Maps can give a lot more information about the earth than globes. They are special drawings of a place that show how it would look if seen from above. Photographs taken from the air or by satellites help to make **accurate** (without any mistakes) maps. There are different types of maps:

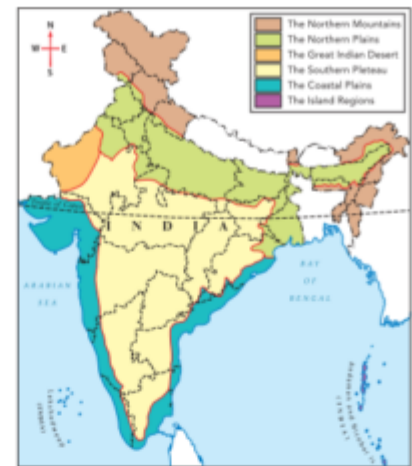
- **Physical maps:** These maps give the natural features of a place, like mountains, seas, rivers, lakes etc.
- **Political maps:** These maps show the boundaries and places made by people and governments, like countries, states, capital cities and other important places.
- **Thematic maps:** These maps give information about special topics, or themes, like rainfall, crops, industries, roads, railways etc.



Physical map of India



Political map of India



Natural regions of India—a thematic map

TP Find these different types of maps in your atlas.

Discuss

- Where have you seen maps?
- How are maps useful?

Did you Know?



The art of map-making is called cartography. People who make maps are called cartographers.

UNDERSTANDING SIZE IN MAPS

The information in maps must be *accurate*. We should be able to tell what the actual size and shape of the land is by looking at the map. This is how it is done.

Scale

Scale means the connection between the actual size of something and *the size that is drawn* on the map. For example:

This line is 5 centimetres long:
 _____ 5 cm

It can be shown by a shorter line, which takes less space: 10 mm

This is written as **2 mm=1 cm**.

This is called a **scale**.

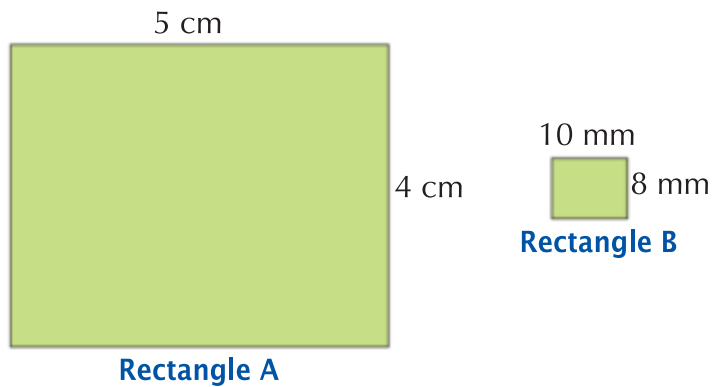
The smaller line *represents* the bigger line:

5 cm is represented by 10 mm.

This means that:

1 cm is represented by **2 mm** ($10 \div 5 = 2$)

Scaling down



Look at the rectangles and fill the blanks:

- Rectangle A iscm on its longer side andcm on its shorter side.
- Rectangle B ismm on its longer side andmm on its shorter side.

Rectangle B is drawn to a scale of $2\text{ mm} = 1\text{ cm}$. It is an *accurate* representation of Rectangle A. This method of drawing an exact and accurate representation, using a scale, is called **scaling down**.

Scaling up

Rectangle C is drawn to the scale of **2 mm = 1 cm**.

TP Work out the exact size of the rectangle that Rectangle C represents:

Width ($8 \div 2$) cm

Length ($12 \div 2$) cm

8 mm

12 mm

Rectangle C

When we use the scale to work out what the *actual* size of a place is, it is called **scaling up**.

All maps are drawn to scale in the same way. The scale is usually given in one corner of the map.



A scale showing $1\text{ cm} = 50\text{ km}$

READING MAPS

Colours

When you look at a physical map, you will see that it has many colours. These colours have meanings which help us to understand the map. A map of physical

features of India shows the land in several colours. These represent the different heights of the land. The sea too is shown in different shades of blue. These tell us how deep the sea is. Beside the map you can see an information box. This is the **legend**. It is the key that unlocks the meaning of all the colours.

- Mauve shows the highest mountains that are always snow-covered.
- Brown shows high mountains that are lower than the highest mountains.
- Yellow shows high land, like plateaus.
- Dark green is used to represent low land—land that is almost at the same level as the sea (sea level).
- Light blue shows the part of the sea that is less deep. This is near the land.

	Snow
	Mountain
	Plateau
	Plain & Island
	Sea

A typical legend

Colours are also used in thematic maps to give various kinds of information. This is explained in the legend beside the map. In political maps, different colours are used to show the different countries.

Look at maps in your atlas and at the legends beside the maps to understand what the colours mean.

Symbols

Symbols are special signs used in maps. Each symbol has a meaning. This is given in the legend. Like colours, symbols also help us to read and understand maps.

	Country capital
	State capital
	Other towns
	International boundary
	State boundary
	River
	Peak

Some symbols used in maps

Think and answer

TP

What will happen if a map does not have a legend or a key?



Did you Know?



The earliest maps made by people were not on paper. They were made on whatever material was available, such as stones or clay.

Directions

The directions cross shows the four main directions—north, south, east and west—

which you learnt about earlier. Four other directions lie between the four main directions. These are **north-east**, **south-east**, **south-west** and **north-west**. Find them in the diagram.

Usually the direction north is shown as being the upper part of the map. This helps us to understand where the other directions are.



