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1

Landforms of the World

Mind opener

What kind of land is present around your house and school? Is it flat or is it hilly? Are there any water bodies like lakes, rivers or the sea? Have you been to places where the land is different from where you live? Describe it in class.

Looking Ahead

In this lesson you will learn about the different landforms of the Earth:

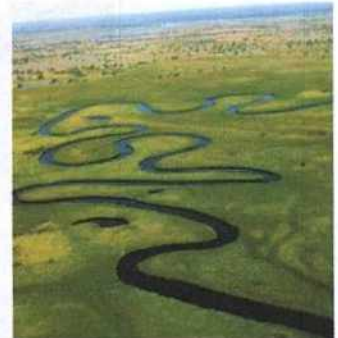
- Mountains, valleys and passes
- Plateaus, plains and deserts
- Coasts, peninsulas, bays and islands
- Rivers

The land covering the Earth's surface is not uniform. At some places it rises high, while at other places it is flat. The different features that make up the Earth's surface are called **landforms**. There are four main landforms. These are **mountains, plains, plateaus** and **deserts**.

Some landforms are formed by forces that act on the surface of the Earth such as water, wind and ice. Some are formed by processes occurring deep inside the Earth.

Mountains, Valleys and Passes

Mountains and hills are rocky masses of land that rise higher than the surroundings. The main difference between mountains and hills is that mountains have very steep **slopes** and high **peaks**. Hills are smaller and lower. Mountains usually occur in long rows called **mountain ranges**. The Himalayas in the north of India is the highest mountain



Different types of landforms

range in the world. **Mount Everest**, the highest mountain peak in the world, is located in the Himalayas in Nepal.

Some mountains are formed when two large landmasses push against each other. They are called **fold mountains**.

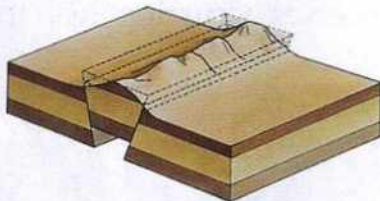
The Himalayas, the Rockies in North America and the Alps in Europe are fold mountains.



Formation of fold mountains

Some mountains are formed when molten rock from deep inside the Earth rises to the surface, forming a volcano. They are called **volcanic mountains**. Mount Fuji in Japan and Mount Vesuvius in Italy are volcanic mountains.

Another kind of mountains are **block mountains** formed by splitting



Formation of block mountains

Did you know?

The Himalayan ranges (and Mt Everest) were formed about 60 million years ago when India, moving northwards, crashed against the rest of Asia.

and sliding of large blocks of land. Examples are the Sierra Nevada Mountains in the USA and the Black Forest Mountains in Germany.



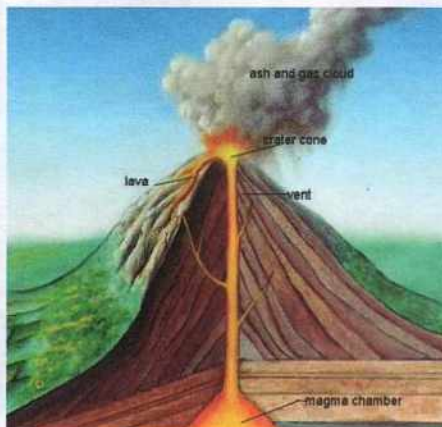
The Sierra Nevada Mountain is a block mountain. Note the steep face of the mountain.

Did you know?

High mountain ranges have glaciers or slow moving rivers of ice. Large rivers originate from these glaciers.



The Rocky Mountains, USA



Formation of volcanic mountains



Mount Fuji, Japan

The lowland between hills or mountains is called a **valley**. Valleys are normally formed by glaciers or rivers wearing away rocks on mountains. A number of valleys have rivers flowing through them. Famous valleys in India are the Kashmir Valley and the Brahmaputra Valley.



A valley with a river flowing through it

Mountains have low, narrow, natural gaps called **passes**. People cross the mountains through these passes. The Khyber Pass in the Himalayas connects Afghanistan and Pakistan.



The Khyber Pass connects Afghanistan and Pakistan

Plateaus

A large area of land that is higher than the surroundings and more or less flat at the top is known as a **plateau**. The Southern Plateau in South India covers almost the entire Indian Peninsula. The Tibetan

Plateau in the Himalayas is the highest plateau in the world. It is known as the 'roof of the world'. The Columbia and the Colorado Plateaus are in the USA.



The Colorado Plateau, USA

Plains

Plains are flat lands with gentle slopes. Rivers flowing from the mountains bring fertile soil to the plains. So crops grow well here. Plains are therefore the most thickly populated areas in the world. The Northern Plains of India and the Prairies of the USA produce large amounts of wheat and other grains.



The Prairies, USA

Deserts

Deserts are large, extremely dry areas of land. There is very little rainfall and very few plants grow in deserts. Deserts have

extreme temperatures. In summers, the days are very hot and the nights are cool. In winters, the days are cool and the nights are very cold.



The Sahara Desert, Africa

The important deserts of the world are:

- The Sahara Desert in North Africa; it is the biggest desert in the world
- The Kalahari Desert in southern Africa
- The Atacama Desert in South America
- The Thar Desert in India

Did you know?

Hot and dry areas with very little rainfall are not the only kind of deserts. There are also cold deserts. These are regions of permanent cold where very little life exists, for example the Antarctica.

Coasts, Peninsulas, Bays and Islands

A place where land meets the sea is called a **coast**. Some coasts are sandy and straight. Others are rocky.

A land mass which projects into the sea

and is surrounded by water on three sides is called a **peninsula**. The southern part of our country is a peninsula. The tip of a peninsula is called a **cape**. The southern-most tip of the Indian Peninsula is called **Cape Comorin**. The Arabian Peninsula is the largest in the world.



The Sinai Peninsula, Egypt

A **bay** is a water body running into land and surrounded on three sides by land. The Bay of Bengal, along the eastern coast of India, is an example.



Hanauma Bay, Oahu, Hawaii

An **island** is a land mass surrounded on all sides by water. Sri Lanka is an island. Andaman and Nicobar Islands in the Bay of Bengal are a group of islands which are a part of India. Greenland is the world's largest island.



Robben Island, South Africa

Did you know?

A strait is a narrow passage of water connecting two seas or two large areas of water. An example is the Palk Strait that lies between India and Sri Lanka.

Rivers

Long streams of water are called **rivers**. Many rivers start in the mountains from melting snow in glaciers. They have water throughout the year and are called **perennial rivers**. Most rivers in North India are perennial rivers.

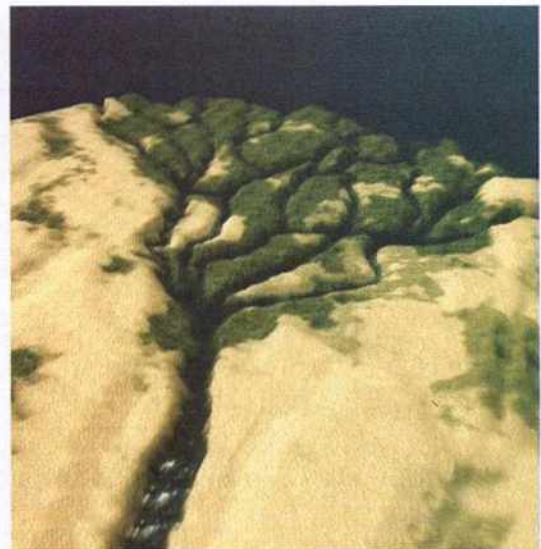
In South India, rivers are formed by rainwater. They do not have water throughout the year. Such rivers are called **seasonal rivers**. Rivers, ultimately, flow into the sea.



A tributary joining the main river

Along the course of a river, several smaller rivers join the main river. They are called **tributaries** of the main river. Before entering the sea, the river becomes very slow. It carries a lot of sediment. This keeps getting deposited on the way, and causes the river to break up into channels or **distributaries**. These spread out like a triangle before falling into the sea. Such a region is called a **delta**. The delta made by the Brahmaputra and the Ganga is the largest in the world.

The Nile in Egypt is the longest river in the world. Some other important rivers are the Amazon in South America, the Congo in Africa and the Ganga in India. In history we find that great civilisations have always developed along rivers, as the soil is richest here and the rivers provide water for drinking, domestic and agriculture purposes.



The delta formed by the River Nile
(Picture credit: Avatrian)

I now know

1. The important landforms of the world are mountains, plains, plateaus and deserts.
2. A mountain is a rocky mass of land that rises higher than the surroundings.
3. A plateau is a large area of land that is higher than the surroundings, and more or less flat on top.
4. A plain is a flat land with gentle slopes. Deserts are large, extremely dry areas of land.
5. Coasts, peninsulas, bays and islands are other landforms.
6. A long stream of water that ultimately flows into the sea is called a river.

Words to remember

peninsula: a land mass which projects into the sea and is surrounded by water on three sides

cape: the tip of a peninsula

bay: water body surrounded on three sides by land

island: land mass surrounded on all sides by water

tributaries: smaller rivers that join a main river

distributaries: the channels into which a main river breaks up

delta: a triangle-shaped landform formed where a river flows into the sea

Exercises

A. Fill in the blanks.

1. The lowland between two mountains is called _____.
2. The _____ Plateau is known as the roof of the world.
3. A triangular piece of land near the mouth of a river is called _____.
4. A perennial river starts in the _____.
5. The tip of a peninsula is called a _____.

B. Name these.

1. The largest desert in the world: _____
2. The longest river in the world: _____
3. The highest peak in the world: _____
4. An island country in the Indian Ocean: _____
5. A plateau in India: _____

C. Answer the following questions.

1. What are landforms? Name the main landforms of the Earth.
2. What are fold mountains? Give an example.
3. What is the difference between a mountain and a plateau?

4. What is a peninsula? Give an example.
5. What is the difference between a perennial and a seasonal river?
6. What is the difference between a tributary and a distributary?
7. What is a desert? Name some of the important deserts of the world.

D. Map work.

On an outline map of the world, mark the following with the help of an atlas.

- a. Mountains: Himalayas, Alps, Rockies
- b. Deserts: Sahara, Kalahari, Atacama, Thar
- c. Rivers: Nile, Congo, Ganga
- d. Plateaus: Tibetan Plateau, Deccan Plateau
- e. Islands: Australia, Greenland, Andaman and Nicobar Islands

Multiple choice questions

1. The Black Forest Mountains are
a. fold mountains b. block mountains c. volcanic mountains d. glaciers
2. Lowland between hills or mountains is called a
a. pass b. valley c. peak d. plateau
3. The landforms that are most heavily populated are
a. coasts b. plateaus c. plains d. mountains
4. The Kalahari Desert lies in
a. southern Africa b. South America c. North Africa d. Europe
5. Small rivers that flow into the main river are called
a. distributaries b. tributaries c. perennial rivers d. seasonal rivers

HOTS: Think and Answer

1. Jaisalmer is a town in the desert area of Rajasthan. Prayagraj (Allahabad) is a town in the Northern Plains where two rivers meet. In which town will you expect the population to be more? Why?
2. When we study history, we find that most civilisations develop along rivers. Why is that so?

Enrichment Activities

- **Speak out:** Your parents are planning a holiday to a beach resort. You would rather go to the hills. Tell your class how you changed your parents' mind. Make sure you speak clearly.

- **Write right:** Write a letter to your friend describing your holiday. (Try and include at least two of the landforms mentioned in the chapter. Describe them.)
- **Art work:** Draw and paint a picture of any of the landforms you read about in this chapter.
- **Project work:** Make a poster or a collage entitled 'Landforms of the Earth'. To make a collage, you can use different materials to show different landforms, like sand to show a desert.



Hands on!

Making models of landforms with clay

Materials required: A tray, 2-3 different colours of modelling clay, pictures of different landforms, glue, sand, soil and grass

To make a mountain range, press a long strip of clay into the tray. Form the strip into peaks, some with pointed tops and some with flat tops.

To make a volcano, push the clay into the tray to form a triangular peak, and then make a hole down its centre.

To make an island, press a small mound of clay into the tray to form either a round or elongated shape. Then, fill the tray with some water.

Once the clay has dried, decorate the landforms with sand, soil or grass. These can be stuck to the landforms using glue.



Life Skills and Values

Safety tips on an adventure trip

If you want to go on an adventure trip up in the hills, or to explore landscapes such as a forest, keep the following safety tips in mind.

1. Go in groups so that other people are within reach. You can easily call for help if anything should happen. Do not stray away from your group.
2. Wear light running or hiking shoes with non-slippery soles. Shoes with smooth soles can spell disaster on hills.
3. Carry a torch. It can get suddenly dark in the hills or in a forest.
4. Carry insect repellents and a first aid kit.
5. Carry water and something to eat.
6. At least some members in the group should carry a fully charged cell phone.

Weblinks

<http://www.enchantedlearning.com/geography/landforms/>

<http://www.kidsgeo.com/geology-for-kids/0031-what-are-landforms.php>

2

India

Mind opener

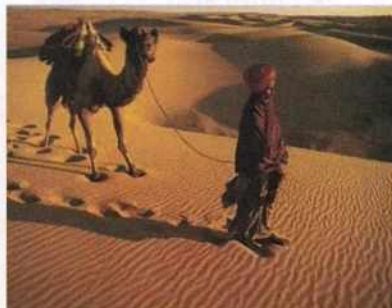
Which country do you live in? Are you proud to belong to this country? Why?

Looking Ahead

In this lesson you will learn about:

- *India and its location in Asia*
- *India's physical features*
- *The states and union territories of India and their capitals*

India is a land of diverse landforms and cultures. Some of the tallest mountains of the world, vast and fertile plains, rugged plateaus, hot dry deserts and long sandy beaches can be found in India.

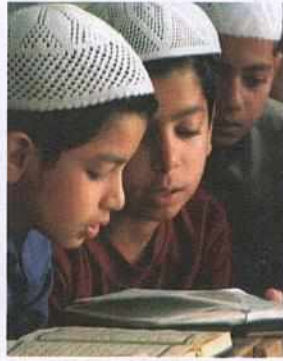


India is a vast land—it is the seventh largest country of the world in terms of area, and its population is the second largest in the world. People speaking more than 22 different languages and belonging to many different religions can be found here.



The diverse landforms of India

In spite of these differences, all Indians are united by the love they have for their country.



People following different religions live together in India

Did you know?

The southern part of India juts out into the sea. This is called the Indian Peninsula.

India has several neighbours. To the north-west are Afghanistan and Pakistan; to the north are China and Nepal; Bhutan lies to the north-east and to the east are Myanmar and Bangladesh.

Across the oceans, India has the island of Maldives on the south-west, Sri Lanka on the south, and Indonesia on the south-east.

Let us learn some more about this beautiful country of ours.

Location

India is located in the south of the continent of Asia, the largest of the seven continents. The northern part of India is surrounded by land. The southern part of India is surrounded by water on three sides. It has the Indian Ocean on the south, the Arabian Sea on the west and the Bay of Bengal on the east.



Questions

- Last year, you had learnt about the continents and oceans of the world. Can you name the seven continents? How many oceans are there in the world? Can you name them?

Physical Features

India is a land of vastly varied landforms. There are plains, hills, mountains, a desert, plateaus, a long coastline, forests and islands. These are known as the **physical features** of the land.

A large number of rivers flow through the land such as the rivers Ganga, Brahmaputra, Godavari, Krishna, Narmada and Mahanadi.

On the basis of its physical features, India can be divided into five main regions:

- the Northern Mountains
- the Northern Plains
- the Southern Plateau
- the Coastal Plains and Islands
- the Western Desert

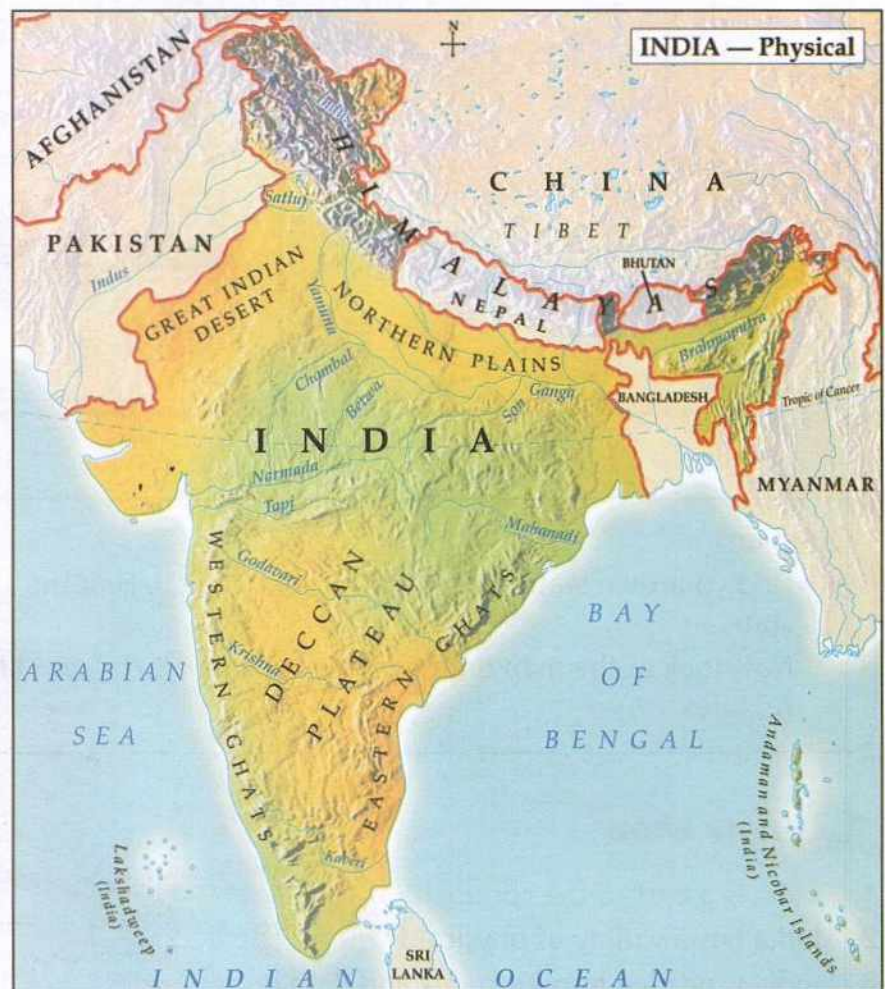
A map showing the kind of land a country has is called a **physical map**. This is a physical map of India.

States and Union Territories

As you have read in your previous class, there are two sets of government in India.

One is the Central Government and the other is the State Government. India is divided into **28 states** and **8 union territories**. Each state has its own government, which is chosen by the people of that state. The union territories however, are directly governed by the central government.

The map on the next page shows the states and union territories of India, and their capitals.





Questions

- Find your own state in the map, and its capital. Find the states that neighbour your state.
- Now look at the map on the previous page. Mark your state on it. Find its physical features.

I now know

1. India is a part of the continent of Asia.
2. India has a variety of physical features.
3. India is divided into 28 states and 8 union territories.

Words to remember

diverse: different, not the same

rugged: rocky, uneven

physical features: the natural landforms found on the Earth's surface

Exercises

A. Fill in the blanks.

1. India is the _____ largest country in the world.
2. India's neighbours on the north-west are _____ and _____.
3. To the south of the Indian peninsula lies the _____ Ocean.
4. India has _____ states and _____ union territories.

B. Answer the following questions.

1. Where is India located? Who are its neighbours?
2. Which are the ocean bodies that surround peninsular India?
3. Why do we say that India is a land of vastly diverse landforms?
4. What is the difference between a state and an union territory?

Multiple choice questions

1. India is located in the continent of
a. Europe b. Asia c. North America
2. Based on area, what place does India occupy among the countries of the world?
a. second b. fifth c. seventh
3. The country which lies to the north-east of India is
a. Bhutan b. Bangladesh c. Myanmar
4. Study the physical map of India. Into which ocean/sea does the River Godavari flow?
a. Bay of Bengal b. Arabian Sea c. Indian Ocean

HOTS: Think and Answer

1. The Himalayan mountain ranges are said to have a great influence on India's climate. How do you think a mountain range can influence a country's climate?
2. Why do we say that India is a unique country?



Enrichment Activities

- **Speak out:** 'India is a land of diverse landforms and cultures'. Speak for a few minutes on this topic. Make sure you speak clearly.
- **Write right:** During your holidays, you travelled by train from Kolkata to Mumbai. Write a letter to your friend describing the journey. Describe the different landforms you saw, the languages you heard people speak, the kinds of clothes you saw and the food you ate.
- **Art work:** Draw and colour a picture showing a beach, mountain or a desert.
- **Find out:** Study a map of the world from your atlas.
 - a. Which are the countries that are larger than India?
 - b. Which are the groups of islands belonging to India?
- **Map work:** Draw an outline map of India, and show the different states, their capitals, union territories and their headquarters.
- **Project work:** Working in groups, make a poster or a collage entitled 'India, unity in diversity'.



Hands on!

Let us make a model of India

Create a model of India using clay. Use more clay to make the different physical features of India (the mountains, the plain, the plateaus, the desert and the coastal areas). Colour the clay in suitable shades.

3

The Northern Mountains

Mind opener

Have you been to a hill station? Or, if you live in the hills, have you visited the plains? Are the hills cooler or warmer than the plains?

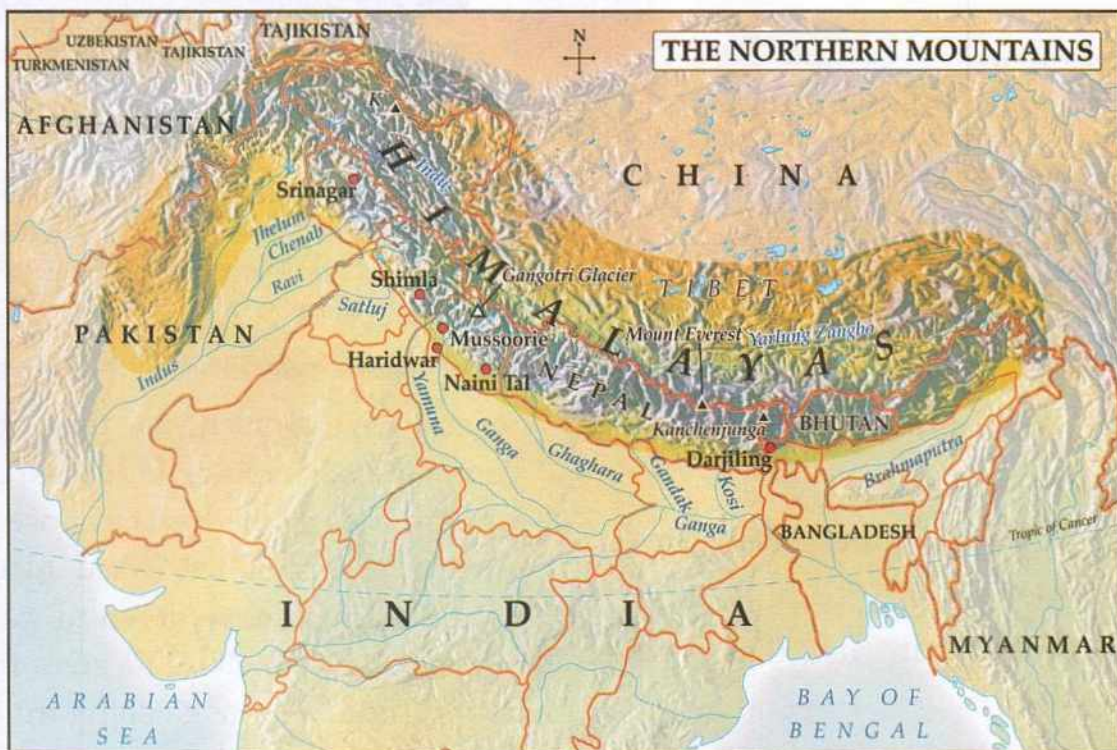
Looking Ahead

In this lesson you will learn about:

- The features of the Northern Mountains
- The three ranges of the Himalayas—the Himadri, the Himachal and the Shiwalik
- The life of the people in each of the states through which the Northern Mountains run

The Northern Mountains stretch like a great wall across the northern and north-eastern parts of our country. They include the Karakoram, Ladakh and the Himalayan ranges of mountains. They are the highest mountain ranges in the world.

The Himalayas lie to the south of the Karakoram and Ladakh ranges, and extend for 2500 kilometres from Jammu and Kashmir in the north to Arunachal Pradesh in the north-east. The ranges are about 450 km wide in Kashmir and



narrow down to about 160 kilometres in the north-east. The word '*himalaya*' in Sanskrit means 'abode of snow'. This is because a large part of the Himalayan Ranges are covered with snow throughout the year.

Nine of the 10 highest mountain peaks in the world lie in the Himalayas. The highest mountain peak is **Mount Everest** in Nepal. It is 8848 metres high.



Mount Everest, the highest mountain in the world

Did you know?

A pass is the lowest point in a range of mountains. Passes are of great help to travellers and traders wanting to cross high mountain ranges. The Rohtang Pass in Himachal and Nathu La in Sikkim are important passes in the Himalayas.

The Himalayas consist of three mountain ranges that run parallel to each other.

- The **Himadri** or the **Greater Himalayas**
- The **Himachal** or the **Middle Himalayas**
- The **Shiwalik** or the **Outer Himalayas**

The Himadri or Greater Himalayas

This is the northern-most range of the Himalayas. It is the highest of the three ranges, and contains most of the highest peaks in the world, including Mount Everest and Kanchenjunga (8586 metres). Kanchenjunga lies on the border between India and Nepal, and is the second highest peak in the Himadri. Most of the peaks in the Himadri are permanently covered in snow.



The snow covered peaks of the Himadri

Did you know?

The second highest mountain peak in the world is Mount Godwin Austen (also called K2). It is 8611 m high, and it lies in the Karakoram Range.

Several rivers such as the Ganga, Yamuna, Brahmaputra, Indus and Satluj arise from the Himadri. They arise from moving sheets of ice called **glaciers**. As the glaciers move down to warmer regions, the ice melts, and gives rise to rivers. The river Ganga starts from the **Gangotri** glacier.



The Gangotri glacier — the beginning of the river Ganga
(Picture credit: Conrad Anker)



Manali, Himachal Pradesh



Mussoorie town, Uttarakhand

The Himachal or Middle Himalayas

The **Himachal Range** lies to the south of the Himadri Range. The mountains are not as high as in the Himadri Range. This region consists of forest-covered mountain ranges, and fertile and beautiful valleys. Only some peaks are covered with snow throughout the year.

Most people live in hill towns such as Mussoorie, Shimla and Darjeeling, or in valleys such as Srinagar, Nainital and Kangra.

The Shiwalik or Outer Himalayas

The southern-most and the lowest range of the Himalayas is the **Shiwalik**. The slopes are covered with thick forests, which are home to a variety of wild animals. The area at the foothills of the Shiwalik Range is called the **Terai** region. It receives heavy rainfall and the land is fertile.

Deforestation in the Shiwalik and the terai region for wood and farmland has destroyed many of the forests. The Government has made several protected forest areas such as the Corbett National Park and the Kaziranga National Park to stop deforestation and protect animals. Planting of trees is also being taken up.



Wild buffaloes in the Terai, Kaziranga National Park, Assam

The Importance of the Himalayas

The Himalayas are very important for our country. They help us in many ways.

- The Himalayas act like a wall on our northern borders, and protect our country from enemies.

- They also protect us from the cold winds blowing from Central Asia.
- The Himalayas stop the monsoon winds from going further north, and thus bring heavy rainfall to the Northern Plains of India.
- The forests in the Himalayan region are home to several wild animals. They are also a source of wood, medicines and other useful things.
- Several rivers originate in the Himalayas. They provide us with water, and make our land fertile. Dams built over these rivers provide us with electricity.

Life in the Northern Mountains

A number of states and union territories are located in the Northern Mountains. These are Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal, Assam, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and Arunachal Pradesh.

JAMMU AND KASHMIR, AND LADAKH

These two union territories are almost entirely mountainous. Srinagar and Jammu are the capitals of Jammu and Kashmir, while Leh is the capital of Ladakh. The beautiful Kashmir Valley is a favourite of tourists. It is surrounded by snow-covered mountains and has the lovely **Dal** and **Wular lakes**.

Houses on boats called **houseboats** float on the lakes. These are mostly used as hotels. Small boats called **shikaras** are used for boating and as floating shops.



A houseboat on the Dal Lake



A shikara carrying vegetables for sale



Woman in phiran

The traditional loose kurta worn by men and women in Kashmir is called **phiran**. To keep warm in winters, people in Kashmir keep an earthen pot with burning coal, known as a **kangri**, beneath their phiran.



A box made of papier-mache

The people of Kashmir make beautiful handicrafts from wood, brass, silver and papier-mache. **Saffron** is a special crop of this area.

Kashmiri, Dogri, Punjabi and Ladakhi are some of the languages spoken here. Navreh, Lohri, Baisakhi, Hemis festival, Eid and Shivaratri are some important festivals.

HIMACHAL PRADESH

Himachal Pradesh, with its snow-clad mountains, is a very beautiful state. Its capital is **Shimla**. Thousands of tourists visit the hill stations of Shimla, Dalhousie, Kulu and Manali every year. The 'toy train' which takes people from Kalka to Shimla is a special attraction.



'Toy train' taking people from Kalka to Shimla

The climate here is ideal for the growth of fruits like apples, cherries, plums, apricots and peaches.

The traditional clothes of women include tight pyjamas and loose kurtas, with scarves around their heads. The men wear tight pyjamas and loose shirts, with colourful caps.



People of Himachal Pradesh

Hindi is the official language of the state. Pahari is another widely spoken language. The main festivals are **Dussehra** and **Diwali**. The Dussehra celebrations of Kulu are famous. Losar, Halda and Phagli are some other important festivals.

UTTARAKHAND

This hill-state contains the **Garhwal** and **Kumaon Ranges**. **Dehradun** is the capital of the state. Mussourie in Garhwal and Nainital in Kumaon are important hill stations. The slopes are covered with thick forests of pine, oak, deodar and fir trees. They are home to a variety of birds and animals.

Gangotri, Yamunotri, Badrinath and Kedarnath are important places of religious and tourist interest.



The Shiva temple at Kedarnath

SIKKIM

Gangtok is the capital of this small hill state. **Kanchenjunga** in Sikkim is the third highest mountain peak in the world. The state is famous for its **orchids**. Most of the people here belong to the Lepcha, Bhutia or Nepali tribe.

The women of the state traditionally wear long skirts called **baku** and colourful jewellery made from beads.



Orchids



Traditional dress of the Bhutias of Sikkim

WEST BENGAL

The Northern Mountains are confined to the northern parts of this state.

Darjeeling is a hill station situated in the northern part of West Bengal. It is famous for the tea grown on the slopes of the hills.



Picking tea leaves, Darjeeling



Women of the Apatani tribe, Arunachal Pradesh



People of Nagaland in their traditional clothes

THE NORTH-EASTERN STATES

Towards the east, the Himalayan Ranges run across the seven states of Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Tripura and Mizoram. They are called **the seven sisters**.

Most of Arunachal Pradesh is covered by mountains. The Brahmaputra river enters India through this state. Its capital is **Itanagar**.

Assam is the one of the largest states in this region. Its capital is **Dispur**. It has large tea plantations where thousands of people work. Assam is famous for its silk. Parts of Assam are covered by the Northern Plains.

The capital of **Meghalaya** is the beautiful hill station of **Shillong**. The state gets the heaviest rainfall in the country.

Nagaland is the home of the **Nagas**. Its capital is **Kohima**. The Nagas wear colourful shawls.

The capital of **Manipur** is **Imphal**. The Manipuri dance is famous all over the country.



Manipuri dance



Girl from the Reang tribe, Tripura

Did you know?

Houses in mountains have sloping roofs so that rain and snow can slide off easily from the roofs.



Bamboo tray

Mizoram is situated in the south of the region. Its capital is **Aizawl**. The main language of the state is **Mizo**.

Tripura is surrounded on three sides by Bangladesh. Its capital is **Agartala**. The people of the state make beautiful things from cane and bamboo.

I now know

1. The Northern Mountains includes the Karakoram, Ladakh and the Himalayan ranges of mountains.
2. The Himalayas consist of three mountain ranges—Himadri, Himachal and Shiwalik. The Himadri is the highest and the Shiwalik the lowest of the ranges.
3. Mt Everest in the Himalayas is the highest mountain in the world.
4. The area at the foothills of the Shiwalik Range is called the Terai region.
5. The Himalayas are useful to us in many ways.
6. The region of the Northern Mountains includes the states and union territories of Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal, Assam, Nagaland, Manipur, Tripura, Meghalaya and Arunachal Pradesh.

Words to remember

deforestation: the cutting down of trees on a large scale

Terai: foothills of the Shiwalik Range

houseboat: a house on a boat, found in Kashmir and mostly used as a hotel

shikara: a small boat in Kashmir mostly used for boating for pleasure, and as floating shops

phiran: a long loose gown worn by people in Kashmir

kangri: earthen pot with burning coal carried by people in Kashmir in winter

baku: long skirts traditionally worn by the women of Sikkim

Exercises for summative assessment

A. Fill in the blanks.

1. A long row of mountains is called a mountain _____.
2. The highest mountain range in the Himalayas is the _____.
3. The area at the foothills of the Himalayas is called the _____ region.
4. Rivers in the Northern Mountains arise from moving sheets of ice called _____.
5. People of Kashmir carry a _____ under their phiran to keep warm in winter.

B. Match the columns.

- | | |
|---------------------------------------|-----------------|
| 1. Second highest peak in the Himadri | a. Mt Everest |
| 2. Lowest range in Himalayas | b. Kanchenjunga |
| 3. Origin of river Ganga | c. Kashmir |
| 4. Saffron | d. Gangotri |
| 5. Highest peak in the world | e. Shiwalik |

C. Answer the following questions.

1. Where do the Himalayas get their name from?
2. Name the ranges that make up the Himalayas. Which is the highest, and which is the lowest?
3. How do rivers originate in the Himalayas?
4. What is being done to reduce the damage caused by deforestation in the Himalayas?
5. How do the Himalayas affect the climate of the Northern Plains of India?
6. What kind of climate does the Northern Mountain region have?
7. How do the people of Kashmir keep themselves warm during winters?
8. Name two states in the Northern Mountain region where tea is a major crop.
9. What are the 'seven sisters'? Name them.

Multiple choice questions

1. This range lies to the north of the Himalayas
a. Himachal b. Nilgiris c. Karakoram d. Shiwalik
2. The river Ganga originates from
a. Gangotri b. Himadri c. Mt Kailash d. Mt Everest
3. Which state gets the heaviest rainfall in the country?
a. Manipur b. Assam c. Arunachal Pradesh d. Meghalaya
4. Mussoorie is an important hill station in the state of
a. Sikkim b. Uttarakhand c. Himachal Pradesh d. Assam
5. Small boats that are used for boating and as floating shops in Kashmir are called
a. kangri b. phiran c. shikara d. Dogri

HOTS: Think and Answer

1. Name one place in the Himalayas you would like to go to for a holiday during the summers. Why would you want to go there?
2. Why do you think the state of Himachal Pradesh has been given the name 'Himachal'?

Enrichment Activities

- **Speak out:** Have a group discussion in class on the topic 'We need to protect our forests!'
- **Write right:** Write a story about a group of children who saved the forest near their village from being destroyed by a factory owner.
- **Art work:** Draw and colour a picture of 'Sunset in the mountains'.
- **Map work:** Locate the following on the map of India in your atlas and mark these on an outline map of India. Take the help of your teacher.
 - a. Nanda Devi, Mt Kanchenjunga
 - b. Rivers Ganga, Yamuna, Satluj, Brahmaputra
 - c. Hill stations Nainital, Mussoorie, Darjeeling
- **Find out:** Find out about one more place in India where houseboats are commonly used as hotels.

Hands on!

Working in groups, do a project on any of the states through which the Northern Mountains run. Collect information about the physical features, the climate, the crops grown, the industries, the people, the languages spoken, dress and food of the state.

Life Skills and Values

Saving the environment

Two simple ways in which you can help save trees and forests are:

1. Participate in tree plantation drives
2. Do not waste paper and reduce your usage of paper. Use both sides of paper for writing and printing. Use recycled paper instead of the usual paper. Since paper is made from wood, you will save trees if you save paper.

4

The Northern Plains

Mind opener

What kind of landform exists in the place where you stay? Are there plains, hills or high mountains? What do you think are the advantages of living in the plains as compared to a hilly area?

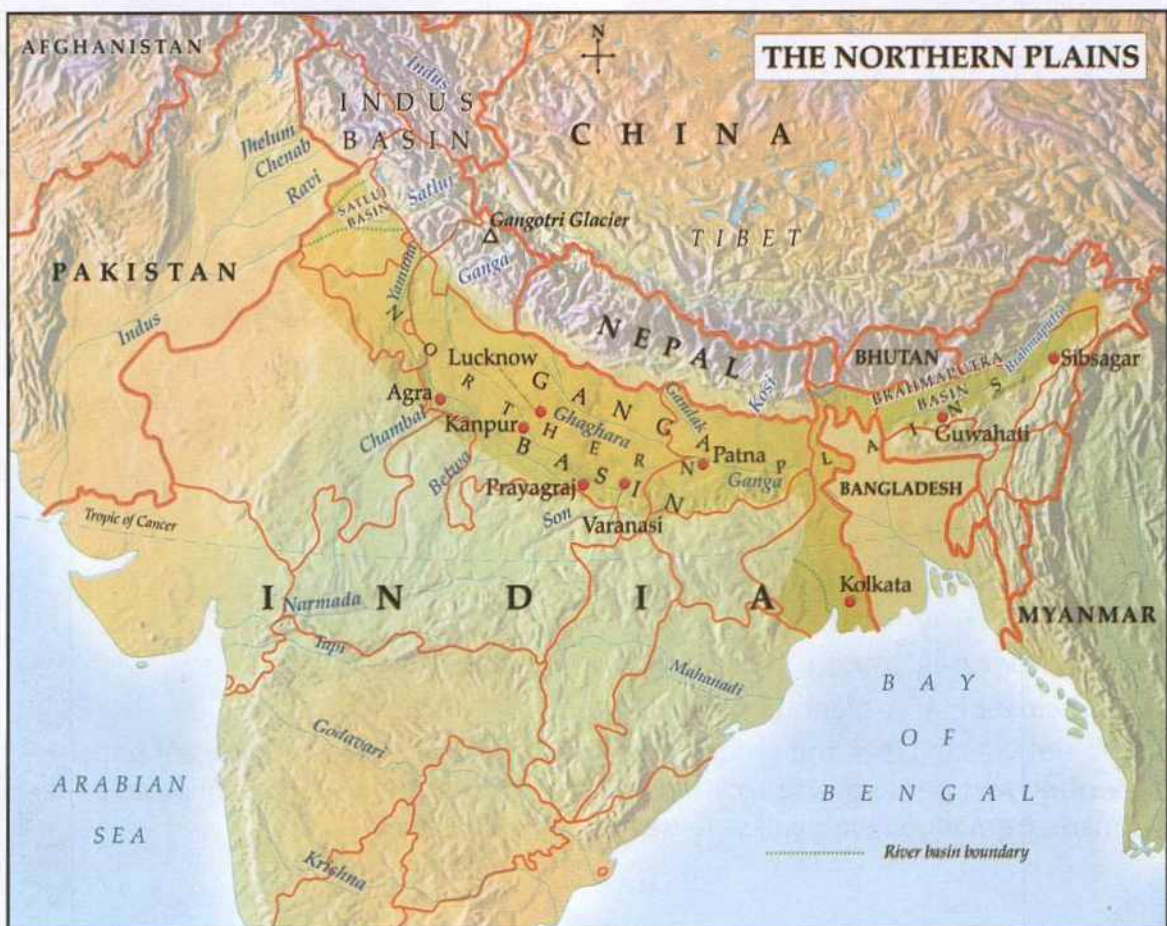
Looking Ahead

In this lesson you will learn about:

- The main physical features of the Northern Plains
- Life in the Northern Plains

As we go south from the Himalayas, we come to the vast Northern Plains of India. They run parallel to the Himalayas, from Punjab in the west to Assam in the east.

Many rivers that originate in the Himalayas, such as the Ganga, Brahmaputra, Indus and Satluj, flow through the Northern Plains. As these rivers are mainly fed by the



melting snow in the Himalayas, they have water throughout the year. The rivers bring with them fine soil called **silt** or **alluvium**. **Alluvial soil** is very fertile. It makes the Northern Plains one of the most fertile regions of the world.



The flat and fertile land of the Northern Plains
(Picture credit: Aksveer)

The main rivers have several tributaries or smaller rivers joining them. An area watered by a river and its **tributaries** is called a **basin**. The Northern Plains can be divided into three basins.

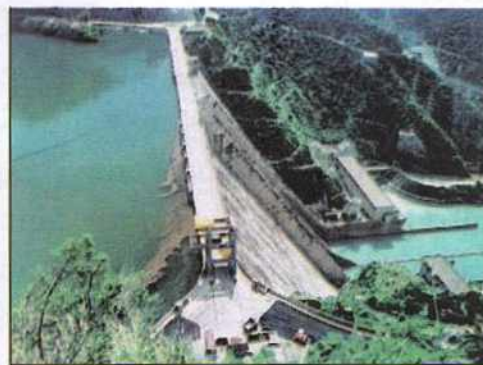
- The **Satluj Basin** in the west
- The **Ganga Basin** in the middle
- The **Brahmaputra Basin** in the east

The Satluj Basin

The river Satluj and its tributaries flow towards the south-west, through Punjab. They join the Indus River in Pakistan. The Indus finally flows into the Arabian Sea. Punjab and Haryana lie in the Satluj basin.

The **Bhakra Dam** has been built on the Satluj River. It provides electricity, and water for irrigation. The Indira Gandhi

Canal, which starts from the Satluj, provides water to many dry areas of Rajasthan.



Bhakra Dam

The Ganga Basin

The Ganga is the most important river of the Northern Plains. The Ganga Basin is spread across Uttar Pradesh, Bihar and West Bengal.

The Ganga originates from the **Gangotri** glacier as the Bhagirathi River. At Devprayag, the Bhagirathi River meets the Alaknanda river. The two rivers merge to form the Ganga. The Ganga leaves the mountains and enters the Northern Plains at Haridwar. As it flows along slowly in the plains, it is joined by several tributaries like the Yamuna, Gomati, Ghaghara, Gandak and Kosi.



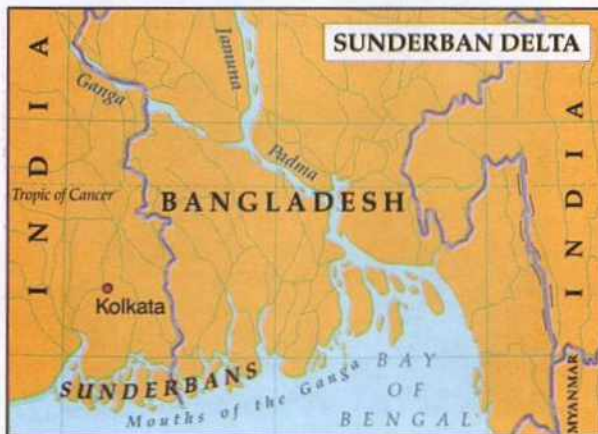
The Ganga at Haridwar

After flowing through Uttar Pradesh and Bihar, the Ganga enters West Bengal. Here, it splits into many branches or distributaries. The two main branches are Hooghly and Padma. The Hooghly flows through Kolkata, and then into the Bay of Bengal. The Padma enters Bangladesh. Here it joins the Jamuna (please note: the Jamuna and Yamuna are two different rivers), the main branch of Brahmaputra in Bangladesh, before entering the Bay of Bengal.

The delta made by Ganga and Brahmaputra is the largest in the world. It is called the **Sunderbans**.

The Brahmaputra Basin

The Brahmaputra Basin is a narrow strip in the state of Assam. The Brahmaputra is the longest of the three great rivers of North India. It starts in Tibet where it is called **Tsangpo**. It enters India through Arunachal Pradesh and flows through Assam into Bangladesh. Here it joins the Padma, and forms the Sunderbans Delta before flowing into the Bay of Bengal.



Life in the Northern Plains

PUNJAB

Punjab is fed by the Satluj, Ravi and Beas rivers, and is very fertile.

Chandigarh is the capital of both Punjab and Haryana. It is a well-planned city. The famous **Golden Temple** is situated in the city of **Amritsar**. Other important cities are Ludhiana and Jalandhar.

Industries such as textiles, sports goods, hosiery and motor parts are well developed.

The people speak **Punjabi** and **Hindi**. Gurburb, Baisakhi, Holi and Diwali are the main festivals celebrated in Punjab. **Bhangra** and **Gidda** are the popular folk dances of Punjab.



Women of Punjab dancing the Gidda



The Golden Temple, Amritsar

HARYANA

Haryana is also situated in the Satluj Basin, and the land here is also very fertile. Gurgaon in Haryana has the largest car manufacturing plant in the country, the Maruti factory. People speak **Hindi** and **Haryanvi**—a dialect of Hindi.

DELHI

Delhi is the capital of India. The offices of the President and Prime Minister of India, and all Central Government offices are located in New Delhi. People from all states of India live in Delhi. All the major festivals of India are celebrated here. The main languages spoken here are **Hindi**, **English**, **Punjabi** and **Urdu**.



Delhi is one of the oldest cities of the world



The modern Delhi with India Gate in the background

There are many monuments of historical importance in Delhi such as the Qutb Minar, Red Fort, Jama Masjid, India Gate, Jantar Mantar and the Bahai or Lotus Temple.

UTTAR PRADESH

Uttar Pradesh is a large and thickly populated state. Its capital is **Lucknow**. The land in Uttar Pradesh is very fertile, as the state is situated in the Ganga Basin.

Leather, metal and textiles are some of the major industries.

The main languages spoken are **Hindi**, **Bhojpuri** and **Urdu**. Diwali, Holi, Dussehra, Shivaratri, Makar Sankranti, Eid and Christmas are the main festivals.



Bada Imambara, Lucknow



The dark green waters of the Yamuna meet the yellow waters of the Ganga at the Sangam
(picture credit: Indiamike.com)

Prayagraj (Allahabad), Varanasi, Agra and Kanpur are some important cities. The rivers Ganga and Yamuna meet at the **Sangam** in Prayagraj. It is considered to be a holy place by the Hindus.

BIHAR

Bihar lies to the east of Uttar Pradesh. It is also situated in the Ganga Basin and is a thickly populated state. Its capital is **Patna**.

The soil of Bihar is extremely fertile which makes it ideal for agriculture. The main industries here are based on agriculture.

Hindi, Urdu and **Maithili** are the main languages of the state. Eid, Diwali and Dussehra are the main festivals celebrated here. **Chhatt** is an important traditional festival.

Nalanda and **Bodh Gaya** are cities of historical importance in Bihar.

JHARKHAND

The capital of this state is **Ranchi**. Jharkhand is very rich in mineral



Bokaro Steel Plant

deposits such as coal, iron, copper and aluminium ores. One of India's largest steel plants is located at Bokaro in Jharkhand.

WEST BENGAL

Further east of Bihar is West Bengal. Most of this state lies in the Northern Plains. **Kolkata** is the capital of the state. Since West Bengal has a long coastline, fishing is an important occupation of the people.

Jute, textile and silk industries in the state are well developed.

The people speak **Bengali**. Sweets from West Bengal such as rasgulla and sandesh are popular all over India. **Durga Puja** is the most important festival.



Mahabodhi Temple,
Bodh Gaya



Celebrating chhatt



Durga Puja, Kolkata

ASSAM

Dispur is the capital of Assam. It is situated near **Guwahati**, the biggest city in the state. The people speak **Assamese**. Their main festival is **Bihu**. The Kaziranga Wildlife Sanctuary of Assam, the home of the one-horned rhinoceros, is very famous.

The state has huge deposits of **petroleum**. Tea production, refining of



Assam is famous for its golden coloured Muga silk.



Tea plantation, Assam

oil, sericulture (rearing of silkworms for silk) and handicrafts are important industries of Assam.

I now know

1. The Northern Plains lie to the south of the Himalayas, and are very fertile due to the alluvium deposited by the several rivers that flow through them.
2. The Northern Plains can be divided into three river basins: the Satluj Basin, the Ganga Basin and the Brahmaputra Basin.
3. The region of the Northern Plains includes the states of Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, West Bengal, and parts of Assam and Tripura.
4. The alluvium deposited by the rivers that flow through this region makes the land very fertile.
5. The region is thickly populated, and farming is the main occupation of the people.

Words to remember

alluvium: fine soil brought by rivers from the hills

basin: an area watered by a river and its tributaries

sanctuary: a safe place

Exercises

A. Fill in the blanks.

1. The silt that rivers bring with them to the plains is also called _____.
2. The Bhakra Dam is built on the river _____.
3. The Northern Plains can be divided into three river _____.
4. _____ and _____ are folk dances of Punjab.
5. _____ is a traditional festival of Bihar.
6. The Kaziranga Wildlife Sanctuary is famous for the one-horned _____.

B. Write T for true and F for false sentences.

1. The silt that rivers deposit along their sides make the Northern Plains very fertile.
2. Punjab has rich deposits of coal and iron ore.
3. The Hooghly and Padma are tributaries of the Ganga.
4. Durga Puja is an important festival of West Bengal.
5. Brahmaputra is also called Tsangpo in Tibet.

C. Answer the following questions.

1. Why do the important rivers of the Northern Plains have water even in summer?
2. What makes the Northern Plains so fertile?
3. What do you mean by a river basin? Which river basins make up the Northern Plains?
4. Name the main states that lie in the Northern Plains.
5. Name two major cities from each of the three river basins in the Northern Plains.
6. What are the main languages spoken in the following states?
a. West Bengal b. Assam c. Uttar Pradesh
7. List three important industries of Punjab.
8. Name four major occupations of the people living in the Northern Plains.



Multiple choice questions

1. Which of these states does not lie in the Northern Plains?
a. Uttar Pradesh b. Rajasthan c. Bihar d. Assam
2. Which of these is a distributary of the Ganga?
a. Alaknanda b. Kosi c. Gomati d. Hooghly
3. Which of these towns in the Northern Plains lies on the banks of a river?
a. Prayagraj b. Delhi c. Kolkata d. all of these
4. Which of these states has huge deposits of petroleum?
a. Jharkhand b. West Bengal c. Uttar Pradesh d. Assam



HOTS: Think and Answer

1. Several rivers in India are considered to be sacred. Do you think our ancestors had a purpose behind calling them 'sacred'? (Hint: How do people take care of 'sacred' things?)
2. Flooding of a river causes a lot of destruction to life and property. However, flooding also benefits the soil. Can you say how?



Enrichment Activities

- **Speak out:** Imagine you are a river. Now imagine a day in your life. You tumble down a mountain, free and happy, then get trapped in a dam, and then flow sadly past factories that dirty you. Think and then speak for a few minutes on the topic 'One day in the life of a river'.
- **Write right:** You could write an essay on the same topic—'One day in the life of a river'.
- **Map work:** Study the map of the Northern Plains on page 24, or in an atlas. Note carefully the positions of the following:
Rivers: Ganga, Yamuna, Satluj, Brahmaputra, Hooghly
Cities: Delhi, Prayagraj, Kolkata, Ludhiana, Guwahati
Now mark these on an outline map of India.
- **Find out:** There are many styles of painting prevalent in the different regions of the Northern Plains. One of the most famous is Madhubani. Find out where this style originated, how the paintings are made, and the colours used.
If there is a specific style of painting in the region where you live, find out about it.
- **Art work:** Make a painting in either of the above styles, or collect pictures of paintings from magazines or the Internet and use them to make a poster.



Hands on!

Work in groups, and create a model of the Ganga Basin. Use materials like cardboard, clay, modelling clay, papier mache, coloured thread, paint, cotton wool, leaves, and so on, to recreate the course of the Ganga from the Himalayas to the Bay of Bengal.



Life Skills and Values

Protecting the environment

The more populated a place, the more likely it is to get dirty. When a place is dirty, we generally blame others. This is not right. It is the duty of each one of us to contribute to keeping our city clean.

Here are some simple rules to help maintain cleanliness in your city.

- Do not spit or urinate on the roadside or at public places.
- Do not throw waste such as chocolate wrappers and plastic bags in public places. Throw them only in dustbins.
- Do not allow water to stagnate in and around your house. Stagnant water provides a perfect breeding place for mosquitoes.

5

The Great Indian Desert

Mind opener

Collect pictures of different deserts from magazines, books or the Internet. Observe them carefully. What common features can you see in all the deserts?