A directions cross



Values and Life Skills

Why is it important for us to know how to read and understand maps?

REMEMBER



1. Maps represent all, or part of, the earth's surface. They have to be accurate.
2. All maps are drawn to scale.
3. We scale down to draw maps and scale up to understand the actual size of the places drawn in maps.
4. The colours and symbols in a map represent different kinds of information.
5. A directions cross in a map tells us which side of the map shows north.
6. The directions between the main directions are north-west, north-east, south-west and south-east.



WORDS

Accurate	without any mistakes
Scale	the connection between the actual size of something and its size on a map
Legend	the explanation of a map
Symbols	signs that have a meaning in maps

EXERCISES



A. Fill in the blanks.

1. Maps are of kinds.
2. The information in maps must be
3. The direction north-west is between and
4. Between south and east is the direction

B. Match the following.

A

1. Physical map
2. Thematic map
3. Political map
4. Scale down
5. Scale up

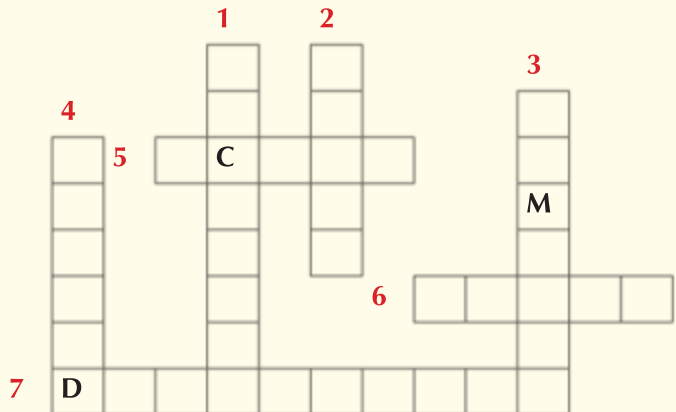
B

- a. draw an exact and accurate representation of a place
- b. shows countries, capitals and other cities
- c. work out what the actual size of a place is
- d. shows mountains, rivers, lakes etc.
- e. gives information about special topics

C. Crossword

Use the clues to complete the crossword.

1. Without any mistakes
2. A book of maps
3. Signs with meanings in maps
4. The key to reading a map
5. This is used to represent the size of land in a map.
6. A model of the earth
7. There are four main ones of these.



D. Write true or false.

Correct the false sentences in your notebook.

1. Globes are as useful as maps in helping us to learn about the earth.
2. All maps are scaled down representations of an area.
3. Colours are used in maps to give special information.
4. The symbols in maps do not have any meaning.
5. Usually the direction north is the upper side of a map.

E. Answer the following questions.

1. What is a map?
2. What helps to make accurate maps?
3. Why is it important for maps to be accurate?

4. If a scale in a map says 1 cm = 150 km, what does this mean?
5. Explain in two sentences how colours and symbols in maps are useful.
6. Which are the four main directions and the four additional directions?

TP

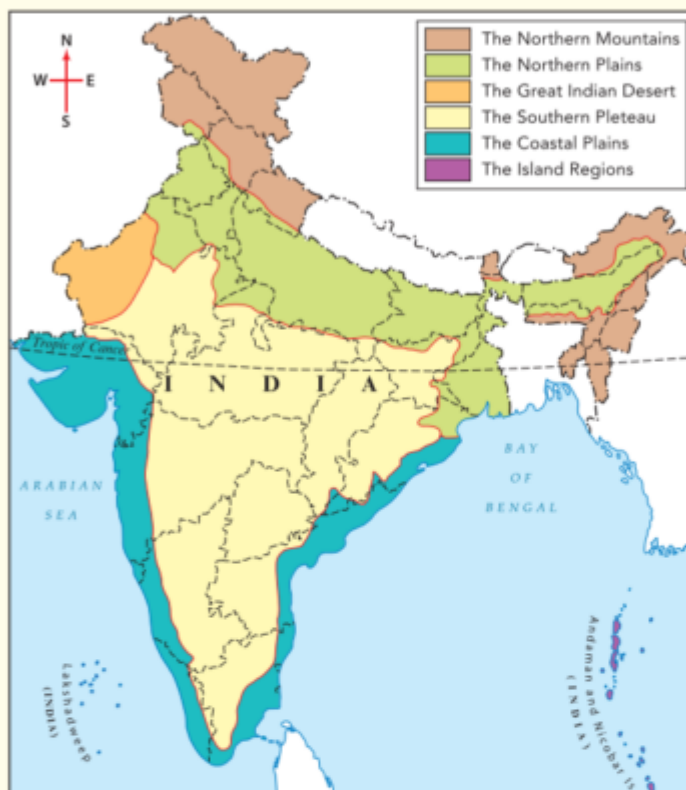
THINGS TO DO



A. Picture study

Answer these questions with the help of the legend.

1. Where are the coastal plains?
2. Which is the northern-most natural region?
3. Which natural region lies in the central part of India?
4. In which direction is the desert region?
5. Where are the island regions?



Map of the natural regions of India

TP

B. On your own

Understanding scale

This rectangle represents a park.

It is drawn to a scale of 1 cm = 100 m.
Measure the rectangle with the help of a ruler and write the actual size of the park here:

Length: m

Breadth: m

C. In a group

Do this with a partner. Go through your atlas and find how many physical, political and thematic maps it has. List the number and give five examples of each type of map.

WEBLINK

Types of maps: https://www.youtube.com/watch?v=_xpN6K6Mmt0 (accessed on 27 July 2017)