Looking Ahead

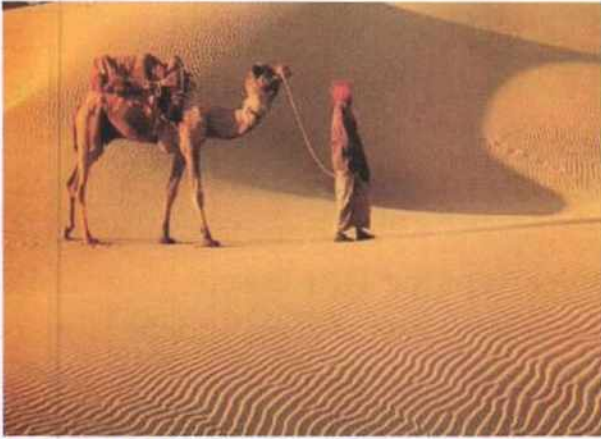
In this lesson you will learn about the Great Indian desert:

- Its location, climate, vegetation and landforms
- Its people, their dress, language and festivals
- The role of tourism in the Thar Desert

To the west of the Northern Plains lies the **Great Indian Desert** or the **Thar Desert**. It is about 800 kilometres long and 500 kilometres wide. It covers a major part of west Rajasthan. The land here is partly rocky and partly sandy.

- To the north-east of the Thar Desert is the **Satluj River Basin**.
- To the south is a salt marsh known as the **Rann of Kachchh**.
- To the south-east is the **Aravalli Range** of hills.
- The desert extends west into Pakistan, till the **Indus River Basin**.





Man leading his camel over the sand dunes in the Thar Desert

Climate

The climate in the desert is extreme. During the summer, the days are hot and dry. As the Sun sets, it becomes cooler. This is because the sand heats up quickly in the day, and cools down fast at night. In winter, the days are pleasant but the nights become very cold.

Vegetation

There is very little rainfall in the desert. Not many plants grow in the region because of the sandy soil and lack of water. You can only see a few scattered bushes and thorny shrubs. There are a few streams which fill up only when there is rain. There is a severe shortage of drinking water for the people who live there.

Landforms

As the land is dry, and also because there is very little vegetation, soil erosion due

to wind occurs. The desert has many small hills of sand called **sand dunes**. Sand dunes are formed when sand starts piling around any barrier that blocks the sand-laden desert wind. These dunes do not remain at one place. The strong winds of the desert keep moving the dunes from one place to another. The hot winds carry a lot of sand with them and severe **sand storms** are common.

There are some places in the desert where underground water comes up to the surface in the form of springs. Date palms, kikar and babul trees, and grasses grow in these areas. Such an area in the desert, with water and greenery, is called an **oasis**.



An oasis in the Thar Desert

Life in the Desert Regions of Rajasthan

Life in the desert areas of Rajasthan is very hard due to shortage of water and the dry sandy soil. As few crops can be grown, many people rear camels, sheep and goat.

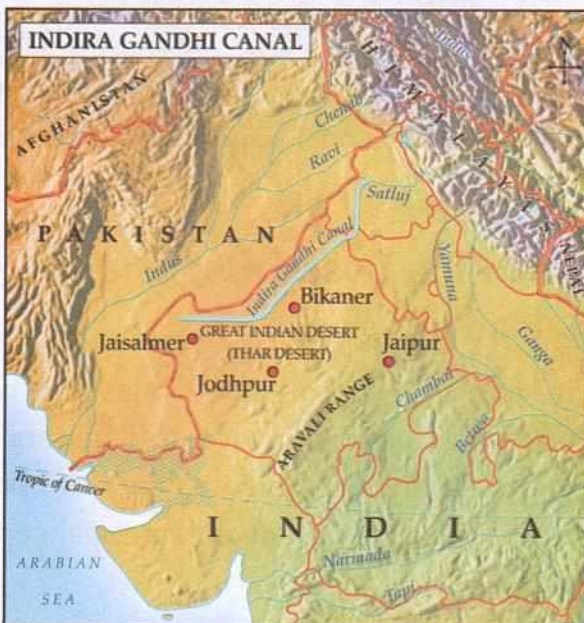
POPULATION

The population in the desert area is small. Most villages in deserts come up around places where water is available. Some groups of people living in the desert keep moving every few months in search of food and water, for themselves and for their cattle. They are called **nomads**. The nomads of the Thar Desert are called **Banjaras**.

There are very few cities in the desert region. Jaisalmer, Jodhpur and Bikaner are some important cities.



Banjaras



FARMING

In areas where water is available, millets like jowar and bajra, and wheat are grown. The **Indira Gandhi Canal** transports water from the Satluj River to parts of the Thar Desert. These areas have now become green and the farmers can grow a variety of crops.

THE SHIP OF THE DESERT

The camel is the most useful animal in the desert. It can withstand the desert heat, walk easily on the sand, and live without food and water for several days. It is, therefore, called the **ship of the desert**. Today, modern roads link important cities in the Thar Desert, and vehicles run on them. However, the camel still remains an important means of transport in the region. It is used to carry loads, pull carts and plough fields. Also, its milk and meat serve as food for the people.

CLOTHING

Bright, colourful clothes are common among both men and women in



Women in colourful ghaghra-cholis and odhnis in a local market



Men in dhoti-kurta and turban

Did you know?

Bandhani is a form of tie and dye that is special to Rajasthan and Gujarat. Tie and dye is a process of colouring cloth by which parts of the cloth are first tied and then coloured or dyed.



Girls carrying silver pots while celebrating Teej



The Jaisalmer Fort (Picture credit: Kampuchi)

Rajasthan. The traditional dress of the women is **ghaghra-choli** with an **odhni** to cover the head. The men wear **dhoti-kurta** and a colourful **turban**.

LANGUAGE AND FESTIVALS

Hindi and **Rajasthani** are the main languages. The main festivals celebrated in Rajasthan are Holi, Diwali, Eid, Dussehra, Gangaur and Teej.

TOURISM

Tourism is an important industry in the state. People from all over the world come

to Jaisalmer in Rajasthan particularly during the Desert Festival. Old forts and historical monuments in Rajasthan are a great attraction for tourists.

I now know

1. The Thar Desert is a partly rocky and partly sandy area with very little rainfall and vegetation.
2. Sand dunes, which keep shifting, are formed when sand is blown into piles by the strong desert wind.
3. Jaisalmer, Jodhpur and Bikaner are important cities in the region.
4. The Indira Gandhi Canal has helped make some areas in the desert green.
5. The camel is still an important means of transport in the desert.
6. Tourism is an important industry in the region.

Words to remember

desert: a flat area with sandy soil and very little rain and vegetation

sand dunes: small hills of sand in a desert

nomads: people who do not settle down at one place and keep moving around

oasis: an area in a desert with water and greenery

Exercises

A. Fill in the blanks.

1. A flat area with sandy soil and very little rain and vegetation is called a _____.
2. Sand _____ are small hills of sand that keep shifting in the wind.
3. A green area with water in the middle of a desert is called an _____.
4. People who do not settle down at one place and move their home from place to place are called _____.
5. The most useful animal for the people of the Thar Desert is the _____.
6. The _____ Festival is held at Jaisalmer every year and is a great tourist attraction.

B. Write T for true and F for false sentences.

1. The Aravalli Range of hills is to the south of the Thar Desert.
2. Sand heats up quickly in the day and cools quickly at night.
3. Sand dunes shift because of soil erosion by water.
4. In an oasis, underground water is brought out by digging wells.
5. Camel milk is popular among the people of Rajasthan.
6. The people of Rajasthan earn a lot of money from tourism.

C. Answer the following questions.

1. What is a desert?
2. Why are days hot and nights cool in the desert?
3. What is a sand dune? Why does it keep shifting?
4. What is an oasis?
5. What has been the effect of the Indira Gandhi Canal on the Thar Desert?
6. Why is the camel still a very important means of transport in the desert?
7. Describe the traditional clothes of the people of Rajasthan.
8. Name a few tourist attractions of Rajasthan.

HOTS: Think and Answer

A local person has helped you travel from one place to another in the desert. While going, you have memorised the location and shapes of the different sand dunes. You now feel that you will be able to find your way back alone, using the sand dunes as landmarks. But, when you start your journey back, you find that you are completely lost. What can be the reason for this?



Multiple choice questions

1. Which of these is to the south of the Thar Desert?
a. Satluj River Basin b. Aravalli hills c. Indus River Basin d. Rann of Kachch
2. Which of these best describes the climate in the Thar Desert?
a. hot days and nights during summer and winter
b. hot days, cold nights during summer and winter
c. hot days, cool nights during summer, cool days and cold nights during winter
d. hot days and nights during summer, cold days and nights during winter
3. Which of these crops cannot be normally grown in Rajasthan?
a. wheat b. rice c. jowar d. bajra
4. Which of these is called the ship of the desert?
a. horse b. tractor c. donkey d. camel
5. Which of these best describes Banjaras?
a. They live in small villages around an oasis.
b. They do not settle down at one place.
c. They live in large cities and raise cattle.
d. They live in fertile areas and grow crops.



Enrichment Activities

- **Map Work:** Carefully study the position of the following cities on the map on page 32 or an atlas—Jodhpur, Jaisalmer, Bikaner, Sri Ganganagar. Now mark their positions on an outline map of India. Also mark the extent of the Thar Desert.
- **Speak out:** 'Deserts are not caused by natural causes. They are caused by human activities like cutting down trees'. Have a discussion in class on this topic. Some can talk for the topic and some can talk against it.
- **Art work:** Draw and paint a picture of a desert. You can take ideas from any of the pictures found in this chapter.
- **Write right:** Imagine you have gone on a holiday to the Thar Desert. While you are out in the desert, a sand storm blows up. Describe what the sandstorm was like, what you felt, and how you managed to get back safely.
- **Project work:** Many of the deserts of the world are spreading. Working in groups, find out if the Thar Desert is also spreading, and what can be done to stop this. Prepare a report or create a website based on your findings.



Hands on!

Tie and dye a T-shirt

Let us try to dye a T-shirt using the tie and dye method. For this you will need a plain white T-shirt, rubber bands or string and dye.

1. Cover a table with plastic garbage bags and then with newspapers. Lay the T-shirt flat on the newspapers.
2. Pinch your T-shirt at one point and lift it up slightly at that point; make sure that you pinch and lift up both layers of the shirt.
3. Wrap a rubber band or a string around the lifted part.
4. Do the same at 8-10 other points on the T-shirt. Vary the size of the pinch to get different sizes of circles.
5. Take the help of an adult to prepare the dye as directed by the manufacturer. Wear rubber gloves to protect your hands.
6. Ask an adult to help you dye the T-shirt. Rinse it out well and put it to dry. Once the T-shirt is dry, remove the rubber bands.



Life Skills and Values

Survival

In your summer holidays, your parents take you to see another state of India. The language, the food, the style of dressing and the customs of that state are very different from that of your own state. How would you behave? (Tick whichever is applicable.)

- a. You refuse to eat the local food and insist that your parents get you the same food that you eat at home every day.
- b. You eat whatever food is served. It might taste different, but you enjoy trying out something new when you are away from home.
- c. You laugh at the clothes of the local people.
- d. You insist on talking in your own language, and make no effort to learn the local language.

Explain your answer.

6

The Southern Plateau

Mind opener

The land in both plains and plateaus is largely flat. What is the difference between these landforms?

Looking Ahead

In this lesson you will learn about the Southern Plateau:

- Its location and physical features
- Its people, their dress, language and festivals

The Southern Plateau

To the south of the Northern Plains lies the vast **Southern Plateau** of India. As you can see in the map, it is triangular in shape, and covers a large part of India. The land here is rocky and uneven.

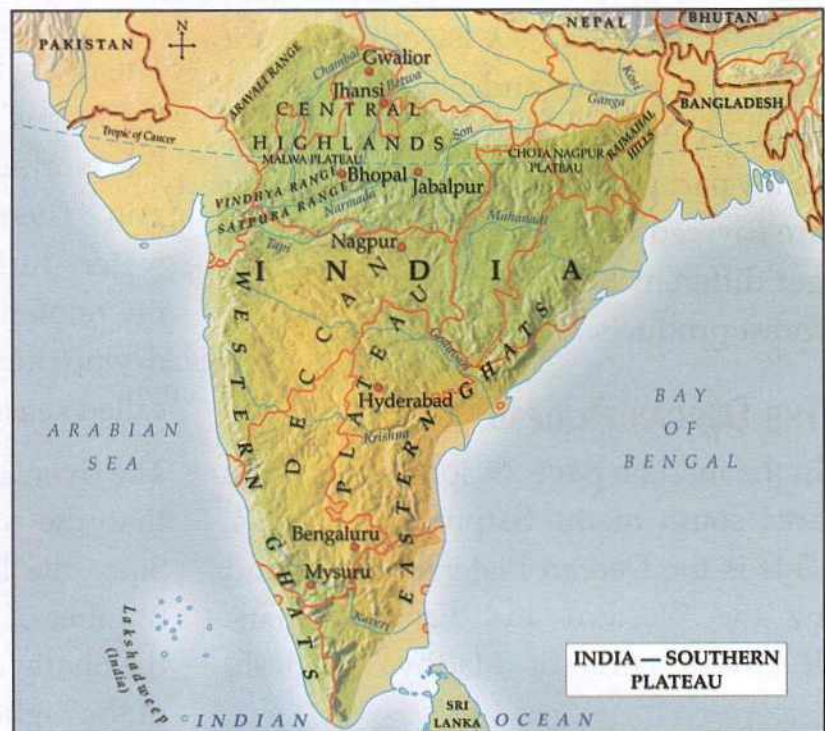
The Southern Plateau is bordered by the following.

- The **Aravalli Range** on the **north-west**
- The **Rajmahal Hills** on the **north-east**
- The hilly region called the **Eastern Ghats** on the **east**
- The hilly **Western Ghats** on the **west**

The Narmada Valley divides the Southern Plateau into two parts. To the north is the **Central Highlands** and to the south is the **Deccan Plateau**.

THE CENTRAL HIGHLANDS

The Central Highlands include the **Malwa Plateau** in the north-west, and the **Chota Nagpur Plateau** in the north-east.





The Narmada Valley



The Aravalli Hills lie to the north-west of the Southern Plateau



Jharia coal mine

The Malwa Plateau lies between the **Aravalli Hills** and the **Vindhya Hills**. It includes parts of Rajasthan and Madhya Pradesh. Some important cities in the region are Gwalior, Indore and Bhopal.

The Chota Nagpur Plateau includes much of Jharkhand, and parts of Odisha, Bihar and Chhattisgarh. It is rich in minerals like coal, iron, mica and manganese. Important coal mines are present in Giridih (Bihar), Jharia (Jharkhand) and Raniganj (West Bengal). Two of India's largest steel plants are located at Bokaro and Bhilai. Panna in Madhya Pradesh has diamond mines. Many parts of the Chota Nagpur Plateau are covered with forests from which we get different kinds of wood and other forest products.

THE DECCAN PLATEAU

In the map on page 39, look at the large area south of the Satpura Mountains. This is the Deccan Plateau. It is bound by the Western and Eastern Ghats. It covers parts of Madhya Pradesh,

Chhattisgarh, Odisha, Maharashtra, Karnataka, Telangana, Andhra Pradesh and Tamil Nadu.

There are a number of rivers in the area. The Mahanadi, Godavari, Krishna and Kaveri flow from west to east and fall into the Bay of Bengal. This is because most of the land in the Deccan Plateau slopes from west to east.

The Narmada and Tapi rivers flow from east to west and fall into the Arabian Sea.

The rivers in the Deccan Plateau are not fed by melting snow, like the rivers of the Northern Plains. They are fed by rain. Therefore, they have very little water during the summer months. If the rainfall is not good, they may even dry up during summers. Such rivers are called **seasonal rivers**.

The rivers in the region flow much faster than the rivers of the Northern Plains. Since the land is uneven, they form a number of waterfalls. The **Jog Falls**, on the Sharavati river in Karnataka, is one of the highest waterfalls in India.

Rivers like Godavari, Krishna and Kaveri form deltas before flowing into the Bay of Bengal. These areas are especially good for rice cultivation. Large parts of the Deccan Plateau have black soil, where cotton and sugarcane grow very well.

Dams have been built on many of these rivers, for example, the Nagarjuna Sagar Dam on the river Krishna. These dams store water for irrigation and provide electricity.



Jog Falls



The deltas of the rivers Godavari (the one on top) and Krishna (the one below)

Differences between the rivers of the Northern Plains and those of the Deccan Plateau

| Rivers of the Northern Plain | Rivers of the Deccan Plateau |
|--|--|
| Perennial (have water throughout the year) | Seasonal (water can dry up during summer) |
| Snow-fed | Rain-fed |
| Flow slowly on reaching the plains | Flow much faster than the rivers of the Northern Plain |

Life in the Southern Plateau

The Southern Plateau region covers a vast area and hence the climate and soil vary from place to place. The region experiences heavy rainfall. However, the climate is moderate in this region—it is neither too hot nor too cold.

MAHARASHTRA

Maharashtra is located in the north-western part of the Deccan Plateau. Its capital is **Mumbai**, an important trade and industrial centre. Mumbai is also the biggest centre for film production in India.

Some other important cities of Maharashtra are Pune, Nasik, Nagpur, Aurangabad and Solapur.

Godavari and Krishna are the two important rivers in the state.

Maharashtra is the largest producer of cotton and the second largest producer of sugarcane in India. The state also produces fruits such as grapes, oranges



A movie being filmed in Film City, Mumbai



Cotton growing in black soil, Maharashtra



Oranges growing in a farm, Nagpur

and bananas. The oranges of Nagpur are very famous.

Textiles, automobiles and electronics are some important industries in Maharashtra.

Tamasha, a kind of dance-drama is very popular in the state. The traditional clothes of men are **dhoti** and **shirt**, with a cap called a Gandhi-topi or a turban called a pheta.

The women traditionally wear nine-yard **sarees**, which are tied in a special way. **Marathi** is the common language. The most popular festival in the state is **Ganesh Chaturthi**, **Gudi Padwa**, **Makar Sankranti**.

KARNATAKA

Towards the south of Maharashtra lies Karnataka. Its capital **Bengaluru** is

called the '**garden city**'. Mysore, Hubli and Dharwad are other important cities of Karnataka.

Krishna and Kaveri are the two important rivers in the state.

The state is a leading producer of **coffee**. **Teak** and **sandalwood** are its well-known forest products.

Bengaluru is the largest centre for information technology (IT) in India. Some other important industries in Karnataka are the textile, aerospace, heavy engineering, biotechnology and automobile industries. The state is also one of the leading producers of gold in India.

The people of Karnataka speak **Kannada**. Traditionally, the women here wear saree, while the men wear panche (dhoti)



Farmer in Maharashtra wearing dhoti and shirt and Gandhi-topi



Women performing tamasha wearing sarees in the traditional style of Maharashtra



Coffee plants, with ripe coffee berries, growing in Coorg, Karnataka

and shirt. **Dasara, Ugadi, Sankranti, Shivaratri, Eid** and **Christmas** are some of the important festivals.

The many beautiful temples and historical monuments in the state, the **Brindavan Gardens** in Mysore, and **Jog Falls** are tourist attractions.

ANDHRA PRADESH

To the north-east of Karnataka is Andhra Pradesh. Amaravati is the current capital of Andhra Pradesh. Other important cities of Andhra Pradesh are Visakhapatnam and Kurnool.

Andhra Pradesh is one of the largest producers of rice, red chilli and tobacco. Textiles and information technology are important industries of the state.

The rivers Krishna and Godavari flow through the state. Their fertile deltas are ideal for the cultivation of rice. This region is known as the 'rice bowl of India'.

The people of Andhra Pradesh speak **Telugu**. The men traditionally wear dhoti and shirt. The women wear sarees.

Sankranti, Ugadi, Dasara, Eid and Christmas are the important festivals. **Kuchipudi** is the famous dance form of Andhra Pradesh.

The Venkateshwara Temple in Tirupathi is visited by lakhs of devotees every year.

TELANGANA

The state of Telangana was formed in June 2014. Its capital is Hyderabad. The other important cities of the state are Warangal, Karimnagar, Nizamabad, and Khammam.

Two major rivers, Godavari and Krishna, flow through Telangana.

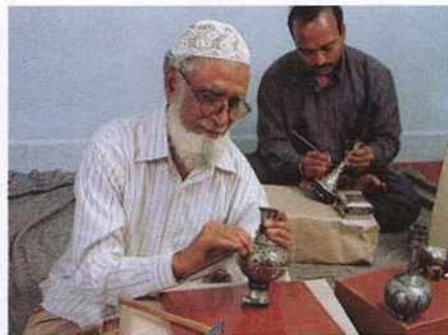
Agriculture is the main occupation of the people here. Rice, cotton, sugar cane and mango are the main crops grown here.

There are rich reserves of coal at Singareni.

Several manufacturing and service industries are located in and around Hyderabad.

Bidriware is a well-known handicraft made here. It is made from a mixture of zinc and copper with inlay work in silver.

Telugu and Urdu are the main languages spoken here. Gusadi is a popular folk dance. Bathukamma, Bonalu and Eid are the main festivals of the state.



Bidri artists at work



Raja and Radha Reddy performing Kuchipudi

TAMIL NADU

To the south of Andhra Pradesh lies the state of Tamil Nadu. Its capital is **Chennai**. Heavy engineering, textiles and handloom are some well-developed industries in the state. Chennai is an important software development centre. The silk sarees of Kanchipuram are very famous.

The rivers Kaveri, Vaigai and Palar flow through the state.

The main language spoken here is Tamil. The traditional clothes of men are dhoti (or lungi) and shirt. The women mostly wear sarees. The traditional dress for small girls is pavadai-blouse; slightly older girls wear half-sarees.



Children celebrating Pongal in Palayamkottai, Tamil Nadu



The famous Brihadeeshwara Temple, Thanjavur

The main festival is **Pongal**. **Bharatanatyam** is the most popular dance form of Tamil Nadu. Tamil Nadu is famous for its temples. Madurai and Thanjavur are famous temple towns.

MADHYA PRADESH

The capital of Madhya Pradesh is **Bhopal**. The textile industry in Madhya Pradesh is well developed. Large areas in this state are covered with forests. It has several wildlife parks such as **Kanha** and **Bandhavgarh**. Many rivers have their origin in this state, such as the Tapi, Chambal and Narmada.



A tiger in the Kanha National Park
(Picture credit: Mukul Sahgal)

CHHATTISGARH

The capital of this state is **Raipur**. The land, particularly the Mahanadi Basin, is very fertile. The state is very rich in minerals such as coal, iron ore, aluminium ore and diamonds. Bhilai has one of India's biggest steel plants.

I now know

1. The Southern Plateau is triangular in shape, and the land is rocky and uneven.
2. It covers parts of Rajasthan, Madhya Pradesh, Jharkhand, Bihar, Chhattisgarh, Odisha, Maharashtra, Karnataka, Telangana, Andhra Pradesh and Tamil Nadu.
3. It is divided by the Narmada Valley into the Central Highlands and the Deccan Plateau.
4. The Central Highlands include the Malwa Plateau and the Chota Nagpur Plateau.
5. The Deccan Plateau has several rain-fed rivers and waterfalls.
6. The states in the region are rich in minerals and have well-developed industries.
7. Most states in the region have black soil, which is good for cotton and sugarcane.

Words to remember

plateau: a large and flat area of land which is higher than the land around it

tamasha: a kind of dance-drama popular in Maharashtra

seasonal rivers: rain-fed rivers that dry up during summers

Exercises

A. Fill in the blanks.

1. High land which is almost flat on the top is called a _____.
2. On the north-east border of the Malwa Plateau lie the _____ Hills.
3. The Southern Plateau is divided into two parts by the _____ Valley.
4. _____ soil found in the Deccan Plateau is very good for cotton.
5. The Deccan Plateau is bound by the _____ and _____ Ghats.
6. Rice is grown in the _____ region of the Krishna and Godavari rivers.

B. Write T for true and F for false sentences.

1. The Southern Plateau covers a larger area than the Northern Plains.
2. Most of the land in the Deccan Plateau slopes from west to east.
3. The rivers in the Southern Plateau are fed by melting snow in mountains.
4. The rivers in the Northern Plains flow faster than those in the Deccan Plateau.
5. The Central Highlands are very rich in minerals.
6. Black soil is good for oilseeds.

C. Match the columns.

- | | |
|-------------------|--|
| 1. Rajmahal Hills | a. Arabian Sea |
| 2. Gold mines | b. Sharavati River |
| 3. Jog Falls | c. North-east border of Southern Plateau |
| 4. Tapi river | d. Kolar |

D. Answer the following questions.

1. What is a plateau? What landforms border the Southern Plateau?
2. In what ways are the rivers of the Deccan Plateau different from those of the Northern Plains?
3. Parts of which states are included in the (a) Malwa Plateau (b) Chota Nagpur Plateau?
4. Name three minerals found in the Southern Plateau.
5. Why are cotton and sugarcane grown in large areas of the Deccan Plateau?
6. Why do most rivers in the Deccan Plateau flow from west to east?
7. Many rivers in the Southern Plateau dry up during summers. Why?
8. Name three plateaus which form part of the Southern Plateau.

Multiple choice questions

1. The Southern Plateau is bounded on the east and west by
 - a. the Aravalli Range
 - b. the hilly regions called Ghats
 - c. the Rajmahal Hills
 - d. the Narmada Valley
2. Which of these states is not included in the Deccan Plateau?
 - a. Jharkhand
 - b. Chhattisgarh
 - c. Madhya Pradesh
 - d. Tamil Nadu
3. Which of these rivers flows from east to west?
 - a. Mahanadi
 - b. Godavari
 - c. Narmada
 - d. none of these
4. Which of these rivers is fed by melting snow?
 - a. Yamuna
 - b. Mahanadi
 - c. Godavari
 - d. Narmada
5. Black soil is especially good for:
 - a. wheat
 - b. rice
 - c. millets
 - d. cotton

HOTS: Think and Answer

1. There are more waterfalls in the Deccan Plateau than in the Northern Plains, though the number of rivers is more in the Northern Plains. Why is that so?
2. The iron and steel industry in the Chota Nagpur Plateau is very well developed. What do you think is the reason for this?

Enrichment Activities

- **Speak out:** The government is planning to build a dam across the river that flows by your town. A lot of land will be flooded by the dam. But the dam will also provide electricity and water for irrigation. Should the dam be allowed to come up? Have a discussion in class on this topic.

- **Write right:** You do not want the dam to come up. Write a letter to the editor of your local magazine explaining how the dam will create problems in your town.
- **Art work:** Using clay, make a model of a plateau. Remember that the surface of the Southern Plateau is not all flat—it is largely uneven and rocky. Use the image given here as a model. Remember to colour it well!
- **Map work:**
 1. Look at the map of the Southern Plateau. Note down the names of ten important cities of the region. Try to mark them on an outline map of India.
 2. Look at the map of India in the atlas. Locate the states we have discussed in this lesson, and their capitals. Mark the capitals on an outline map of India. Also, mark the extent of the Southern Plateau.



Life Skills and Values

Being prepared

Some parts of the Southern Plateau, especially Maharashtra and Madhya Pradesh, are prone to earthquakes. What would you do if there was a sudden earthquake in your town or city?

If you feel the building or the ground shaking violently, follow these steps:

- Don't panic. Stay calm. Most injuries occur when people panic and try to run out of a building.
- DROP to the ground; take COVER by getting under a strong table or other piece of furniture; and HOLD ON until the shaking stops.
- Stay away from glass, windows and walls.
- If you are outside, stay there till the shaking stops.

7

The Coastal Plains and Islands

Mind opener

How many of you have seen the sea? Did you like it? Did you play in the water? What did you like most about the sea?

Looking Ahead

In this lesson you will learn about:

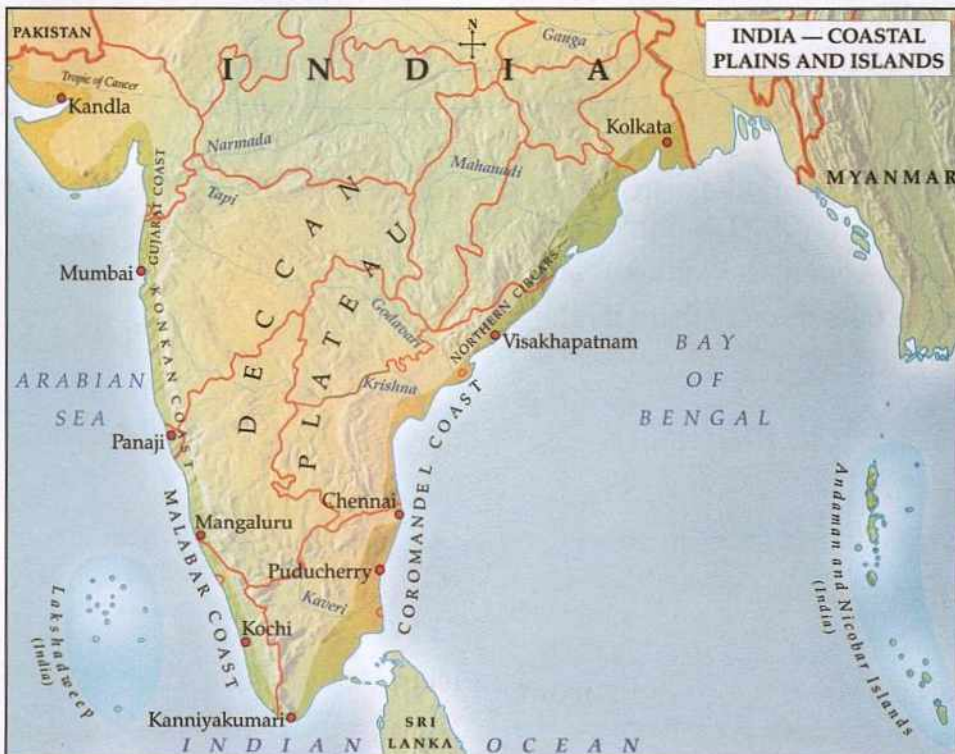
- the Western and Eastern Coastal Plains
- the Andaman and Nicobar Islands and the Lakshadweep Islands

As you have seen in the earlier chapters, the Southern Plateau covers most of the Indian Peninsula. The plateau is surrounded by narrow **coastal plains** on the eastern and western sides.

- On the west, between the Western Ghats and the Arabian Sea, is the **Western Coastal Plain**.
- On the east, between the Eastern Ghats and the Bay of Bengal, is the **Eastern Coastal Plain**.



The Malabar Coast



These plains meet at **Kanniyakumari (known earlier as Kanyakumari)**, the southernmost tip of the peninsula. There are also many **islands** in the Bay of Bengal and the Arabian Sea, like the Andaman and Nicobar Islands and the Lakshadweep Islands.

India has an extremely long coastline. This is a great advantage for India as it can use ships to transport large quantities of goods into and out of the country. Ships are loaded and unloaded at **ports**. There are a number of ports along the coast in India.

Some of these are:

- Mumbai, Kandla, Kochi and Panaji on the western coast
- Kolkata, Puducherry and Chennai on the eastern coast

The long coastline also encourages fishing. Fishing is an important occupation of the people living in coastal areas.

The Western Coastal Plain

On the west, between the Western Ghats and the Arabian Sea is the Western Coastal Plain. It begins from Gujarat in the north, and passes through Maharashtra, Goa, Karnataka and Kerala. It is divided into three main parts.

- The **Gujarat Coast** in the north
- The **Konkan Coast** in the middle, up to Goa
- The **Malabar Coast** in the south, from Goa to Kanniyakumari



A ship being loaded at Kochi Port

The Eastern Coastal Plain

On the east, between the Eastern Ghats and the Bay of Bengal is the Eastern Coastal Plain. It begins from West Bengal in the north, and passes through Odisha, Andhra Pradesh and Tamil Nadu. The Eastern Coastal Plains are wider than the Western Coastal Plains.

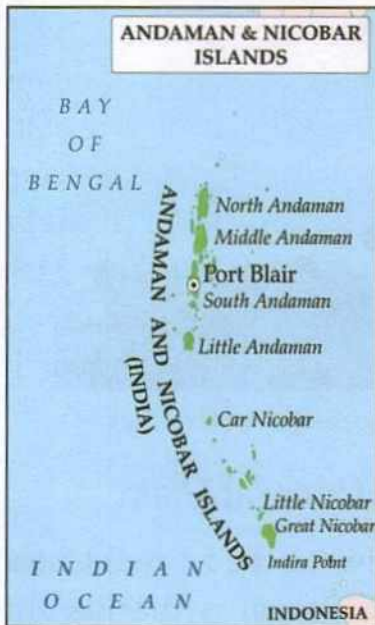
The northern part of the Eastern Coastal Plains is called the **Northern Circars**. The southern part is called the **Coromandel Coast**.

The Islands

The islands in the Arabian Sea and the Bay of Bengal, which are near the Indian mainland, are a part of India. There are two groups of islands—the **Andaman and Nicobar Islands** in the Bay of Bengal, and the **Lakshadweep Islands** in the Arabian Sea.

ANDAMAN AND NICOBAR ISLANDS

These are two groups of about 300 islands in the Bay of Bengal. The northern islands are known as Andaman Islands,



Corals

and the southern islands are the Nicobar Islands. They form a Union Territory of India. The southern-most part of the islands is called **Indira Point**. It is also the southern-most part of India.

LAKSHADWEEP ISLANDS

These are a group of about 30 islands, only some of which are inhabited. They are close to the Malabar Coast. They also form a Union Territory.

Many of these islands are made of deposits of the skeletons of an animal called **coral**. Such islands are called **coral islands**.

Life in the Western Coastal Plains

GUJARAT

Gujarat lies in the north-west of India. Its capital is **Gandhinagar**. Trading and

farming are the main occupations of the people of the state.

Jowar and bajra are the main cereal crops. The other crops grown are sugarcane, cotton, groundnut and tobacco.

Gujarat has several well-developed industries. It is known for its textile, petroleum, fertiliser, salt and diamond-cutting industries. The khadi and handloom industry is also well-developed. Dairy farming is an important industry of Gujarat. The famous Amul milk products come from **Anand** in Gujarat.

The main language spoken in the state is **Gujarati**. The women wear **sarees** and **lehengas**. The men traditionally wear **churidars** and short jackets called **kediyu** or **angrakhas**, with colourful turbans.

Ahmedabad is the largest city of Gujarat. Gandhiji's Sabarmati Ashram lies in this city. The Gir Forest, which is the home of the Asiatic lion, is an important tourist attraction here.



Sabarmati Ashram, Ahmadabad



An Asiatic lioness and her cub at the Gir National Park in Gujarat

MAHARASHTRA

The Konkan Coast runs through Maharashtra. **Mumbai**, the capital of Maharashtra, lies on the Konkan Coast. It is the biggest seaport in India.

The seabed off the Konkan Coast has large deposits of petroleum. The region is called **Bombay High**.

You have already read about the people, dresses and festivals of Maharashtra in the last chapter.

GOA

To the south of Maharashtra is the small and beautiful state of Goa. Its capital is **Panaji**. Goa is rich in iron ore. Mining is an important industry in the state.

Christmas is the main festival in the

state. Tourists visit Goa in large numbers every year because of its beautiful beaches and churches. The **Basilica of Bom Jesus** in Panaji is one of the oldest churches in India. It contains the body of St. Francis Xavier.

KARNATAKA

As we go south from Goa, along the coast, we come to Karnataka.

Mangalore is an important seaport. You read about Karnataka in the last chapter.

KERALA

In the extreme south of the Western Coastal Plains lies the beautiful state of Kerala. **Thiruvananthapuram**, earlier known as Trivandrum, is the capital of Kerala. Kochi is an important seaport of Kerala. Kerala produces large quantities of spices, coconut, cashew, coffee and rubber.

Almost the entire population of Kerala knows how to read and write. The main language is **Malayalam**. The men wear lungi (called **mundu**) and shirt. The women wear mundu and blouse or sarees.



The richly carved interior of the Basilica of Bom Jesus



The beaches of Goa are world famous

Did you know?

Kerala has a large number of lagoons or lakes linked by canals. This is called the backwaters. The canals are used for transporting people and goods.



Backwaters of Kerala



Kathakali

Onam and **Vishu** are important festivals of Kerala. Boat races, in which long boats called **snake boats** take part, are held during Onam. The races are a great tourist attraction. **Kathakali** is the traditional dance form of Kerala.

Kerala has a number of beautiful beaches, the most famous being the **Kovalam Beach**. The lagoons or backwaters of Kerala, the wildlife sanctuary at Periyar, and the famous temples are other tourist attractions.

LAKSHADWEEP ISLANDS

The capital of this union territory is **Kavaratti**. Most people here speak Malayalam. The people use coconut fibre to make a variety of products. It is a major industry. Fishing and tourism



Lakshadweep islands

are the other important industries here. The beautiful islands and beaches attract many tourists.

Life in the Eastern Coastal Plains

ODISHA

As we move along the coast towards the south from West Bengal, we come to Odisha (formerly known as Orissa). Its capital is **Bhubaneswar**. Puri and Cuttack are other important cities. The delta formed by the Mahanadi River is very fertile. The main crop grown here is rice. Handloom sarees of Odisha, and jewellery and decorative items made of silver are very popular. Mining is an important industry.

Odia (Oriya) is the main language spoken here. **Odissi**



Odissi



Temple at Konark



Visakhapatnam Port



The Vivekananda Rock Memorial,
Kanniyakumari

is the popular dance form. Lots of people turn up to see the **Rath Yatra** of Puri. The temples at Bhubaneswar, Puri and Konark, and the **Chilika Lake** with its bird sanctuary, are the other tourist attractions.

ANDHRA PRADESH

You have already read about Andhra Pradesh and its people. **Visakhapatnam**, a city on the coast, is a major port and shipbuilding centre. It also has an oil refinery and an iron and steel plant.

TAMIL NADU

Chennai, the capital of Tamil Nadu, lies on the Coromandel Coast. It is an important port. The **Marina Beach** in the city is the longest urban beach in India.

The delta formed by the Kaveri River is very fertile. It is called the **rice bowl** of Tamil Nadu. Kanniyakumari in Tamil Nadu is the southernmost tip of the Indian mainland. The **Vivekananda Rock Memorial** has been built on a small island near the coast, called Vivekananda Rock.

ANDAMAN AND NICOBAR ISLAND

The capital of this group of almost 300 islands in the Bay of Bengal is **Port Blair**. Only a few of the islands are inhabited. Most of these people live in the forests in groups or **tribes**.

The **Cellular Jail** at Port Blair was once used by the British to imprison Indian freedom fighters. It is now a national monument. Fishing is an important occupation. Tourism is an important industry because of the beautiful beaches. Coconut and rice are the main agricultural products.



Members of the Onge tribe, Andaman

PUDUCHERRY

As we go south from Chennai, along the coast, we come to the union territory of Puducherry, previously known as Pondicherry. It is famous for the **Aurobindo Ashram**. At one time it was ruled by the French. The people here speak Tamil and English. Some of them also speak French.

I now know

1. The Deccan Plateau has the Western Coastal Plain on the west, and Eastern Coastal Plain on the east.
2. There are a number of ports along the Western and Eastern Coastal Plains.
3. The Western Coastal Plain consists of the Gujarat Coast, the Konkan Coast and the Malabar Coast.
4. The Eastern Coastal Plain consists of the Northern Circars in the north and the Coromandel Coast in the south.
5. About 300 islands make up the Andaman and Nicobar Islands.
6. Lakshadweep Islands are situated close to the Malabar Coast.
7. Fishing, agriculture, working in ports and in petroleum and other industries, and tourism are the main occupations of the people.

Words to remember

port: a place by the sea or a river where ships can be loaded and unloaded

coral: a small sea creature that lives in large groups; they produce a hard substance that can grow to form islands

lagoon: an area of sea water that is separated from the sea

tribe: a large group of related families that live in the same area

Exercises

A. Fill in the blanks.

1. The western and eastern coasts of India meet at _____.
2. _____ are salt water lakes, which get cut off from the sea.
3. _____ is the largest port of India.
4. Goa lies in the _____ Coast of the Western Coastal Plain.
5. _____ in Port Blair was used to jail Indian freedom fighters.
6. _____ is the famous dance of Odisha.

B. Match the columns.

- | | |
|------------------------------|--------------------------------|
| 1. Konkan Coast | a. Tamil Nadu |
| 2. Coromandel Coast | b. Andaman and Nicobar Islands |
| 3. Coral islands | c. Lakshadweep Islands |
| 4. Indira Point | d. Western Coastal Plains |
| 5. Vivekananda Rock Memorial | e. Eastern Coastal Plains |

C. Answer the following questions.

1. What is the advantage of a long coastline?
2. Through which states do the Western and Eastern Coastal Plains pass?

3. Why are so many tourists attracted to Goa?
4. Why are the Lakshadweep Islands referred to as 'coral islands'?
5. How is it that so many people in Puducherry know French?
6. Which is the southern-most tip of (a) the Indian mainland, (b) India?
7. Name two important ports in each of the two coastal plains.
8. Name four major occupations of the people of the coastal plains.
9. Name four main industries of Gujarat.

Multiple choice questions

1. Which of these coasts lie in the Western Coastal Plain?
a. Konkan Coast b. Malabar Coast c. Gujarat Coast d. All of these
2. Which of these is a port city?
a. Delhi b. Bengaluru c. Hyderabad d. Chennai
3. Which of these ports is also a ship-building centre?
a. Mumbai b. Visakhapatnam c. Kolkata d. Kandla
4. The Aurobindo Ashram can be found in
a. Andhra Pradesh b. Tamil Nadu c. Odisha d. Puducherry
5. An important seaport of Karnataka is
a. Cochin b. Kavaratti c. Visakhapatnam d. Mangalore
6. The Gir Forest, which is home to the Asiatic lion is located in
a. Gujarat b. Maharashtra c. Andhra Pradesh d. Kerala

HOTS: Think and Answer

1. Why is fishing such an important occupation of the people living in the coastal areas and islands of India?
2. Why do you think tourists are especially attracted to coastal areas and islands?

Enrichment Activities

- **Jumbled Words:** Given below are the names of ports on the coastal plains. Can you guess the names?
SAVKIAPMTHANA AALDNK IMABUM NHAICNE OCIHK
- **Speak out:** 'Tourism is destroying many coastal areas. It should be discouraged.' Have a debate in class on this topic. (Hint: Tourism helps the local people earn money.)

- **Write right:** You have gone to the beach with your family. Your little brother runs into the water and is pulled in by the waves. Write an essay describing (a) the fun you were having, (b) your panic when you saw your brother missing, and (c) how you saved him.
- **Art work:** Make a poster or collage on the topic 'Save our beaches!'
- **Map work:**
 - a. Mark these seaports on an outline map of India: Mumbai, Kolkata, Chennai, Kochi, Panaji, Puducherry
 - b. Also mark the capitals of the states through which the coastal plains pass.
- **Project work:** You have now read about all the regions of India. In which region is the city you live in located? Find out the following about the region:
 - a. State and its capital
 - b. Other important cities
 - c. Major crops grown
 - d. Major industries
 - e. Traditional dress, dances and music
 - f. Main tourist attractions
 Present this information in the form of a project file with pictures or make a website on it.



Hands on!

Making a boat

Make a model of a boat or ship. You could use clay, Play Dough, thermocole or cardboard. Look at the pictures given to get ideas. You could even make paper boats and sail them in a bucket of water.



Life Skills and Values

Safety on the beach

Most children love to spend time on a beach. However, the sea can be very dangerous. Here are a few safety rules for you to follow while playing on the beach.

- Find out how high the waves are and whether it is safe to go into the water.
- Never go into the water alone, and always remain in a place where other people can see you.
- Don't go too far into the water.
- Face the waves, instead of turning your back on them. Then, you'll know what's coming, and you can be prepared.

8

The Climate of Our Country

Mind opener

Anand says, 'Oh what a hot day!' His sister says 'Thank god we are going to Shimla tomorrow. It is a cold place.' One person is talking about the weather, and the other is talking about the climate. Can you say who is talking about which? What do you think is the difference between weather and climate?

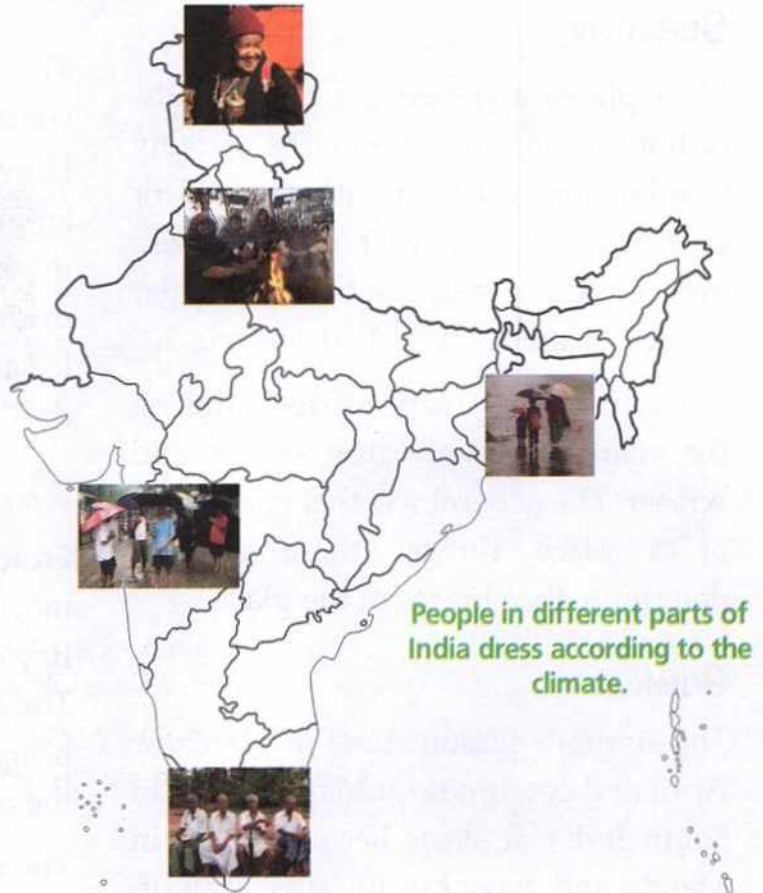
Looking Ahead

In this lesson you will learn about:

- The difference between weather and climate
- The factors which influence the climate of a place
- The three main seasons of India: summer, monsoon and winter

Weather and Climate

When you say 'it is cold today', or 'it is a rainy day', you are talking about the **weather**. Weather refers to how hot, cold, rainy, windy, or cloudy it is, in a particular place at a particular time. But when you say, 'it is very cold in the mountains', or 'the coastal plains are warm and humid', you are talking about the **climate**. Climate refers to the weather conditions of a large area taken over a long period of time.



People in different parts of India dress according to the climate.

The Climate of a Place

The climate of a place mainly depends on the following:

- **How far away it is from the Equator:** The farther away a place is from the Equator, the colder it is expected to be. The northern part of India is cooler than southern part of India.

- **How high it is:** The higher a place, the colder it is. For example, the higher you go in the Himalayas, the cooler it becomes.
- **How far it is from the sea:** The winds from the sea affect the climate of the place. The Coastal Plains are neither too hot nor too cold because of the breeze from the sea.

The plant and animal life found in a place, the food that people eat, and what they wear depend on the climate of the place.

Seasons

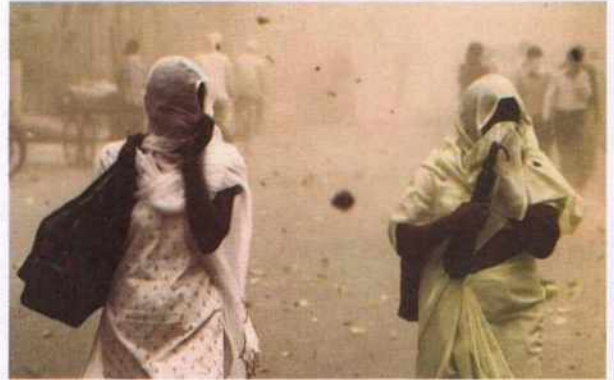
Most places experience a few months of hot weather, a few months of rainy weather and a few months of cool or cold weather in an year. Each of these divisions of the year that have particular weather patterns are called **seasons**.

India has three main seasons during the year—**summer**, **rainy season** and **winter**. The general weather conditions of a place during these seasons determine the climate of the place.

SUMMER

The summer season starts in March or April and continues till May or June. In South India, it starts becoming hot in March, and stays hot till after May. In North India, summer starts in April and goes on till June and July.

In summer, it is hot and dry in almost all parts of India, except the mountains. The Sun is very hot, and days are longer than nights. Hot dry winds called loo, blow in the Northern Plains. Dust storms are also common in the region.



People in Delhi caught in a dust storm

The Coastal Plains are not so hot in summers because of the cool sea breeze. However, it is very **humid**, that is the amount of water vapour (or moisture) in the air is high. Humid weather is uncomfortable, as it makes us sweat a lot and the sweat takes a long time to dry.

RAINY SEASON

From June onwards, winds full of moisture from the Arabian Sea and the Bay of Bengal start flowing to the land. They are called **monsoon winds**. They bring rain to India. This season is called the **monsoon**.

The rainy season starts in June in South India. In North India, it starts towards the end of June or beginning of July. It continues till September.



Monsoon rains



Men warming themselves during a cold winter day

Some parts of India, such as the western coast and the north-eastern states, get very heavy rain. At present, Mawsynram in the Khasi hills in Meghalaya receives the highest rainfall in India. Parts of the Northern Plains and the Southern Plateau receive heavy rainfall.

The Thar Desert in Rajasthan and the Rann of Kachchh receive very little rainfall. The Coromandel Coast receives rain in November-December.

WINTER

From October onwards, it starts becoming pleasant. The Sun is not so hot. The days start becoming shorter,

Words to remember

Equator: an imaginary line drawn around the middle of the Earth dividing it into two halves

humidity: amount of water vapour (or moisture) in the air

monsoon: Winds that bring rain to India

Did you know?

The highest rainfall ever recorded in a day is 182.5 cm in the La Réunion Island in the Indian Ocean.

The highest rainfall ever recorded in one year is 2540 cm in Cherrapunji, India.



Low clouds over Cherrapunji, one of the wettest places in India

and the nights longer. This marks the beginning of winter. It continues till February or March. January is the coldest month.

Winters are very cold in the Himalayas. Many places have snowfall. The Northern Plains are cold. The cold decreases as we go south. The Coastal Plains are pleasant during winters.

I now know

1. Climate refers to the weather of a large area over a long period of time.
2. Climate depends on the distance of a place from the Equator, the height of a place and the distance from the sea and mountains.
3. There are three main seasons in India—summer, monsoon and winter.
4. Summer starts in March or April, and ends in May or June.
5. The rainy season is from June to September.
6. Winter is from October to February or March.

Exercises

A. Fill in the blanks.

1. When you talk of the weather conditions throughout the year, you are talking of the _____.
2. The farther a place is from the _____ the colder it is expected to be.
3. Hot and dry winds that carry dust and sand are called _____.
4. Winds full of moisture that bring rain to India are called _____ winds.
5. The _____ season lasts from October to February or March.

B. Write T for true and F for false sentences.

1. The higher a place is, the cooler it will be.
2. Humid air in summers makes the weather pleasant.
3. Rains start earlier in South India than in North India.
4. During winter, days are longer than in summer.

C. Answer the following questions.

1. What is the difference between weather and climate?
2. What are the three main factors on which the climate of a place depends?
3. What kind of weather do we have during summers in the Northern Plains?
4. The Coastal Plains are closer to the Equator than the Northern Plains. But they are not as hot in summers as the Northern Plains. Why?
5. Why does it start raining in India from June?
6. Which parts of India get very heavy rain, and which parts get very little rain during the rainy season?
7. Compare the weather during the winter season in the Himalayas and the Coastal Plains.

Multiple choice questions

1. When your friend tells you that it is a cold and wet day, he is talking about the
a. climate b. weather c. humidity d. season
2. Which of these do not affect the climate of a place?
a. distance from the Equator b. distance from the sea
c. the height of a place above sea level d. the plant and animal life found in a place
3. The rainy season in India is also called
a. monsoon b. winter c. summer d. climate
4. During summer
a. the days are longer than the nights b. the days are short and nights are long
c. both days and nights are of equal length d. none of the above
5. The Coromandel Coast receives rain from
a. July to September
b. November to December
c. June to August
d. August to December

HOTS: Think and Answer

1. Why do so many people visit hill stations during summers?
2. On a hot summer day, the temperature in Chennai and Delhi was the same. However people in Chennai felt more uncomfortable than people in Delhi. Why?

Enrichment Activities

- **Speak out:** Deforestation, or the cutting of trees on a large scale, is said to be affecting the climate of the world. Find out more about this and speak about it in class.
- **Write right:** Find out about Global Warming from your library or from the Internet. Write a paragraph or two explaining Global Warming and what each of us can do about it.
- **Project work:** Working in groups, find out about the climate of any one state of India. Find out how many seasons the state has. Also, find out about each season in detail—how hot the summers are, how rainy the monsoons are and how cold the winters are. Present your findings in the form of a chart, file or on a website.



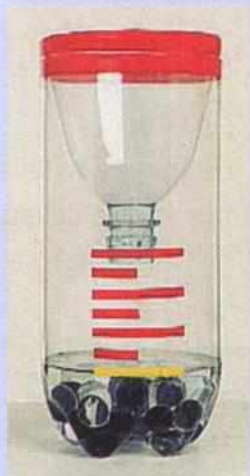
Hands on!

Make your own rain gauge

You can make your own rainfall measuring instrument (called a rain gauge) using a plastic bottle, as shown in the figure.

Take the help of an adult to cut the top of the plastic bottle. Place the top cut out portion upside down on the lower portion.

Mark a centimetre scale on paper, and paste it on the side of the bottle. Place the rain gauge in an open space in the rain. See how much rain fell in an hour.



Life Skills and Values

Precautions to be taken in very hot weather

Very hot and dry weather can cause water loss from the body. This can result in a heat stroke, which can be very dangerous. Here are some precautions you should take to avoid falling ill.

- Stay indoors as much as possible—avoid playing football or cricket in the hot Sun.
- Drink plenty of fluids.
- At the first signs of heat stroke (dizziness, nausea, headaches, muscle cramps), move to a cooler place, rest for a few minutes and slowly drink something cool. Go to a doctor immediately if you do not feel better.
- Avoid a cool shower immediately after coming in from the hot Sun.

9

Natural Resources

Mind opener

Make a list of ten things you need every day in life. Now think—how many of them are available in nature and how many are made by humans?

Looking Ahead

In this lesson you will learn about natural resources:

- *renewable and non-renewable natural resources*
- *the different natural resources—soil, water, forests, animals, minerals and fuels*

There are many valuable things in nature that are necessary for us to live on this Earth. Some of these are air, water, soil, forests, animals and minerals. They are known as **natural resources**. We use these natural resources in our daily lives.

There are two types of natural resources—**renewable** and **non-renewable**. Renewable resources are those that will either never run out (for example, the Sun) or are constantly renewed by natural processes (for example, water is renewed by rain). Animals, crops, forests, water, soil and sunlight are renewable resources.

Non-renewable resources are those which once used up, are exhausted, and are either not renewed by nature, or renewed very slowly over millions of years. Examples are fuels like coal and petroleum, and minerals like gold, iron and copper.

Soil

Soil is the loose uppermost layer on the Earth's surface. Plants grow in soil. They get water and mineral salts from the soil. Since plants make food for all living things, all living things depend on soil for food.

Many animals live in the soil. Insects such as earthworms and ants, and bigger animals such as mice and rabbits, live in the soil.

Humans depend on the soil for many things. We grow different kinds of cereals, vegetables and fruits in the soil. We use soil to make building materials such as bricks and cement. We use clay obtained from soil to make pots and utensils. Soil is an important renewable natural resource.



Soil

Water

Water is a renewable natural resource essential for life. Humans, animals and plants all need water to live. We need water to drink, bathe, wash, irrigate fields and for many other purposes. Water is a precious resource. We should not waste it.



Water

Animals

Animals raised by us for our use are known as **livestock**. They are useful to us in many ways and are an important natural resource for us. Some animals raised by humans are cattle (cows and buffaloes), sheep, goats and camels, hens and ducks, fish and other water animals.



Livestock

Forests

A **forest** is a large area of land where there is a thick growth of trees and other plants. In a forest, plants grow on their own. The kinds of plants that grow in a forest depends on the climate and soil of that place. Forests are useful to us in many ways. We get wood, medicines, paper and oxygen from them.

To save forests, trees should be cut in a planned way. For every tree cut, several new trees should be planted, so that the forest cover is not reduced.



Forest

Minerals and fuels

The surface of the Earth is made up of rocks. Rocks are made up of substances called **minerals**. Minerals are another important natural resource.

The minerals obtained from the Earth are in an impure form. They are purified and used to make a number of things.

We get **metals** such as iron, copper, aluminium, gold and silver from minerals. These are shiny and hard. We also get other substances such as diamonds, mica and limestone from minerals.

Fossil fuels, such as petroleum, coal and natural gas and coal, are also obtained from the Earth. Petrol and diesel are obtained from petroleum through a process called refining.

The mineral resources on the Earth are non-renewable. Once used up, they will not be available to us any more. Fossil fuels, our main source of energy, are being used up rapidly. We should use these resources carefully and not waste them. To save these resources, we should depend more on sources of energy that will never get used up, for example, solar energy and wind energy.



Minerals

Did you know?

The amount of fuels being burnt by humans today in one year were formed over one million years in nature.

 **I now know**

1. Renewable resources are those that will either never run out or are constantly renewed by natural processes.
2. Non-renewable resources are those which once used up, are exhausted, and are either not renewed by nature, or renewed very slowly over millions of years.
3. Soil is the loose uppermost layer on the Earth's surface. It is useful in many ways.
4. Water is a natural resource essential for life. It is used for many purposes.
5. A forest is a large area of land where there is a thick growth of trees and other plants. They provide us with several things essential for life.
6. Livestock are an important natural resource for humans.
7. Minerals are natural resources from which we get several materials such as metals.
8. Fossil fuels such as petroleum, coal and natural gas are non-renewable resources obtained from the Earth.

 **Words to remember**

livestock: animals raised by humans for their use

mineral: a natural substance found in the Earth

fossil fuels: substances, such as coal, petroleum and natural gas, formed from the remains of dead plants and animals, that can be burned to get energy

Exercises

A. Fill in the blanks.

1. Plants get _____ and _____ from the soil.
2. Sunlight is a _____ natural resource.
3. Coal, petrol and diesel are known as _____.
4. _____ are hard and shiny substances obtained from minerals.
5. Petrol and diesel are obtained from _____.

B. Write T for true and F for false sentences.

1. Natural resources are both living and non-living.
2. Water is a non-renewable resource.
3. Humans have planted trees to make forests on the Earth.
4. Cattle is a non-renewable resource.
5. Mineral resources will never get exhausted as they are being constantly renewed in nature.

C. Answer the following questions.

1. What are natural resources? Name four natural resources.
2. What is the difference between renewable and non-renewable resources?
3. List four uses of soil. Which use, in your opinion, is the most important?
4. Name four products that we get from forests.
5. Name two metals that we get from minerals.
6. Name two fuels that we get from petroleum.
7. Why is it important to save fossil fuels such as coal and petroleum?

Multiple choice questions

1. Which of these resources will not run out because they are constantly renewed by nature in a reasonable amount of time?
a. gold b. petroleum c. coal d. plants
2. Which of these will get exhausted because nature takes a long time to renew them?
a. forests b. animals c. coal d. water
3. Which of the following do we get from forests?
a. oxygen b. paper c. medicines d. all of these
4. Which of the following sources of energy will always be available to us?
a. solar energy b. petroleum c. natural gas d. coal

HOTS: Think and Answer

1. Is electricity a natural resource? Give reasons.
2. Coal is made from the dead remains of trees buried in the Earth. But we still call it a non-renewable resource. Why?
3. Some people think that wind farms are ugly. What do you think?

Enrichment Activities

- **Speak out:** Water is a renewable resource. Yet, we are always told to save water. Why is this so? Have a discussion in class on this.
- **Write right:** Write a poem of 5 or 6 lines on nature and its beauty. Or, you could write a poem on how we are destroying our environment.
- **Art work:** Design a poster or collage on the theme 'Save our resources'.
- **Project work:** Work in groups. Each group can take up one natural resource. Find out all about it, for example—What are its uses? Where is it found? Is it renewable or non-renewable? Finally give suggestions on how we can conserve the resource. Present your findings in the form of charts, reports or a website.

Hands on!

A jar game for energy saving

Keep a jar on the dining table in the room. Every time someone in the family forgets to turn something off after he/she has used it, he/she has to put a certain amount of money into the jar. At the end of the month, take all of the money collected in the jar and use it to buy some energy efficient appliance such as compact fluorescent lamps (CFLs).

Life Skills and Values

Saving the environment; developing critical thinking

Ameena has been cycling to school ever since she learnt in class that cars pollute the air. Her classmate, Ajay, gets dropped to school in a car. Ajay makes fun of Ameena for coming to school on a cycle. What should Ameena do?

- a. complain to the class-teacher that Ajay was teasing her;
- b. ignore Ajay;
- c. explain to Ajay why she cycles to school and invite him to join her;
- d. make a poster that shows how cars cause air pollution and display it in class;
- e. ask the teacher to explain how using a car for dropping a single child to school is a waste of fuel, and how fuel could be saved by cycling to school or carpooling

10

Soils of India

Mind opener

Can you say in what ways soil is useful to us? Think of food, houses, clothes, fuel and furniture. How can soil be linked to these? Think of other ways in which we are dependent on soil.

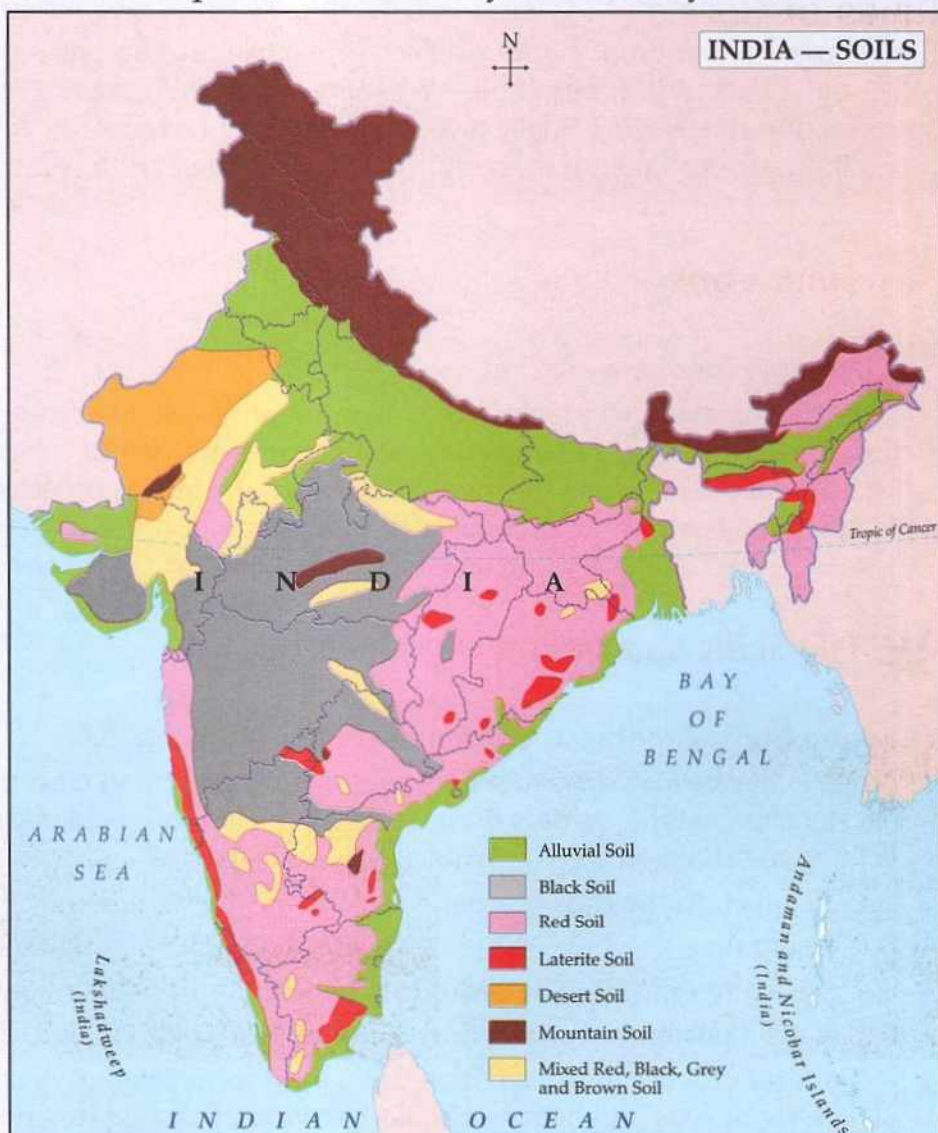
Looking Ahead

In this lesson you will learn about:

- The importance of soil as a natural resource
- The types of soil found in India

All living things on the Earth depend, either directly or indirectly, on the soil for their food.

We also depend on the soil for many other things. In many villages, people use mud to make the walls of their houses. We make cloth from plants like cotton and jute, which in turn need soil to live. Most people in India depend on agriculture for their livelihood. So, soil is very important to us. It is one of our most important natural resources.



Formation of Soil

Rocks on the Earth are broken down into small pebbles by rain, flowing water and the roots of plants. These pebbles break down further to form tiny bits of soil. Wind, rain and rivers carry the soil to different places. Remains of dead plants and animals mix with the soil to make it fertile. It takes more than a hundred years for nature to make just one centimetre of soil.

Types of Soil

There are six main types of soils found in India. These different types of soils are suitable for growing different types of crops. That is why such a wide variety of crops are grown in India.

Alluvial soil: You have already read that the rivers of the Northern Plains bring with them large quantities of **silt** or **alluvium**. This gets deposited on the land around the rivers. This soil is very fertile, and is called **alluvial soil**. It makes the Northern Plains one of the

most fertile regions of the world. Alluvial soil is also found in the deltas formed by the rivers of the Deccan Plateau. Alluvial soil is especially good for the cultivation of rice, wheat, sugarcane, pulses, oilseeds and jute.

Black soil: This type of soil is found in the central and north-western parts of the Southern Plateau. Most of Maharashtra and Madhya Pradesh, and parts of Telangana, Andhra Pradesh, Gujarat, Karnataka and Rajasthan have this soil.

Black soil is formed from the lava that comes out of volcanoes. As you have already seen, it is very good for growing cotton and sugarcane.

Red soil: The rest of the Southern Plateau contains soil that is red in colour. It is not as fertile as black soil, but can be made fertile by adding manure. It is good for crops such as jowar, bajra and groundnut.

Laterite soil: This type of soil is found in the Western Ghats and parts of Tamil Nadu. It is rich in iron and aluminium



Rich alluvial soil of the Northern Plains, Bihar (Picture credit: Indiamike.com)



Black soil of the Deccan Plateau (Picture credit: Sikandar Magar)



Red soil is also good for growing sugarcane



Laterite soil, Kerala



Desert soil

Did you know?

Earthworms help increase the fertility of the soil by converting dead leaves into humus. They also dig through the soil making it looser and letting in air, so that plant roots can breathe.

and is red in colour. It is good for crops such as tea, coffee, spices, coconut and rubber.

Desert soil: Desert soil contains mostly sand. It is found mainly in Rajasthan and Gujarat. Sandy soil cannot hold much water. It is, therefore, not fertile.

Mountain soil: Mountain soil is very rich in **humus**. Humus is the remains of dead plants and animals. The minerals present in the humus make the soil very fertile. Mountain soil is found in the Himalayan region, and in the north-eastern parts of India. The soil is very good for growing fruits such as apple, pear, peach and plum.

and to build farms, cities and roads. This is called **deforestation**. Deforestation causes an increase in soil erosion.

Planting trees, or **afforestation**, is the most important method of preventing soil erosion. Covering bare farmland with grass or dried vegetation, terrace farming in hills and building embankments along river banks are some other methods of preventing soil erosion.



Deep gullies have been cut into the ground by soil erosion as a result of deforestation

Soil Erosion

Sometimes, the fertile top layer of the soil is carried away by wind and water to a different place. This is called **soil erosion**. It makes the land infertile. Roots of plants hold the soil together and prevent erosion. We cut trees for fuel,

Did you know?

Farmers also grow crops on hill sides. They do so by cutting steps in the hills. This is known as **terrace or step farming**.



Terrace farming of rice in Nagaland

I now know

1. Soil is an important natural resource.
2. The six main types of soils found in India are: alluvial soil, black soil, red soil, laterite soil, desert soil and mountain soil.
3. The different soils are good for growing different crops.
4. Soil erosion by wind and water can be prevented by afforestation.

Words to remember

humus: remains of dead plants and animals that rot and mix with the soil, making it fertile

erosion (of soil): carrying away of soil by wind or water to a different place

afforestation: planting trees

Exercises

A. Fill in the blanks.

1. Soil is an important _____ resource.
2. The _____ soil of the Northern Plains is very fertile.
3. Cotton grows best in _____ soil.
4. Desert soil contains mainly _____ and is not fertile.

B. Write T for true and F for false sentences.

1. Soil is made by breaking up of rocks.
2. Black soil is more fertile than red soil.
3. Mountain soil is very fertile.
4. Soil erosion can be controlled by planting trees.

C. Match the columns.

- | | |
|------------------|-----------------|
| 1. Desert soil | a. Rice |
| 2. Laterite soil | b. Cotton |
| 3. Black soil | c. Rajasthan |
| 4. Red soil | d. Coffee |
| 5. Alluvial soil | e. Jowar, bajra |

D. Answer the following questions.

1. Why is soil considered to be an important natural resource?
2. How is soil made?
3. Why is alluvial soil found in plains around rivers?
4. How does the presence of humus affect soil?
5. What makes desert soil infertile?

6. How is black soil formed? In which parts of India do we find it?
7. What is soil erosion? How does it harm us? How can it be prevented?

Multiple choice questions

1. Which of these soils is best for growing rice?
a. alluvial soil b. red soil c. laterite soil d. black soil
2. Which of these encourages soil erosion?
a. terrace farming b. afforestation c. cutting down trees
d. building embankments along river banks
3. Where will you expect to find alluvial soil?
a. on hills b. in a desert c. in plains far away from rivers
d. in deltas formed by rivers
4. Which crop grows best in laterite soil?
a. rice b. jowar and bajra c. tea and coffee d. wheat
5. Which of these soils is naturally very rich in humus?
a. alluvial soil b. mountain soil c. black soil d. red soil

HOTS: Think and Answer

1. How do you think terrace farming prevents soil erosion?
2. It has been seen that earthworms come out of the soil when it rains. Why do they do this?

Enrichment Activities

- **Speak out:** 'The main cause of soil erosion is deforestation.' Do you agree? Have a discussion on this topic in class.
- **Write right:** For your summer vacation, you travelled by train from Kerala to Kashmir. Write a letter to your friend describing the different types of soil you saw as the train cut across the Southern Plateau, the Northern Plains and the Himalayas, on its way to Kashmir.
- **Art work:** Make a greeting card with soil. Collect different types of soil—sandy, black, red, etc. Draw a design on the card with a pencil. Spread glue inside the design. Press the different types of soil on the glue. You have made an 'Earth Card'!
- **Project work:** Find out the types of soils present in your state. Check what crops grow best in such soils. Are these crops grown in your state?
- **Map work:** On a map of India, mark and colour the places where the different types of soil are found.



Hands on!

Study soils by making a soil shake

You can understand more about the layers of different types of soil by preparing 'soil shakes'.

Step 1: Collect samples of soil from different places—a garden, a river or sea shore, a pond or an open field.

Step 2: Take several glass bottles and fill one fourth of each with a different soil sample.



Step 3: Add water to the samples till the bottles are almost full. Shake each bottle for a minute and then keep them still.

Step 4: Observe each 'shake'. Over the next few hours the soil will settle into layers. How many layers are there? Which layer is made of the biggest particles, and which has the smallest?

You will see that the larger particles, like small stones, will remain at the bottom while the smaller ones, like clay, will be closer to the top. Compare the layers of the different samples and what they are made of. Note down your observations in your notebook, and share them with your class.



Life Skills and Values

Learning through doing and observing

Ask your parent to help you fill an old tin or pot with soil. Wet the soil a little. Plant seeds of coriander, mustard or fenugreek in the pot. Keep the pot in a shaded place



outside. Water it everyday. What do you see after a week? Note down your observations in a notebook, and share them with your class.

Weblinks

<http://www.childrenoftheearth.org/soil-facts-for-kids/soil-facts-for-kids-intro.htm>

<http://www.wiziq.com/tutorial/27608-SOILS-OF-INDIA>

11

Forests of India

Mind opener

What comes to your mind when you think of forests? Do you think forests are useful to us? Think of different ways in which they are useful.

Looking Ahead

In this lesson you will learn about:

- *The importance of forests*
- *The types of forests and where they occur in India*
- *The conservation of forests and wildlife*

A forest is a large area of land, covered mainly with trees and other small plants. These trees are not planted by humans, but grow naturally in the region. They are, therefore, called **natural vegetation**.

The kind of trees or other plants that grow in a forest depend on the climate and soil of the place.

Importance of Forests

Forests are useful to us in many ways.

Like soil, forests are also an important natural resource. Some of the important products we get from forests are as follows.

- **Timber**, which is mainly used for building houses and making furniture
- **Firewood**, which is used as fuel
- **Wood pulp**, which is used to make paper
- **Rubber, gum, cork, and resins**, which are used to make paint
- **Medicines** from trees such as neem



Forests are useful to us in other ways too.

- Forests prevent soil erosion and control floods.
- The trees supply oxygen to the air.
- They increase rainfall by keeping the air cool, and releasing water vapour in the air.
- There are many communities and tribes who are almost completely dependent on forests for fuel, fodder, water, timber, minor forest products and leaf litter for manure preparations. Their religious and social life is woven around the forests in their areas.
- Forests provide shelter to wild animals.

Types of Forests

The area under forests in India has been decreasing as we cut down trees to claim land for farming. Less than one-fourth of land in India is presently covered

with forests. There are five main types of forests in India.

EVERGREEN FORESTS

Evergreen trees lose their leaves continuously and not all at once. New leaves replace the leaves that become old and fall. So trees in these forests remain green throughout the year. **Rosewood, ebony** and **mahogany** are some evergreen trees.

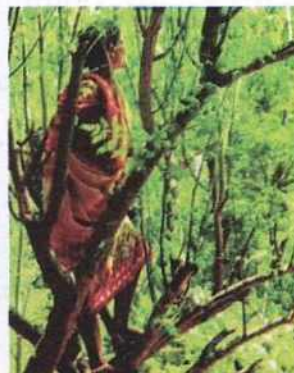
Evergreen forests are found in warm areas with plenty of rainfall. In India, they are found on the slopes of the Western Ghats, and in the north-eastern states of India such as Assam, Arunachal Pradesh, Meghalaya and Tripura.

DECIDUOUS FORESTS

Trees in these forests shed all their leaves for some time during the dry and hot summer season (in warmer climates) or winter (in cold climates), when there is scarcity of water. Examples of deciduous trees are **teak, sal** and **sheesham**.



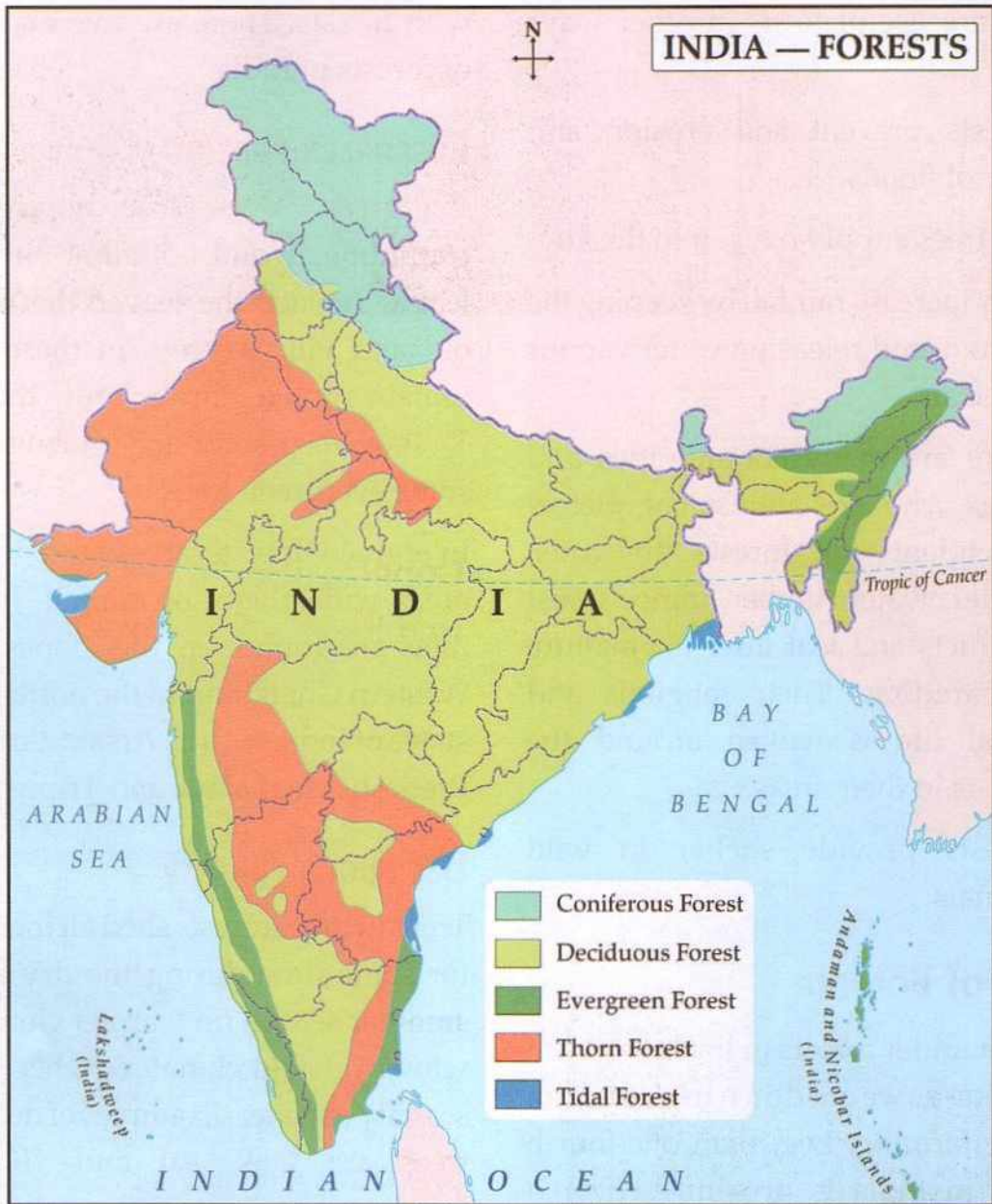
Leaves of the neem tree



A tribal woman in the forests of Odisha



Evergreen forest, Silent Valley, Kerala



The black wood of the mahogany tree

Deciduous forests are also called **monsoon forests**.

Deciduous forests are found in most areas of the Southern Plateau, and in

the foothills of the Himalayas.

THORN FORESTS

These forests are found in areas with very little rainfall. Short and thorny trees such as **keekar** and **babool**, and thorny shrubs grow in such forests. Thorn forests are mainly found in Rajasthan, and in some parts of the Deccan Plateau.



Sal trees in a deciduous forest,
Jharkhand



Keekar tree in a thorn forest



Coniferous forest

MOUNTAIN OR CONIFEROUS FORESTS

These forests are mostly covered with tall and cone-shaped trees, with needle-shaped leaves. Examples are **fir**, **pine**, **spruce**, **deodar** and **oak**. Coniferous forests are found in the Himalayan region.

MARSHY AND TIDAL FORESTS

These forests are found in the deltas of rivers such as Ganga, Mahanadi and Godavari. The marshy forest in the



Tidal forest, Sundarbans

Did you know?

Five thousand years ago forests covered over half the Earth's land. Today, they cover about one-third of the Earth's land. In India, forests cover about one-fifth of the land.

Ganga Delta is known as **Sundarbans**, after the **Sundari trees** that grow there.

Conservation of Forests and Wildlife

You have seen that deforestation leads to soil erosion. Landslides and floods are common in deforested areas. Deforestation also leads to reduction in the animal population. It is important for us to save our forests by preventing trees from being cut, and planting more trees.

In 1974, villagers in the hills of Uttarakhand started a novel method of preventing deforestation. They put their arms around trees, hugged them tightly and refused to move. This movement came to be known as the **Chipko Movement**. **Sundarlal Bahuguna** was one of the leaders of this movement.

The government encourages people to plant trees in various ways, such as celebrating **Vana Mahotsavas** in the beginning of the rainy season.



Chipko Movement: Villagers prevent a tree from being cut in Chamoli, Uttarakhand



Sunderlal Bahugana



Elephants in the Periyar Wildlife Sanctuary, Kerala

To prevent deforestation and conserve wildlife, the government has declared several areas as **Reserved Forests**. Cutting of trees and killing of wildlife in these forests is not permitted. The government has also identified some areas as Protected Areas. These include **Wildlife Sanctuaries** and **National Parks**. Some of them are as follows.

- Corbett National Park, Uttarakhand
- Kaziranga National Park, Assam
- Sundarbans Tiger Reserve, West Bengal
- Gir National Park, Gujarat
- Kanha National Park, Madhya Pradesh
- Bandipur National Park, Karnataka
- Periyar Wildlife Sanctuary, Kerala
- Chilika Lake Bird Sanctuary, Odisha

I now know

1. Forests are useful to us in many ways. They are an important natural resource.
2. Forests are an integral part of tribal life.
3. There are five different types of forests in India—evergreen, deciduous, thorn, coniferous, and tidal forests.
4. We must conserve our forests and wildlife.

Words to remember

timber: wood used in construction of houses and for making furniture

sanctuary: a safe place

Exercises

A. Fill in the blanks.

1. The _____ we get from trees is used to build houses.
2. _____ forests require a warm place with plenty of rainfall.
3. Places with sandy soil and little rainfall will have _____ forests.
4. Sunderlal Bahuguna led the _____ Movement to prevent cutting down of trees.

B. Match the tree with the forest in which it grows best.

- | | |
|-------------|----------------------|
| 1. Rosewood | a. Marshy forest |
| 2. Keekar | b. Evergreen forest |
| 3. Sundari | c. Coniferous forest |
| 4. Pine | d. Thorn forest |
| 5. Sheesham | e. Deciduous forest |

C. Answer the following questions.

1. What do you mean by the 'natural vegetation' of an area?
2. Name four useful products we get from forests.
3. Other than providing useful products, list three other ways in which forests are useful to us.
4. What is the difference between evergreen and deciduous forests?
5. What kind of forest covers a large part of Central and Northern India?
6. The Sariska Wildlife Sanctuary is in Rajasthan. What kind of forest and which trees can you expect to find there?
7. What was the Chipko Movement?
8. What are the advantages of having wildlife sanctuaries and national parks?

Multiple choice questions

1. Which of these do we not get from trees?
a. timber b. plastics c. rubber d. medicines
2. Teak and sal trees grow best in
a. evergreen forests b. deciduous forests c. thorn forests d. mountain forests
3. In which type of forest will you find trees with needle-like leaves?
a. evergreen forests b. deciduous forests c. tidal forest d. Mountain forests
4. In which of these areas will you find thorn forests?
a. mountain b. marsh land c. land with low rainfall d. land with heavy rainfall
5. What kind of forest will you find in the Sunderbans?
a. coniferous forest b. tidal forest c. deciduous forest d. thorn forest

HOTS: Think and Answer

1. Name one product made from trees that people use daily, and waste a lot. Preventing its wastage can save a lot of trees every year.
2. Trees have to be cut down regularly from forests because we need wood for many purposes. How then can we maintain our forests? Suggest one method.

Enrichment Activities

- **Speak out:** Sometimes trees in a forest catch fire. Forest fires can be very dangerous for plants and animals in the forest. But they also have some benefits. Find out how forest fires are caused, their dangers and benefits. Speak about your findings in class.
- **Write right:** Imagine that you are a member of the Chipko Movement. Write an article for a newspaper, explaining about the movement and why it was started.
- **Art work:** Collect different types of leaves. Paint one side of the leaf with water colours. Press the leaf onto white paper. You will find that it makes a beautiful design. Paste the white paper on to a coloured chart paper to make a picture frame or a greeting card.
- **Project work:** Do a project on the different types of forests in India, and the different products we get from forests. For each product mention from which part of the tree it is obtained. Collect and paste pictures from magazines and the Internet. You can also make a website with the information collected.



Hands on!

- Make a poster to educate people about the need for saving trees and simple methods by which each one of us can contribute to this.
- Make a forest collage. To find out more, go to the site:
http://www.firstpalette.com/Craft_themes/Nature/forestcollage/forestcollage.html

Life Skills and Values

Saving our forests

List the measures you will take to save forests. How many of these do you follow in your daily life? Discuss with your teachers and classmates.

12

Our Water Wealth

Mind opener

There is so much of water in the oceans, seas, rivers and lakes. But, we still have a shortage of drinking water in many of our cities and villages. What are the reasons for this? Think and answer.

Looking Ahead

In this lesson you will learn about:

- *The uses of water and its sources*
- *Why there is a shortage of water*
- *The different ways in which water is provided to people*

All plants and animals need water. There can be no life without water. We need water to drink. We also need water to bathe, wash clothes and cook our food. Farmers need water to grow crops.



The different uses of water

Sources of water

About three-fourths of the Earth's surface is covered with water. It is present in oceans, seas, rivers, lakes and ponds.

There are many rivers in our country. Water is also present under the Earth's surface as groundwater.

Did you know?

More fresh water is stored under the ground than on the Earth's surface.

Shortage of drinking water

But we still have a shortage of water in our cities and villages. This is because of the following reasons.

- The water in seas and oceans is salty. It cannot be used for drinking, or by farmers for watering their crops.

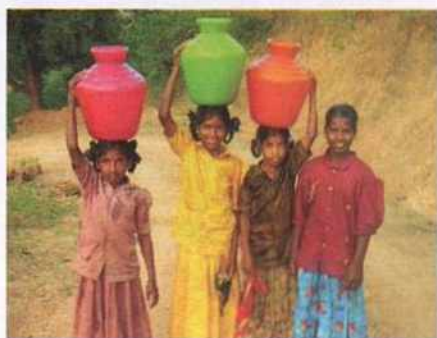
- Our main source of water is rain. However, it rains only for two or three months in India. In fact, in several places, it hardly rains at all.
- Rivers are full of water during the monsoon months. There are often floods during these months. But, most of this water simply flows into the sea. During the hot summer months many of our rivers dry up.

Providing Water

Water resources are unevenly distributed on the surface of the Earth. Humans access this water in different ways. People who live near rivers, take water from the rivers. Some people have to walk for miles to get a pot of drinking water. Some draw it from wells. Some pump out the water from the well.

RIVER WATER

In places where there are rivers, the river water is cleaned and supplied as drinking water. It is also used for irrigation.



Children carrying water in pots



Women drawing water from a well



A man pumping water from a hand pump

WELLS AND TUBE WELLS

In places where sufficient groundwater is available, wells are dug. Tube wells are wells in which pumps are installed. The pumps run on electricity or diesel. They are commonly used in farms to provide water for irrigation. Hand pumps are worked by hand to draw water from deep inside the Earth.



Man using water from a tube well to irrigate his field

IRRIGATION CANALS

Irrigation canals are dug to take water from rivers to regions where there is shortage of water. You have read about the Indira Gandhi Canal in Rajasthan. It takes water from the Satluj river to the north-west areas of Rajasthan.



An irrigation canal leading out of the Nagarjuna Sagar Dam on the Krishna River



Nagarjuna Sagar Dam on the Krishna River, Andhra Pradesh and Telangana



Women taking water from a tank, Rajasthan

DAMS

Dams are built on rivers to hold back the water in a **reservoir** behind the dam. The reservoir fills up during the monsoon months. This controls floods in the rivers. This water is used for irrigation during the time when there is shortage of water.

The force of the water, as it flows down from the reservoir, is used to generate electricity. Electricity generated from the force of flowing water is called **hydroelectricity**. Since dams are useful in so many different ways, they are called **multipurpose projects**.

Some major dams in our country are as follows.

- the **Bhakra Dam** built over the Satluj River in Punjab
- the **Nagarjuna Sagar Dam** over the Krishna River in Telangana and Andhra Pradesh
- the **Farakka Barrage** over the Ganga River in West Bengal

- the **Hirakud Dam** over the Mahanadi River in Odisha

However, big dams are being discouraged all over the world now. Environmentalists claim that they cause environmental problems. They displace a large number of people living in the reservoir area of the dam. They also destroy animal and plant life in the area. Some scientists feel that large reservoirs can cause earthquakes in some areas.

TANKS AND PONDS

In places where it is difficult to dig wells, people often use **tanks** and **ponds** to collect rainwater.

RAINWATER HARVESTING

Rainwater harvesting is a good method of saving rainwater from flowing away. Rainwater falling on the roofs of buildings and the ground is allowed to flow into a deep hole dug in the ground. It thus adds to the groundwater. Sometimes, the rainwater is also collected in tanks and stored for later use.

I now know

1. Much of the water on the Earth cannot be used for drinking or irrigation.
2. Wells, tube wells, irrigation canals, dams, tanks and ponds are used to provide water for irrigation and other purposes.
3. Large dams are being discouraged these days as they cause environmental problems and displace local people.

Words to remember

tube wells: wells in which electric pumps are installed to draw water

dam: a structure built across a river to hold back its water in a reservoir

hydroelectricity: electricity generated by force of flowing water

Exercises

A. Fill in the blanks.

1. _____ wells use pumps run by electricity or diesel.
2. A structure made to hold back the water of a river is called a _____.
3. Electricity made using the force of flowing water is called _____.
4. Irrigation _____ take river water to areas of water shortage.

B. Answer the following questions.

1. Why can sea water not be used for drinking or irrigation?
2. What are the kinds of problems that occur in India because of rains occurring only in the monsoon months?
3. Why are dams called multipurpose projects?
4. What is hydroelectricity?
5. Several environmentalists are opposed to large dams. Why?
6. How are irrigation canals useful?
7. What is rainwater harvesting?

Multiple choice questions

1. We need water for
a. drinking b. washing c. cooking d. all of these
2. Which of these are big dams built across major rivers in India?
a. Bhakra b. Nagarjuna Sagar c. Hirakud d. all of these
3. Irrigation canals mostly take water from which source?
a. sea b. wells c. rain d. rivers

4. Which of these best describes rainwater harvesting?
- a. harvesting crops during the rainy season b. storing rainwater for later use
c. using rainwater to generate electricity d. using rainwater to fill reservoirs built on rivers
5. Dams built on rivers are useful in
- a. preventing floods b. irrigation c. producing electricity d. all of these

HOTS: Think and Answer

1. We flush the toilet with clean drinking water. Do you think this is a good idea? Can you suggest any way of saving this water?
2. The Tehri Dam on the Bhagirathi River in the Himalayas is the highest dam in India. It is built in an area where earthquakes can occur. What problems could arise for the dam and the people living around it because of its location?

Enrichment Activities

- **Speak out:** 'Multipurpose dams do more harm than good.' Have a debate on this topic in class. Some should speak for the topic and some should speak against it.
- **Art work:** Draw and paint a poster on the theme 'Save water!'.
- **Write right:** Find out more about rainwater harvesting and write a paragraph about it.
- **Project work:** A large dam has been built on the Narmada River. The Narmada Bachao Andolan, however, fought to stop its construction. Find out why it was opposed to the construction of the dam. Present your findings in the form of a report or a website.

Life Skills and Values

Observation, developing analytical skills

1. Paints that are used to colour the outsides of buildings are usually oil-based. Why do you think this is so? Why shouldn't we use water-based paints?
2. Find out three things in your kitchen that dissolve in water.

Weblinks

<http://www.wateruseitwisely.com/kids/>

<http://www.pitara.com/discover/5wh/online.asp?story=162> (water harvesting)

13

Our Mineral Wealth

Mind opener

Look around you. Everything around you is made of different materials. How many different types of materials can you name? From where do you get these materials?

Looking Ahead

In this lesson you will learn about:

- Minerals and mining
- Metals and non-metals and their distribution in India
- The need to conserve our mineral wealth

Things around you are made up of different types of materials. We get many of these materials from **rocks**. Rocks are made up of different types of **minerals**. Minerals are naturally occurring substances, such as iron ore, bauxite and mica, that are obtained by **mining** or **drilling**. Digging out minerals from the surface of the Earth is called mining. The holes dug in the Earth to take out minerals are called **mines**. Some mines are very deep. Others are near or at the surface.

Metals and Non-metals

The materials we get from rocks are of two types—**metals** and **non-metals**.

Things such as cooking utensils, pins, nails, bodies of cars and aeroplanes are made up of hard shining materials. They are called **metals**. Iron, copper, gold and aluminium are metals. Minerals from which metals are obtained are called **ores**.

Things such as limestone, mica, gypsum, salt and granite are not hard and shiny like metals. They are called **non-metals**.



The largest open pit mine for copper in the world, Chile, South America



A miner inside a coal mine



A rock with the mineral cinnabar, the common ore of mercury

Iron is one of the most useful metals. It is used to make utensils, machines, tools, bridges, buildings, railway engines and coaches, and many other things.

In India, iron ore is found in large quantities in Bihar, Jharkhand, Odisha, Madhya Pradesh, Chhattisgarh, Goa, Karnataka and Andhra Pradesh.

Since pure iron is rather soft, it is usually used in the form of **steel**. Iron ore is converted into iron and steel in iron and steel plants. Some of these are located in Jamshedpur and Bokaro in Jharkhand, Bhilai in Chhattisgarh, and Durgapur in West Bengal.

Copper was the first metal used by humans to make tools and utensils. Today, it is mainly used by the electrical industry, as electricity flows easily through copper. Electric wires in our homes are made of copper. Copper is also used to make utensils and pipes.

In India, copper ore is mainly found in Rajasthan and Jharkhand.

Aluminium is a light metal. It also does not rust, unlike iron, which is heavy and

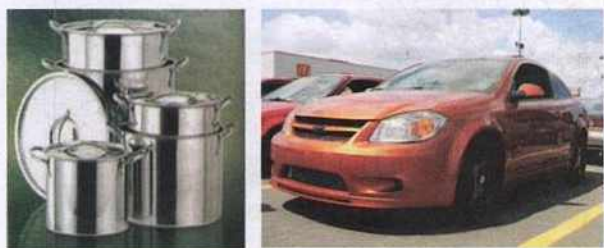
rusts when exposed to air. It is mainly used to make bodies of aircrafts and cars. It is also used to make utensils and electric wires. Aluminium ore is found in many states of India (see map). **Gold** is used to make ornaments. It is found in Kolar in Karnataka. **Manganese, silver, zinc** and **nickel**, are some other metals found in India.

Mineral fuels

Mineral fuels, such as coal, petroleum, shale oil and natural gas, are important sources of heat and energy. **Coal** is formed from the remains of plants that died millions of years ago. Coal is classified as a **non-renewable** energy source because it takes millions of years to form.

It is an important fuel, and provides us with energy. It is used to generate electricity, to run factories and as a domestic fuel. India has large reserves of coal. It is mainly found in Jharkhand, Madhya Pradesh, Telangana, Chhattisgarh and West Bengal.

Crude oil or **petroleum** is a fossil fuel formed over millions of years from the dead remains of sea animals. Like coal, it is an important source of energy. We get fuels such as petrol, diesel, kerosene and cooking gas, from petroleum. We also get a number of other things from petroleum, such as lubricants, plastics and cosmetics.



Things made of metals



process is called **refining of petroleum**. In India, there are petroleum refineries in Mumbai, Cochin, Mathura, Barauni and Haldia. Two new refineries have come up in Vadinar and Jamnagar in Gujarat.

Natural gas is found along with petroleum in some oil wells. It is mainly used as a fuel.

Conservation of our Mineral Wealth

The mineral resources of the Earth are limited. Mineral fuels such as coal, petroleum and natural gas take millions of years

Petroleum is found deep below the surface of the Earth and under the floor of the sea. Deep wells, called **oil wells**, are drilled to pump out the petroleum. In India, it is found mainly in Assam, Gujarat and under the sea in Bombay High, near Mumbai. Recently, large deposits of petroleum have been found in Rajasthan and in the Krishna-Godavari basin in the Bay of Bengal. Many more areas are being explored for petroleum.

Petroleum is separated into different products in **petroleum refineries**. This

to form. We are using these resources too fast. If we continue to do so, the



Drilling for oil in the sea

petroleum deposits in the world will finish in less than 100 years. Coal deposits will probably last us for about 250 years.

Resources that are gone forever, once used, are known as **exhaustible resources**. Our mineral resources are

exhaustible. Therefore, there is need today to conserve them. We should use them carefully and not waste them.

Also, there is need to use more and more of the **inexhaustible sources** of energy such as solar, wind and water energy.

I now know

1. Minerals are dug out from the Earth. They give us useful metals and non-metals.
2. Ores are rocks rich in minerals that give metals such as iron, copper or aluminium.
3. Petroleum, coal and natural gas are mineral fuels.
4. There are large deposits of most minerals and mineral fuels in India.
5. Mineral deposits are exhaustible and should be conserved.

Words to remember

mineral: a naturally occurring substance obtained by mining or drilling

mine: a hole dug in the Earth to take out minerals

metal: a hard shiny material used to make many useful things

petroleum: oil found under the surface of the Earth

exhaustible resource: a natural resource that, once used, is not available again

inexhaustible resource: a natural resource that is never completely used up

Exercises

A. Fill in the blanks.

1. Rocks are made up of _____.
2. _____ means digging out minerals from the Earth.
3. Rocks rich in minerals containing metals are known as _____.
4. The solid mineral fuel formed from dead remains of plants is _____.
5. Petroleum is _____ to obtain different products.

B. Fill in the missing letters to find one important mineral found in each state.

1. Bihar: I _ _ _ O _ _
2. Jharkhand: C _ _ _
3. Chhattisgarh: C _ P _ _ _
4. Madhya Pradesh: C _ _ _ _
5. Goa: I _ _ _ O _ _
6. Assam: P _ _ _ _ _ _ _
7. Karnataka: G _ _ _ _
8. Rajasthan: C _ _ _ _ _

C. Answer the following questions.

1. What are ores?
2. What are the many uses of iron? In what way is aluminium better than iron?
3. Name two places each in India where the following are located:
a. iron and steel plants b. petroleum refineries
4. Where is copper mainly found in India? In which industry is copper mainly used?
5. Name the places where the following are mainly found in India. Give their important uses. a. Coal; b. Petroleum.
6. Why is it important to conserve our mineral resources?

Multiple choice questions

1. Which of these is not a metal?
a. coal b. iron c. gold d. silver
2. Which metal is used in constructing buildings and bridges?
a. gold b. copper c. aluminium d. manganese
3. Which of these is not obtained from petroleum?
a. lubricants b. kerosene c. coal d. plastics
4. Which of these is an exhaustible source of energy?
a. sun b. wind c. coal d. running water
5. Which of these is found in Bombay High?
a. coal b. petroleum c. gold d. iron

HOTS: Think and Answer

1. Electricity can flow more easily through silver than through copper. Then why is copper, and not silver, used to make electric wires?
2. Why do you think that aluminium, and not iron, is used to make bodies of airplanes?

Enrichment Activities

- **Project work:** Working in groups, make a rock collection and display it in class.
- **Observation skills:** Examine the rocks in the rock collection under a hand lens. You will see that they are made up of small grains of different colours. These are minerals. Note the colours of the grains in each type of rock.
- **Find out:** Where has petroleum been found in India over the past 2-3 years? Which are the minerals found in your state?

- **Art Work: Preparing paint from rocks**

(Note: This activity should be done under adult supervision)

- You will need soft rocks that can crumble, charcoal, pieces of soil and clay, cornstarch, water, some big rocks, bowl, paintbrush
- Place the soft rocks, charcoal, pieces of soil and clay onto a big rock. Use another rock to crush them into a fine powder.
- Mix the powder in a bowl with a little cornstarch and water to make a paste-like mixture.
- Your paint is ready. Dip a paintbrush in it and use it to paint. Try mixing other things such as grass, flowers and leaves to the mixture to get different colours.



Hands on!

Make a metal cleaner with vinegar

You might have noticed how your stainless steel bathroom fittings start looking dirty and smudged over time. This happens because of the deposition of salt on it. You can make a stainless steel cleaner with ordinary vinegar.

Take half a cup of white vinegar and mix it with 1 cup of warm water in a bottle. Dip a cotton cloth in the mixture and apply the vinegar on the tap. Apply a little extra at places where there are smudges. Allow a few minutes for the vinegar to work on the surface. Then wipe off the vinegar with a dry cloth and wash. Is your tap shining once again?



Life Skills and Values

Conserving minerals

You have already learnt about the 3 Rs of conservation—Reduce, Reuse and Recycle. Which of these people are conserving resources? Explain.

- a. Mr Shah has used the same car for more than 20 years. If the car develops a problem, he gets it repaired.
- b. Anita writes only on one side of a page.
- c. Mrs Jose collects the water with which she washes her vegetables and rice. She uses that to water her plants.
- d. Reena buys a new dress every time she goes shopping, though she never wears many of these dresses.

Weblinks

http://homeschooling.gomilpitas.com/explore/rocks_minerals_gems.htm

<http://www.rocksandminerals4u.com/>

14

Agriculture and Industries

Mind opener

Do you think a country that has no industries, and is only dependant on agriculture, can progress and be a strong nation?

Looking Ahead

In this lesson you will learn about:

- *Agriculture in India and the major crops grown*
- *Cottage, small-scale and large-scale industries*
- *The important large-scale industries of India*

You have seen that our country has vast natural resources. We use these natural resources to meet our various needs. For example, we use our soil and water resources in agriculture to produce food. Our forest and mineral resources are used in industries to produce various other goods. Development of agriculture and industry is essential for the progress of our country.

Agriculture

Nearly two-thirds of the working population of India earns its livelihood from agriculture. It is, therefore, very important for us. You have already seen that India has several different soil types and climatic conditions. That is why we produce a wide variety of agricultural products such as rice, wheat, millets, pulses, cotton, jute, tea, coffee, sugarcane, spices and oilseeds.



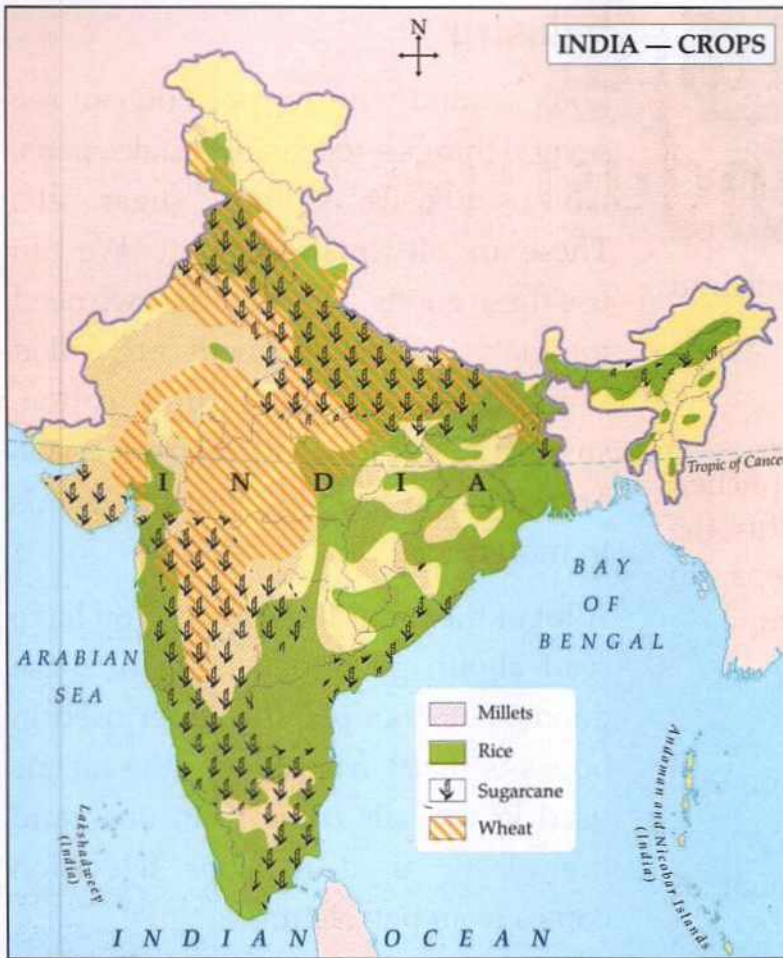
A man ploughing his field

RICE

Rice is the most important food crop of India. It is the staple food of the people of southern and eastern India. Rice grows best in a hot and wet climate. River basins and deltas are ideal for growing rice. It is mainly grown in West Bengal, Andhra Pradesh, Tamil Nadu, Punjab, Haryana, Bihar, Uttar Pradesh, Chhattisgarh, Assam, Odisha, Kerala, Telangana and Karnataka.



Rice ready for harvest



Wheat

and linseed. They are grown in large quantities in several states of India.

Sugar is made from **sugarcane**. India is one of the largest producers of sugarcane in the world. It is mainly grown in Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Bihar and Gujarat.

Cotton is used for making cloth. It is mainly grown in Gujarat, Maharashtra,

Telangana, Haryana and Karnataka.

Jute is used for making bags and carpets. It is mainly grown in West Bengal and Assam.

India is the second largest producer of **tea** in the world. Tea grows best in hilly areas with abundant rainfall. It is mainly grown in the hilly regions of Assam, West Bengal, Tamil Nadu and Kerala.

Coffee is mainly grown in Karnataka, Kerala and Tamil Nadu.

Spices include cloves, cardamom, pepper, chillies, coriander seeds, turmeric and ginger.

WHEAT

Wheat is the staple food of the people of northern India. It is mainly grown in Punjab, Haryana, Uttar Pradesh and Madhya Pradesh.

MILLETS

Millets include jowar, bajra and ragi. They are grown in Rajasthan, Gujarat, Uttar Pradesh, Maharashtra, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Telangana and Karnataka.

OTHER CROPS

Pulses include moong, masur, urad, etc.

Oilseeds include mustard, groundnut

Did you know?

India grows over 50 different varieties of spices. From ancient times, India has been the top producer and exporter of spices in the world.

These are mainly grown in Kerala and Karnataka.

The Green Revolution

The Green Revolution was launched in India in the 1960s. Under this the government took several steps to increase agricultural output in India.

These include:

- Using better quality seeds
- Increasing area under irrigation
- Using manures and fertilisers
- Using modern machinery such as tractors and harvesters

As a result of this, our agricultural production has gone up several times.

Today we are not only self-sufficient in food production, but we also export agricultural products. However, the excessive use of chemical fertilisers has caused great damage to the soil in some parts of India.



Cottage industries



Making rope out of coir—a small-scale industry

Industry

Look around your house. You can see several things—television, books, pens, tables, utensils, clothes, sugar, etc. These are all **finished goods**. We can use these goods. The materials we need for making finished goods are called **raw materials**. Wood, ores, cotton, sugarcane, etc., are all raw materials. They are converted into finished goods in **industries**.

A lot of the natural resources you have read about, go into making of these goods. For example, the paper used in books is made from wood; the metals used in utensils come from ores, and the plastic used in your television comes from petroleum.

DIFFERENT SCALES OF INDUSTRY

There are small industries and large industries. A small industry may have fewer people working in it. Large industries employ thousands of people. Based on the number of people working in it, industries in India are classified



as **cottage industries**, **small-scale industries** and **large-scale industries**.

Cottage industries are those that employ very few people. They work with simple tools, usually out of homes or small workshops. They normally use locally available raw materials. Handicrafts, pottery, hand-woven and embroidered cloth and baskets are normally made in cottage industries. Some cottage industries also make footwear, woollen clothing and toys.

Small-scale industries use small machines and employ more people. Furniture, utensils, some kinds of textiles, plastic goods and electrical items are some goods made in small-scale industries.

In India, which has a very large population, cottage industries and small-scale industries are particularly useful for employing a large number of people. Such industries can be set up easily in rural areas to prevent the population from moving to cities in search of work.

Large-scale industries employ thousands of people, use large machines and produce goods in large quantities. Iron and steel, textiles, telecom, power generation, and ship-building, are examples of large-scale industries.

It is very expensive to build and start a large-scale industry. However, modern methods of production can be more easily used in large-scale industries. Therefore, large quantities of goods can be produced faster and more cheaply. That is why large-scale industries are being encouraged in India. Some of the important large-scale industries in India are as follows.

- **Steel plants** in Visakhapatnam, Bokaro, Rourkela, Jamshedpur, Durgapur, and Bhilai
- **Textile mills** in Mumbai, Ahmedabad, Surat, Kanpur, and Kolkata
- **Heavy electrical goods** in Bhopal, Ranchi, etc.
- **Automobile factories** in Gurgaon, Pune, Chennai, etc.

I now know

1. Agriculture is the main occupation of the people of our country.
2. A wide variety of crops are grown in India. Rice is our most important food crop.
3. Industry converts raw materials into finished goods.
4. Industries can be classified as cottage, small-scale and large-scale.
6. Cottage and small-scale industries are useful in creating employment opportunities in rural areas.
7. Large-scale industries can produce a large volume of goods, cheaply.



The Tata Iron and Steel plant in Jamshedpur

- **Ship building** in Visakhapatnam, Kochi and Mumbai
- **Aircraft manufacturing** in Bengaluru and Kanpur
- **Oil refineries** in Jamnagar, Kochi, Mangalore, Paradip, Mumbai and Numaligarh

There are numerous other industries in India such as those that manufacture cement, paper, fertilisers, electronic goods, plastics, computers, etc. In the past few years, the **telecom, computer software** and the **Business Process Outsourcing (BPO)** industries have grown tremendously. India is now regarded as a leader in the field of computer software. Bengaluru, Chennai and Hyderabad are major software producing centres.

Words to remember

staple: the most commonly or regularly eaten food in a country or community

oilseeds: seeds rich in oil

raw materials: natural materials needed to make finished goods

industry: economic activity concerned with the use of raw materials to make goods in factories

Exercises

A. Fill in the blanks.

1. The most popular staple food of India is _____.
2. Moong and urad are _____.
3. In India, sugar is made from _____.
4. _____ grows best in hilly areas with heavy rainfall.
5. An industry converts _____ materials into finished goods.
6. Handicrafts are generally made in _____ industries.

B. Name two main crops grown in each of the following states.

1. Punjab
2. Assam
3. Maharashtra
4. Tamil Nadu

C. Answer the following questions.

1. Why is development of agriculture and industry important for our country?
2. What kind of climate is best for growing (a) rice, (b) tea?
3. What steps were taken under the Green Revolution to increase food production?
4. What is the difference between small-scale and large-scale industries?
5. Why is it important to have cottage and small-scale industries?
6. Why are large-scale industries encouraged even though they are very expensive to set up?

Multiple choice questions

1. In India the production of which of these is the maximum?
a. wheat b. rice c. oilseeds d. spices
2. Which of these is not an oilseed?
a. groundnut b. tea c. mustard d. linseed
3. Which of these is an advantage for large-scale industry over small-scale industry?
a. it can be set up at low cost b. it does not need heavy machinery
c. cheaper goods can be made d. it can be quickly set up
4. Which industry, started only a few years ago, has grown very rapidly in India?
a. steel b. computer software c. textile d. oil refinery

HOTS: Think and Answer

Can a car be made in a small-scale industry? Give reasons.

Enrichment Activities

- **Speak out:** Have a debate in class on the topic 'A country that is totally dependent on agriculture cannot progress'.
- **Write right:** Write an essay describing the India of your dreams. (For example, you dream of an India where there is no hunger, and even the poorest people get food to eat.)
- **Art work:** Create a picture using different grains and pulses.
- **Project work:** Ask your teacher to arrange field trips to a farm, a cottage industry, a small-scale industry and a large-scale industry. Work in groups. Each group should write a report on the farm or one of the industries you visited.

Life Skills and Values

Learning to create

Each of you should make a craft item. Take the help of your craft teacher. You can make masks out of papier mache, pen holders out of soft-drink cans, wall hangings, colourfully painted pots out of clay, or even posters or collages. Display them in class. Invite your parents and friends to come to the mela. Money collected from the sale can be used to buy something for the school, or can be given to a social service organisation in the city.

Weblinks

http://www.agday.org/education/fun_facts.php
<http://www.neok12.com/Agriculture.htm>
<http://encyclopedia.kids.net.au/page/ag/Agriculture>
<http://www.neok12.com/Industry.htm>

15

Means of Transport

Mind opener

Why do people travel from one place to another? What makes a person choose a particular means of transport? For example, when would you choose to walk to a place, or take a bus, or take a plane or a train? Give reasons for your answer.

Looking Ahead

In this lesson you will learn about:

- *The four modes of transport available to us*
- *Indian roads and railways*
- *Air transport in India*
- *Waterways in India*

Nowadays, there are several means of transport available to us. If we have to travel by road from one place to another, we can choose from bicycles, cars, buses, bullock carts, etc., depending on the distance to be covered, time and money. We can also take a train to travel from one place to another. If we have to travel on water we can go by boats or ships. We can travel by air, in aeroplanes and helicopters.

The four modes of travel available to us are **roadways**, **railways**, **waterways** and **airways**.



The different modes of transport

ROADS

India has a large network of roads. The state capitals and important cities are connected to each other by **national highways**. Other highways connect smaller cities, towns and even villages. Roads also help us to move around within cities and towns. Many villages, however, still have kuchcha roads. A **kuchcha road** is a dirt track made of mud, while a **pukka road** is made of tar and gravel.

Roads are the most convenient mode of transport to move people and goods. They can be built anywhere, even on high mountains. Roads enable people and goods to be taken right up to their doorsteps. Goods can be taken right up to a market or factory.

The Indian government is taking steps to improve the highways in our country, using modern methods of construction.

The **Golden Quadrilateral** is the largest express highway project launched in India. It links Delhi, Mumbai, Kolkata and Chennai.

Good roads are necessary for fast movement of goods and people.

They are important for setting up any industry. Good roads are necessary for the development of a country.

RAILWAYS

The first railway line in India was built in 1853, between Mumbai and Thane. Since then, the railway network in India has expanded to become the fourth largest in the world, and one of the largest in Asia.

It connects almost all cities and towns. Today trains carry millions of people, and millions of tons of goods every day throughout the country.

Trains are cheaper, more comfortable and faster than road transport. Some superfast trains, such as the Vande Bharat Express, the Gatiman Express and the Shatabdi Express, travel at over 100 kilometres an hour.

In Mumbai and Kolkata, suburban trains are an important means of transport for people going to work. In many of our cities, like Kolkata, Delhi and Chennai, the Metro Rail has become a fast and convenient way of local travel.



A kuchcha road



A national highway



Indian Railways

The Metro Rail in Delhi moves partly on underground tracks and partly on elevated ones.



A busy railway station



The elevated portion of the Delhi Metro

AIRWAYS

Aeroplanes are the fastest means of transport, and also the most expensive. The journey by air from New Delhi to Chennai takes only two and a half hours. However, it takes more than 36 hours by train. A large number of cities in India are connected by air.



Aeroplanes waiting in queue to take off at Chhatrapati Shivaji International Airport, Mumbai

Did you know?

The world's largest aircraft is the Airbus A380. It is a double-deck aircraft and normally carries 525 passengers. However, up to 853 passengers can travel on it. It is fitted with four powerful engines.



An Airbus A380

Aeroplanes can fly over any territory—over high mountains or vast deserts. They are used to transport mail, perishable food items such as fresh fruits and vegetables, and other goods quickly to far-off places.

Air transport is very useful during times of natural calamities such as floods, earthquakes and famine, or when there is a war. **Helicopters** are very useful in these situations. They can land where aeroplanes cannot. They are used to transport food, medicines and other items in these situations.



A helicopter



A steamer ferrying people in the backwaters of Kerala



A ship carrying containers

Air India is India's national air carrier and operates between India and other countries. It also connects places within the country. Now, with private airlines also operating flights, the passenger fares have come down substantially, and more and more people have started travelling by air.

WATERWAYS

India has many rivers, and many of them are navigable in parts. A water body is navigable if it is possible for a boat or a ship to sail

on it. Boats and steamers are used as means of transport on the rivers. Large ships take people and goods from one **port** to another by sea. Mumbai is the largest seaport in India. You have read about other ports on the east and west coasts of India.

Water transport is the cheapest means of transport. It is also very convenient for bulky goods such as coal, iron ore, timber, oil, etc. Large quantities of goods are exported to other countries from our ports.

I now know

1. The four modes of transport are roadways, railways, waterways and airways.
2. Roads are the most convenient mode of transport. India has a large network of roads.
3. India has one of the world's largest railway networks.
4. Airways are the fastest, but also the most expensive mode of transport.
5. Waterways are the cheapest mode of transport, especially useful for transporting bulky goods.

Words to remember

highway: a wide road built for quick travel between towns and cities

metro: a railway system for travel within a city; it may be underground or elevated

Exercises

A. Fill in the blanks.

1. National _____ connect important cities in India.
2. The underground railway in Kolkata and Delhi is called _____.
3. _____ are flying machines that can land where aeroplanes cannot.
4. _____ is the largest seaport in India.

B. Write T for true and F for false sentences.

1. India has the largest railway network in the world.
2. The coming of private airlines has made air travel in India more expensive.
3. Transporting goods by ships is cheaper than by train.
4. Water transport is very useful for taking food and medicines to affected people during floods.

C. Answer the following questions.

1. What are the four modes of transport?
2. Why is the government giving special attention to improving highways?
3. Why is road transport considered to be the most convenient?
4. When and where was the first railway line built in India?
5. What is the Metro Rail?
6. What are the advantages of air travel?
7. Why are helicopters used in times of calamities to transport food?
8. What are the advantages of water transport?

Multiple choice questions

1. Which of these is a mode of travel?
a. railways b. waterways c. airways d. all of these
2. Which of these is the cheapest means of transporting goods?
a. train b. aeroplane c. ship d. bus
3. Which of these is the fastest mode of transport?
a. train b. aeroplane c. ship d. bus
4. The best mode of transport for sending relief supplies to flood affected areas is
a. train b. bus c. aeroplane d. helicopter
5. The main reason for the increase in number of people travelling by air in India in the past few years is
a. people like to travel fast b. air travel has become cheaper
c. more aeroplanes are being built d. air travel is safe

HOTS: Think and Answer

1. Why is the Metro built underground or elevated, though this is more expensive than building it at ground level?
2. Why do you think water transport is the cheapest mode of transport?
3. Imagine you are the owner of a rose farm and you sell your roses to other countries. Which means of transport will you use to transport your roses? Why?

Enrichment Activities

- **Puzzle time:** Given below are some jumbled words. They are all names of means of transport. Write the correct spelling.
cphtoeierl aitrn maserte laropenae clyiceb
- **Write right /Speak out:** Prepare a play or skit on road safety. With the help of your teacher or parent, write out the script of the play. Form groups and act out the play. (Hint: Accidents can be caused by people talking on their mobiles while driving, ignoring the red light at a signal, not wearing helmets while driving two-wheelers or crossing the road without checking for traffic.)
- **Art work:** Make a poster or collage on the different means of transport.
- **Find out:** Search for a map of the Golden Quadrilateral Highway Project. Find out its present status—is it complete or are some portions still to be completed? Which is the nearest airport from where you live? Find out which cities you can travel to from there by air.

- **Presentation/Website:** There are many road signs put up on the roads for our safety. Find out about at least 10 of these road signs and make a presentation (or website) on them, explaining what each means and why it is useful for drivers.



Hands on!

Make a model aeroplane

You will need a large packing box (large enough for you to sit in), silver paper, glue, cardboard sheet for the wings and the propeller.

- Decorate the cardboard box with silver paper to make it look like an aeroplane.
- Cut the cardboard sheets in the shape of wings. Cut slots on the sides of the cardboard box and fit the wings in the slots.
- Cut holes at the bottom of the box for your feet. Fix the propeller to the front of the box with tape. Cut small openings over the wings for your fingers.
- Now put your feet through the holes, put your hand through the holes over the wings, pick up the plane and run. Are you flying like a plane?



Life Skills and Values

Safety while travelling by train

- Always hold the hand of an elder on a crowded railway platform.
- Do not talk to strangers or accept anything to eat from them.
- Never cross the rails or play near them, and never throw anything on the railway tracks.
- Be very careful while boarding a train as there is a gap between the platform and the train.
- Do not stand at the doors of the train or lean out of it while the train is moving.

16

Sending Messages

Mind opener

Think and answer! Suppose the telephone had never been invented. How would this have affected our lives?

Looking Ahead

In this lesson you will learn about:

- The meaning of communication
- The different means of personal communication—postal system, e-mail, telephones, cell phones, smartphones
- The different means of mass communication—newspapers, radio, television

When we share our thoughts, ideas and feelings or exchange information with people we say we are **communicating**. Speech is the fastest method of communication between people. However, when we have to share our feelings or exchange information with people who are not physically present with us, we send **messages**. There are several ways of sending messages. We can send a letter or telegram to a friend, talk to her over the phone, or send an e-mail. Long ago, people sent messages through carrier pigeons or had to send someone with the message. However, we now have more reliable and faster methods of sending messages. Let us read about a few of them.

The Postal System

The postal system was established for sending messages. There are thousands of post offices all over India. We can send letters through different post offices. We can also send **money orders** and **parcels**.

Did you know?

People who cannot hear and speak communicate with others using the sign language.



Different means of personal and mass communication

Post offices also offer **courier services**, known as **Speedpost**. Letters sent through Speedpost take only one or two days to reach any city in India. Courier services are also offered by a number of private companies in India.

E-mail

A very convenient and fast method of sending messages today is **electronic mail** or **e-mail**. E-mails are sent through computers connected to the Internet. These days, e-mails can also be sent through mobile phones.

Telephones

The telephone is one of the fastest and most convenient means of sending spoken messages. Almost every city and town in India is now connected by telephone.

We can instantly talk to anyone anywhere in India or in the world through the telephone. To talk to someone in another

Did you know?

Another method of sending messages is through social networking sites such as Facebook or WhatsApp. A message can be sent either to a single person or to several friends.

city in India we use the **STD** (Subscriber Trunk Dialling) facility. To talk to someone in another country, the **ISD** (International Subscriber Dialling) facility is used.

Cell phones

Mobile or **cellular phones** are phones that can be carried along with you. They are very convenient. We



A woman using a cell phone

can also send short messages through our mobile phones, using the **Short Messaging Service** (SMS).

Did you know?

With cell phones becoming cheap, and new methods of sending urgent messages such as e-mail and sms, fewer and fewer people are sending handwritten letters now.



A postman distributing letters



A young woman writes a letter for a lady who doesn't know how to write



Letters ready to be delivered by Speedpost

Smartphones

These days, **smartphones** are popular. Apart from allowing you to make calls, smartphones can be used to connect to the Internet, send and receive e-mails, take pictures and view them, and download and listen to music.

Fax

To instantly send written messages or pictures, we can use the **fax** facility. A fax (or a facsimile) is a document sent over the telephone. For this you need a fax machine connected to a telephone line.

Mass Media

Till now we have talked about personal communication, or one person sending messages to another. But often we also need to send messages to a large number of people at the same time. This can be done through **newspapers**, **radio** or **television**. These are called

mass media. They are means of **mass communication**, that is, communicating a message to a large number of people.

Newspapers give us news and information about events from all over the world. A large number of newspapers are published in India, in several Indian languages.

The **radio** gives us news, and educational and entertainment programmes. It is very useful for people who cannot read or write. Radio signals can be received all over India. The FM (frequency modulation) radio stations, like Radio Mirchi and Radio City, have become very popular in our cities.

News, educational and entertainment programmes telecast on television are watched by millions of people. Important sports and cultural events can be shown 'live' (pronounced 'liive') on television. This is possible because of **satellites**. Television signals from one part of the world can be sent to another part of the world through satellites.



Friends chatting on a smartphone



A fax machine



An FM radio station at Anna University, Chennai



People watching the 'live' telecast of a cricket match (Picture credit: M Perlasamy)



A satellite orbiting, or going around, the Earth

Social networking sites like Facebook and Instagram, and video communication services like Zoom

and Google also Meet, have also become important means of mass communication.

I now know

1. These days we have faster and more reliable methods of sending messages.
2. We can send letters, money orders, and parcels through a post office.
3. Telephone is the fastest and most convenient means of sending a message.
4. Newspapers, radio and television are media for mass communication.
5. Television is the most popular means of mass communication.

Words to remember

communication: the exchange of thoughts, ideas or information between people

mass communication: to send a message to a large number of people at the same time

satellite (human-made): an object sent into space to travel around the Earth to send and receive information

Exercises

A. Write T for true and F for false sentences.

1. In the olden days, people sent messages through sparrows.
2. The courier service offered by post offices in India is known as Speedpost.
3. For sending an e-mail, an Internet connection is necessary.
4. Newspapers are the most popular means of mass communication in India.
5. Television and radio signals can only be received in important cities in India.

B. Answer the following questions.

1. Name the different ways of sending messages through post offices.
2. What is the advantage of speed post over ordinary postal delivery?
3. Why are telephones such a popular means of communication today?
4. You have just completed painting a picture and want your father to see it. But your father is in another city. Which method of communication can you use?
5. What do you understand by mass media?
6. How do satellites help in sending television signals?
7. Write about the latest means of communication like e-mails, cell phones and smartphones.

 **Multiple choice questions**

1. Messages sent through computers connected to the Internet are called
a. fax b. e-mail c. speedpost d. SMS
2. The fastest way to communicate is through
a. telephone b. e-mail c. newspapers d. letters
3. Smartphones can be used to
a. make phone calls b. send e-mail c. listen to music d. all of these
4. Which of these is considered as mass media?
a. newspapers b. Television c. Radio d. all of these
5. Important events can be shown live on television because
a. TV stations are present all over the world
b. TV signals are sent through electric wires
c. TV signals are sent through satellites
d. TV signals can travel around the world

 **HOTS: Think and Answer**

1. Why do you think the television is the most popular means of mass media today?
2. Sonam is a vegetable vendor who sells vegetables from house to house on her cart. She recently acquired a cell phone. How do you think she can use her cell phone to improve her sales?
3. Newspapers are very cheap. They cost just a few rupees a paper. But the cost of producing them is much higher. Find out how it is possible for you to get them so cheap.



Enrichment Activities

- **Speak out:** 'Children should be allowed to watch as much television as they want to.' Have a discussion on this topic in class.
- **Write right:** Write a story about a girl from a remote village who comes to the city for the first time. She is shocked to find that the children in the city do not go out to play. They either watch television or play games on the computer. Write about how she teaches them the simple joys of cycling, and playing games like hide and seek, football and catch-catch.
- **Art work:** Create a poster to show how new and faster means of communication have changed the world.
- **Group project:** Divide children into groups and let them find out about the history of the following:
a. Newspapers b. Radio c. Television d. Internet
Let each group prepare a presentation (or a website).



Hands on!

How long does it take?

Write a letter to a friend or relative in another city. Make another copy of it. Put each letter in a correctly addressed envelope. Send one through ordinary post, and the other through a courier service. Check to see how many days each takes to reach.



Life Skills and Values

Opening an e-mail account and sending e-mail messages

To send e-mail messages you first need to create an e-mail account. Some common sites where you can open accounts are gmail.com, yahoo.com, rediffmail.com and hotmail.com.

When the site opens, click on 'Sign up' and fill in the form. You have to choose a user name and a password. You should always remember the password or note it down somewhere. Once your account is created, you can sign in and send and receive e-mails from your friends. Remember that your password should not be shared with anyone.

Weblinks

<http://www.suite101.com/content/secret-code-writing-for-kids-a177055>

<http://www.thekidswindow.co.uk/Kids-pages/Telephones.htm>

17

Our Culture and Heritage

Mind opener

'Only a land where all people speak the same language, follow the same religion, and dress the same way, can be called a country.' Do you agree? If you do not, tell your class why you disagree.

Looking Ahead

In this lesson you will learn about the culture and heritage of India:

- *Our languages and clothes*
- *Our dance and music*
- *Our paintings and architecture*
- *Our festivals*

India is an ancient land. Over the centuries, people from different lands have chosen to make India their home. They brought with them their customs and traditions. Over time, these mixed with the local traditions of India. As a result of this intermixing of culture, today India has a rich and unique culture and heritage. Let us learn some more about it.

Our Languages

You have already seen that our country has a number of languages. Almost every state has its own set of languages. At present there are 22 officially recognised, or scheduled, languages in India .



India's rich culture and heritage

These are:

| | | |
|--------------|---------------|-------------------------------|
| 1. Assamese | 2. Bangla | 3. Bodo |
| 4. Dogri | 5. Gujarati | 6. Hindi |
| 7. Kannada | 8. Kashmiri | 9. Konkani |
| 10. Maithili | 11. Malayalam | 12. Manipuri |
| 13. Marathi | 14. Nepali | 15. Odiya (formerly Oriya) |
| 16. Punjabi | 17. Sanskrit | 18. Santhali |
| 19. Sindhi | 20. Tamil | 21. Telugu |
| 22. Urdu | | |

Hindi is understood and spoken by the largest number of people in our country. It was, therefore, chosen as the **official language** of the Government of India; and English was chosen as the second official language of the Indian Government.

One language may be spoken in different ways in different parts of the country. For example, Hindi is spoken in several ways. Different forms of the same language are known as **dialects**. Each language has its own style of writing, known as the **script**. Most languages are written from left to right. However **Urdu, Sindhi** and **Kashmiri** are written from right to left.

Our Clothes

You have also seen that different states in our country have different traditional clothes for men and women. For women, the **saree** is the most popular. However,

the style of wearing the saree, differs from state to state. **Salwar-kameez** is another popular attire worn by women throughout India. The **ghaghra** is common in Gujarat, Rajasthan and Madhya Pradesh. Long narrow skirts with stripes of different colours are worn in the north-eastern states of India.

Among men the most common traditional clothes are **dhoti-kurta, kurta-pyjama** and **lungi-shirt**. Turbans of different types are worn in different states. In Kashmir, the **salwar-kameez** and **phiran** are popular.

Modern clothes are common among men and women living in towns and cities.

Our Dance and Music

India has a long tradition of dance and music. You have already read about the dance forms of some of the states. There are two main types of dance and music—**folk** and **classical**.

Most classical dances began as forms of worship. Trained dancers performed in temples. Some even performed in courts of kings. Today these dances can be enjoyed by anyone. The major classical forms of dance are as follows.

- **Bharatanatyam** – Tamil Nadu
- **Kathak** – Uttar Pradesh
- **Kathakali** – Kerala
- **Kuchipudi** – Andhra Pradesh and Telangana
- **Manipuri** – Manipur



Mohiniattam



Odissi



Kathak



Sattriya



Chhau

- **Mohiniattam** – Kerala
- **Odissi** – Odisha
- **Sattriya** – Assam
- **Chhau** – West Bengal, Jharkhand, Odisha

Folk dances are performed by groups of people to express their joy. They are performed on occasions like weddings, birth of a child, festivals or harvesting of crops. Some of the popular folk dances are:

- **Bhangra** – Punjab
- **Bihu** – Assam
- **Garba** – Gujarat
- **Ghoomar** – Rajasthan
- **Cheraw** - Mizoram



The Cheraw dance (or the Bamboo dance) of Mizoram



Ustad Amjad Ali Khan playing the sarod

- **Kolattam** - Tamil Nadu
- **Yakshagana** - Karnataka

Classical music was also performed in temples or courts of kings. There are two styles of classical music in India. They are:

- **Hindustani** music developed in North India.
- **Carnatic** music developed in South India.

Many instruments are used in classical music. Some of these are sitar, sarod, veena, flute, mridangam and tabla.

Painting

Traditional painting in India has also been inspired by either religion or by rulers. The famous **wall paintings** in the **Ajanta Caves** in Maharashtra show the life of the Buddha. They were drawn by Buddhist priests, and are more than 1500 years old.

Did you know?

Warli folk paintings originated in Maharashtra. This style of painting is very simple. Its unique feature is that it consists of circles, triangles and squares that are joined together to form beautiful patterns. For example, two triangles are joined together to form a human figure.



Painting of Buddha as Padmapani, Ajanta Caves



A miniature painting showing Radha and Krishna

The art of **miniature paintings** was made popular in India by the Mughal kings. Miniature paintings are small in size but show things in great detail. They show landscapes, hunting and battles scenes, and stories from the life of the god Krishna.

Architecture

Architecture, or the art of building, was earlier inspired by religion. Buddhism inspired the building of many **stupas**. Emperor Ashoka and his successors

built the beautiful stupas at **Sanchi** and **Sarnath**.

Several Hindu temples with beautiful carvings were built later. The **Kailash Temple** at Ellora has been carved from a single stone. The **Sun Temple** at Konark, **Meenakshi Temple** at Madurai, **Khajuraho Temples** in Madhya Pradesh, and the **Dilwara Temple** of Mount Abu are famous for their architecture.

The Turks and Mughals brought their



Sanchi Stupa, Sanchi



The beautifully carved and painted gopuram or gateway to the Meenakshi Temple, Madurai



Humayun's Tomb, Delhi



Victoria Memorial, Kolkata

own style of architecture to India. The **Taj Mahal**, with its dome and minarets, is the best example. The **Qutb Minar**, **Red Fort**, **Jama Masjid** and **Humayun's Tomb** in Delhi are a few examples of their grand architecture.

The British brought new styles of architecture to India. The **Victoria Memorial** in Kolkata, **Rashtrapati Bhavan** and **Parliament House** in Delhi are some beautiful buildings built by the British.

Our Festivals

You have seen that India is a land of variety. Few other countries have so many different types of people, with different languages and religions. Naturally, we celebrate more festivals

I now know

1. India is a land of variety—we have a number of languages, traditional clothes, dance and music, architectural styles, and festivals.
2. There are 22 scheduled languages in India Hindi is the main official language of the Government of India, and English is the second.
3. The two main types of dance and music are folk and classical.
4. Classical dance and music was inspired by religion and encouraged by kings.
5. Indian architecture has been influenced by Turks, Mughals and the British.
6. We celebrate several national, religious and harvest festivals.



Dancing the Bhangra to celebrate Baisakhi, Punjab

than many other countries. We celebrate three types of festivals.

- **National days** such as Independence Day (15 August), Republic Day (26 January) and Gandhi Jayanti (2 October)
- **Religious festivals** such as Diwali, Eid, Christmas, Gurpurbs, Ganesh Chaturthi, Dussehra and Durga Puja, Buddha Purnima and Mahavir Jayanti
- **Harvest festivals** are celebrated when a crop is harvested. They express the joys of the farmers. Some of these are Onam in Kerala, Pongal in Tamil Nadu, Bihu in Assam, Holi in Uttar Pradesh and other states of North India, and Baisakhi in Punjab.

Words to remember

dialects: different forms of the same language

culture: customs, arts, music and dance followed by a group of people

heritage: practices handed down to us from the past

Exercises

A. Fill in the blanks.

1. _____ is the classical dance form of Assam.
2. The two main types of dance and music in India are _____ and _____.
3. The two main styles of classical music in India are _____ and _____.
4. The Mughals introduced the art of _____ paintings.

B. Name the following.

1. One example of British architecture in India: _____
2. One famous Buddhist stupa: _____
3. The caves in Maharashtra with the famous 1500-year-old wall paintings: _____
4. Different forms of the same language: _____

C. Answer the following questions.

1. Why was Hindi chosen as the official language of the Government of India?
2. Name three examples of Mughal architecture in India.
3. Which languages of India are written from right to left?
4. On which occasions are folk dances performed?
5. Why are harvest festivals celebrated? Name three harvest festivals.

Multiple choice questions

1. One of the 22 scheduled languages of India is
a. Maithili b. Bihari c. Jharkhandi d. None of these
2. A language that is written from right to left is
a. Nepali b. Konkani c. Sindhi d. Hindi
3. The classical dance form of Assam is
a. Bihu b. Sattriya c. Manipuri d. Ghoomar
4. The wall paintings in the Ajanta Caves in Maharashtra show the life of
a. Krishna b. Buddha c. Mahavira d. Rama
5. The Rashtrapati Bhavan in New Delhi was built by the
a. Mughals b. Turks c. British d. French



HOTS: Think and Answer

1. Indian culture is said to include the culture of the Turks, Mughals and British. Why is this so?
2. In no other country of the world are so many festivals celebrated as in India. Why do you think this is so?



Enrichment Activities

- **Speak out:** Find out about any of the traditional styles of Indian painting, like Warli, Pattachitra, Tanjore, Phad, Madhubani and Kalamkari. Share this information with your class. Speak for 10-15 minutes.
- **Write right:** Find out and write about the life of any great artist of India.
- **Art work:** Paint a picture using either the Warli or Madhubani style of painting.
- **Project work:** Working in groups, collect information and pictures, and do a class project on the languages, clothes, dances, music, painting, architecture and festivals of the state or union territory in which you live.
- **Presentation/Website:** Make groups of 4-5 children each. Let each group make a presentation or website on the culture and heritage of another country.



Hands on!

Hold a cultural show in class. Children who are learning any of the Indian dances, any Indian musical instrument, or Carnatic or Hindustani vocal music, should put up a performance for the rest of the class. The others can dress up in the traditional dresses of the different states. You can end the show with a lunch where each child brings a traditional food item from his or her state.



Life Skills and Values

Explore your talent

Different children have different talents—some can draw well, some can sing well, some can dance well, some can play well, some can juggle well and some can learn languages very easily. Try to discover your own talent. Take the help of your parents and teachers in developing that talent further. It will help you a lot in life.

18

People Who Made a Difference

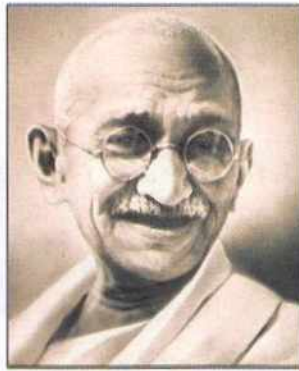
Mind opener

Think of a person whom you respect and admire. Think of everything she/he has done for you. If the person had not been there, would it have made a difference to your life?

Looking Ahead

In this lesson you will learn about:

- Different religions, and spiritual leaders like Buddha, Mahavira, Prophet Mohammad, Jesus Christ, Zoroaster and Guru Nanak Dev
- Social reformers like Kabir, Ramabai Ranade and Raja Ram Mohan Roy
- Kings like Ashoka, Krishna Deva Raya and Akbar
- Scientists like Aryabhata, Sushruta, Charaka, S Ramanujan, Jagdish Chandra Bose, C V Raman



People who influenced the life of others—can you name these people?

Out of the millions and millions of people in the world, only a few achieve greatness. They could be religious leaders, social workers, scientists, kings or others who influence the lives of people by their teachings or work. Let us look at some great people who have affected the lives of Indians.

Religious leaders

HINDUISM

Hinduism is one of the oldest religions in the world. It began in India about 3600 years ago. Many religious leaders have helped Hinduism grow, by making people understand the religion better. **Adi Shankaracharya**, **Maharishi Dayanand Saraswati** and **Swami Vivekanand** are some of them. Hinduism has many holy books that were composed long ago. The most important are the **Vedas**, the **Puranas**, the **Ramayana**, the **Mahabharata** and the **Bhagawad Gita**.



Gautama Buddha

BUDDHISM

The teachings of **Gautama Buddha** gave birth to a new religion called Buddhism. He was a rich prince who left the comforts of his palace to try to understand the meaning of life. He taught equality of all human beings and kindness to all living beings.

JAINISM

This religion is believed to have been started by Rishabhdev, the first tirthankara, or spiritual teacher. The religion gained widespread acceptance in India at the time of **Vardhamana Mahavira**—the 24th tirthankara. He lived at about the same time as Gautama Buddha.

He preached kindness to all living beings. He urged people to live a simple life and follow the path of non-violence.

ISLAM

Islam is a religion that teaches there is only one god—Allah. The followers of Islam are called Muslims. Muslims believe that the word of God was revealed through **Prophet Muhammad**.



Vardhamana Mahavira

These words are now contained in the **Quran**, the holy book of the Muslims. Prophet Mohammad lived in Arabia about 1400 years ago. He carried the message of love, peace and brotherhood to the Arabs, who were fighting with each other at that time. Over time, Islam spread across the world.

CHRISTIANITY

Christianity is a religion based on the teachings of **Jesus Christ**. He was born about 2000 years ago in Bethlehem. He taught people to love God and all other people, and emphasised the importance of forgiveness. The holy book of the Christians is the **Bible**. Christianity was brought to India by St Thomas.



Jesus Christ



Zoroaster

ZOROASTRIANISM (THE RELIGION OF THE PARSIS)

Parsis believe in the teachings of **Zoroaster**. He lived in Iran about

2500 years ago. He taught that our duty is to be good and fight evil. The holy book of the Parsis is called the **Zend Avesta**.

SIKHISM

This religion was founded by **Guru Nanak Dev**. He lived in Punjab about 500 years ago. He believed that there is only one God, and people had given Him different forms and names. The holy book of the Sikhs is the **Guru Granth Sahib**.



Guru Nanak Dev



Kabir

Social Reformers

From time-to-time, unwanted practices take root in society. In India, for example, many people believe in the caste system, and practise the dowry system and child marriage. Brave people have fought against such practices and helped to improve society. Such people are called **social reformers**.

KABIR

He fought against social practices such as the caste system, and the importance given to rituals by Hindu and Muslim priests. He spread his message of love

and harmony through bhajans and poems known as **dohas**.

RAJA RAMMOHUN ROY

He was born in Bengal about 250 years ago. He fought against the practices of child marriage, caste system and sati (burning of a widow along with the body of her husband).

RAMABAI RANADE

She was a social reformer of Maharashtra. She worked to improve the condition of women in India.



Raja Rammohun Roy



Ramabai Ranade

Kings

EMPEROR ASHOKA

Ashoka wanted to be a great conqueror. He fought and won many battles. But after winning the famous battle of Kalinga, he was very sad to see thousands of dead and injured soldiers.

He gave up war and worked for the good of his people. He helped to spread Buddha's message of



Ashoka

non-violence. He built free hospitals, roads, dharamshalas (rest houses), wells and tanks for the welfare of the people. He was a kind and wise king and is remembered even today as a great ruler.

KRISHNADEVA RAYA

Krishnadeva Raya ruled in South India about 500 years ago. He worked for the good of the people. The people were free to follow whatever religion they wanted. He encouraged artists, poets and writers.



Stamp issued by the government of India in honour of Krishnadeva Raya

EMPEROR AKBAR

Akbar ruled in India about 400 years ago. He respected all religions. He encouraged art, music and literature. He gave a lot of attention to the welfare of the people. He is remembered as a great ruler.



Emperor Akbar

Did you know?

The Nobel Prize is an international award given by the Nobel Foundation of Sweden, to people who have done excellent work in science, medicine, literature and for peace. CV Raman was awarded the Nobel Prize for Physics in 1930, and S Chandrasekhar for Physics in 1983. Rabindranath Tagore got the Nobel Prize for literature in 1913. Kailash Satyarthi won the Nobel Peace Prize of 2014, which he shared with Malala Yousafzai of Pakistan. In 2009, Venki Ramakrishnan shared the Nobel Prize in Chemistry with Thomas A Steitz and Ada Yonath.

Scientists

Mathematics, astronomy and medicine were well-developed sciences in ancient India. The **decimal system** of numbers, which everyone uses today, was developed in India. The **Ayurveda** system of medicine, which is still popular, was developed in India thousands of years ago.

Surgery was also performed in ancient India. The study of the stars and the Solar System was also well developed.

Aryabhata was a great mathematician and astronomer of ancient India. **Varahamihira**, was a well known astronomer. **Charaka** was a famous physician, and **Sushruta** a surgeon.

Some of the well-known scientists India has produced in the modern world are S Ramanujan, J C Bose, C V Raman, Homi Bhabha, Vikram Sarabhai, S Chandrashekhara, A P J Abdul Kalam, and Venki Ramakrishnan.



C V Raman



J C Bose



A P J Abdul Kalam



Venki Ramakrishnan

I now know

1. Great people are those who influence the lives of others. They could be religious leaders, social reformers, scientists or kings.
2. The important spiritual teachers whose teachings are followed in India are Gautama Buddha, Vardhamana Mahavira, Prophet Mohammad, Jesus Christ, Guru Nanak Dev and Zoroaster.
3. Some social reformers who fought against evils in society were Kabir, Raja Rammohun Roy and Ramabai Ranade.
4. Emperors like Ashoka, Krishnadeva Raya and Akbar are remembered as great kings who worked for the welfare of the people.

Words to remember

society: people living together

reformer: a person who works to improve something

surgery: a medical treatment in which a doctor cuts open a patient's body

scientist: a person trained in science

astronomy: the study of stars, planets and other heavenly bodies

Exercises

A. Match the columns.

- | | |
|--|----------------------|
| 1. Battle of Kalinga | a. Muslims |
| 2. Dohas | b. Emperor Ashoka |
| 3. Fought against the practice of sati | c. Parsis |
| 4. Zend Avesta | d. Raja Rammohun Roy |
| 5. Quran | e. Kabir |

B. Name the founders or important prophets of the following religions.

1. Jainism :
2. Sikhism :
3. Islam :
4. Christianity :
5. Buddhism :
6. Zoroastrianism :

C. Answer the following questions.

1. Name three holy books of the Hindus.
2. Name two religious leaders who helped people understand the Hindu religion.
3. What was the condition in Arabia at the time of Prophet Mohammad? How did he try to improve it?
4. Who founded Christianity? What were his teachings?
5. Who is called a social reformer?
6. What evils of society did Kabir fight against?
7. Why did Emperor Ashoka give up wars?
8. Why is Akbar remembered as a great ruler?
9. Give examples to prove that mathematics, astronomy and medicine were well-developed sciences in ancient India.

 **Multiple choice questions**

1. Who among these was a religious leader?
a. Gautama Buddha b. Raja Rammohun Roy c. J C Bose d. Aryabhata
2. Which of these is a holy book?
a. Zend Avesta b. Gita c. Quran d. all of these
3. A social reformer:
a. teaches about a religion b. works for the growth of arts and science
c. works to change the evils in society d. works for peace
4. Which social reformer gave his messages in the form of dohas?
a. Raja Rammohun Roy b. Kabir c. Ramabai Ranade d. all of these
5. Which famous king gave up war and worked for the good of his people?
a. Ashoka b. Akbar c. Krishnadeva Raya d. Raja Rammohun Roy

 **HOTS: Think and Answer**

1. Write down the main teachings of the following religions in one sentence each.
a. Buddhism b. Jainism c. Christianity d. The Parsi religion
Now read all of them carefully and think—do you find all of them to be similar?
How are they similar?

2. We often hear of people fighting over religion. Do you think this is right? Give reasons.



Enrichment Activities

- **Speak out:** Speak for a few minutes on the topic 'My hero'. Your hero could be anyone whom you admire a lot. It could be your mother, father, teacher, a famous sportsperson, a scientist or your bus driver—anyone who inspires you.
- **Write right:** Mother Teresa changed the lives of millions of poor living in the slums of Kolkata. Read about the work she has done. Now imagine you are a child living in a slum in Kolkata. How did Mother Teresa change your life? Write a short story.
- **Art work:** Create a poster or collage on the great religions of the world.
- **Find out:** Find out about some of the kings who have ruled in your state or union territory in the past. What kind of rulers were they? Who was the most famous ruler? What was he/she known for?
- **Group project:** Make groups of four. Let the teacher help each group select one great Indian and study his/her life in detail. Let the group make a presentation or website on him/her.



Life Skills and Values

Being helpful, generous and kind

- People who help others are loved and admired. Think of people who have helped you. Don't you love and admire them? Helping people in trouble gives us joy and satisfaction. You should always try to help your friends, your parents and anyone else in need of help (even animals and plants).
- Many people treat domestic workers very badly. Do you think this is a social practice that needs reform? What message would you like to give to such people?

Weblinks

<http://www.uri.org/kids/world.htm> (world religions)

<http://www.freeindia.org/biographies/> (stories of some great Indian people)

19

Our Rights and Duties

Mind opener

At home you expect your parents to look after you. You expect them to provide you with a home, give you food and clothes, and to pay your school fee. These are your rights. But when you have rights, you also have some duties. Some of your main duties are to respect and help your parents, and to pay attention to your studies. What do you think are your other duties? Think and discuss!

Looking Ahead

In this lesson you will learn about:

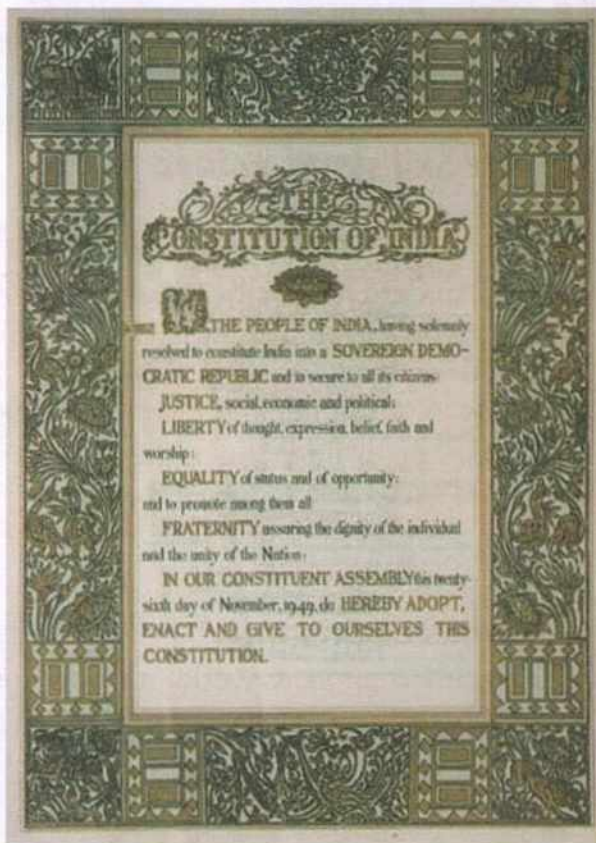
- Our Constitution
- The guiding principles of our Constitution
- Our fundamental rights
- Our fundamental duties
- The Directive Principles of State Policy

Our Constitution

Our country was ruled by the British for almost 200 years. After a long and hard struggle, India got its independence from the British on 15 August 1947. Our leaders got together to form a **government**. One of the first things they did was to make a set of rules, based on which the government would run. This set of rules is known as our **Constitution**.

The Constitution was accepted on 26 January 1950. We celebrate this day as **Republic Day**.

Our Constitution lays down some important guiding principles that have to be followed by the leaders of our nation. The **preamble**, or introduction, to our Constitution describes India as a



The original preamble to the Constitution of India; later the words Secular and Socialist were added to the Preamble

democratic, socialist, secular republic.
What does this mean?

DEMOCRATIC

This means that all the people of the country will choose or **elect** leaders who would form the government. This kind of government is known as a **democracy**. Thus our country is no longer ruled by kings. If the people are not happy with their elected leaders, they can be removed from their posts.



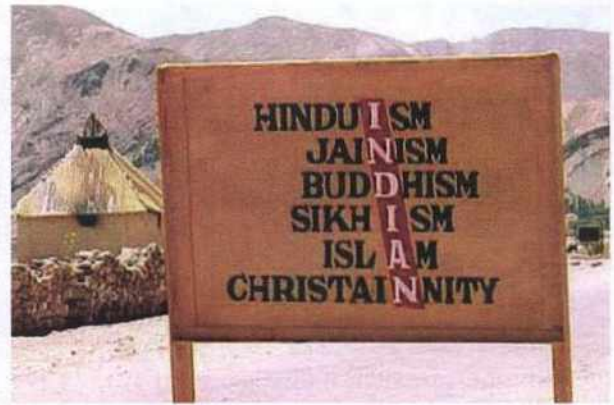
Voters standing in queue to cast their votes

SOCIALIST

This means that all the people in the country will be treated as equals. The government will not differentiate between people on the basis of their caste, religion or in any other way. This is known as the principle of **socialism**.

SECULAR

This means that all people in the country would be free to follow whatever



A road sign celebrating secularism in India

religion they want. This is known as the principle of **secularism**.

REPUBLIC

This means that our head of state is elected by the people. India is headed by an elected president, unlike Britain whose head of state is a hereditary monarch.

Our Fundamental Rights

The Constitution of India gives its citizens certain **fundamental rights**. If anyone feels that his or her fundamental rights have been denied, he or she can approach a court of law.

Some of the important rights are given here:

- Right to equality
- Right to freedom of speech—we can speak freely without fear
- Right to follow any religion
- Right to justice
- Right to live and travel anywhere in the country

Did you know?

Some other forms of government are:

Monarchy: The State is ruled by a king or queen. The monarchy is hereditary, that is, when the monarch dies, his or her child becomes the new ruler. In some monarchies, the monarch has full power. In others there is also a democratic government and the king or queen does not have complete power.

Dictatorship: The State is ruled by a single leader who has absolute power. He or she often misuses this power to oppress the people. The rule here is not hereditary.

Communism: All property is owned by the government. The State provides its people with healthcare, education and welfare. All people are seen as equal by this government.



Queen Elizabeth II,
the queen of England



A poster demanding equal education for every Indian child, whether it be the child of the president, or of a worker

- Right to choose our profession
- Right to free and compulsory education for all children up to the age of 14

However, these rights are not absolute and the government may take certain measures, like reserving jobs or seats in colleges for the backward and poorer sections of society, for their upliftment.

Our Duties

Duties always come along with rights. Some of our important duties as citizens of India are given here.

- We must follow the rules laid down by the Constitution.
- We must honour the national flag and national anthem.
- We must help to keep our country united.
- We must defend our country at the time of danger.
- We must protect our national property.
- We must protect our environment.
- We must treat all Indians as equal.

Directive Principles

Our Constitution lays down certain guidelines for the government to follow, for the welfare of the people. Some important guidelines are given here.

- Providing proper living conditions for all citizens
- Providing work for everyone

- Ensuring that some people do not become rich by exploiting others
- Improving the conditions of weaker sections of society such as those belonging to the scheduled castes and scheduled tribes

Pause and Think!

One of our most important duties as citizens of India is to keep our surroundings clean. In 2014, the Government of India launched the Swachh Bharat Abhiyan. The main aim of this campaign is to put an end to open defecation in India through the construction of personal and public toilets. The Swachh Bharat Abhiyan also aims to ensure that the streets, roads, water bodies, railway stations and other public spaces in the cities and towns of India are kept clean. What can each of us do to keep our country clean? Think.

I now know

1. Our Constitution is a set of rules based on which our government runs.
2. India is a democratic, socialist, secular country.
3. The Constitution gives all citizens certain fundamental rights, and also lays down the duties of the citizens.
4. The Directive Principles laid down in the Constitution guide the government to work for the welfare of the people.

Words to remember

government: a body of people that governs or rules a country

constitution (of a country): written rules according to which a country is run by the government

republic: a country ruled by elected leaders rather than by a king or queen

democracy: kind of government where people vote to elect leaders who run the country

hereditary: something that is passed on from parent to child

socialism: principle of treating all the people in a country as equals

secular: where all religions are treated as equal

Exercises

A. Fill in the blanks.

1. The set of rules according to which our government runs is called our _____.
2. Our Constitution was accepted on _____. This day is called _____ Day.
3. The _____ Principles give guidelines to the government for the welfare of the citizens.
4. Every citizen of India has certain fundamental _____.

B. Match the columns.

- | | |
|-------------------------------------|------------------------|
| 1. 26 January | a. Fundamental Right |
| 2. Right to follow any religion | b. Directive Principle |
| 3. Protecting our national property | c. Republic Day |
| 4. Providing work for everyone | d. Our duty |

C. Identify the principle behind the following in our Constitution.

1. People of India are free to follow the religion of their choice: _____
2. All citizens of India will be treated as equals: _____
3. The people of India choose the leaders who form the Government: _____

D. Answer the following questions.

1. What do you mean by the Constitution of our country?
2. 'India is a democracy'. What does this mean?
3. List three fundamental rights of the people of India.
4. List three of our important duties as citizens of India.
5. What do you mean by the 'Directive Principles' of our Constitution?



Multiple choice questions

1. Which of the following applies to India?
a. Democracy b. Socialism c. Secularism d. All of these
2. The set of written rules according to which our country is run, is called:
a. Constitution b. Directive principles c. Fundamental rights d. Duties
3. Which of the following is not a fundamental right?
a. right to be treated as equal b. right to follow any religion
c. right to choose our profession d. right to proper living conditions
4. Which of these is a directive principle and not a right?
a. providing work for everyone
b. providing free education for children till the age of 14
c. freedom to live anywhere in the country
d. freedom to give your opinion



HOTS: Think and Answer

Suppose people of a country only want their rights and do not want to do their duties. What do you think would happen in such a country?



Enrichment Activities

- **Speak out:** Have a debate in class on: 'Democracy is a better form of government than monarchy'.
- **Write right:** Do you think the people and leaders of India work according to our Constitution? Or have we forgotten about the ideals of our Constitution? Think about it, and then write down your thoughts and share them with your class.
- **Art work:** Make a poster or collage on the topic: 'The Right to Education is a fundamental right of every child'.
- **Project work:** Collect pictures for any 10 of the fundamental rights and duties listed in this chapter. Stick them in your scrapbook. Write a line or two below each picture explaining which right or duty it stands for.
- **Find out:** What are your rights and duties in school? Prepare a list and share them with your class.



Hands on!

Hold an election in your class to choose a class leader

With your teacher's help choose four children as candidates for the post of class leader. Keep an empty cardboard box on the teacher's table. Which of these four do you want as your class leader? Write his or her name on a slip of paper, fold the paper and put it into the cardboard box. This is called casting your vote.

After every child has cast his or her vote, one of you can open each paper and count the votes. Whichever child has got the most number of votes is chosen as the class leader. The child with the second largest number of votes becomes the assistant class leader.



Life Skills and Values

Being a good citizen

Some of the qualities of a good citizen of a country are:

- treating other people and their belongings with respect
- sharing things with others and helping others in need
- keeping your surroundings and the environment clean
- following the duties as written in the Constitution

Can you add to the list?

Weblinks

<http://government.pppst.com/types.html> (click on 'types of government' under 'For Kids')

Our National Symbols

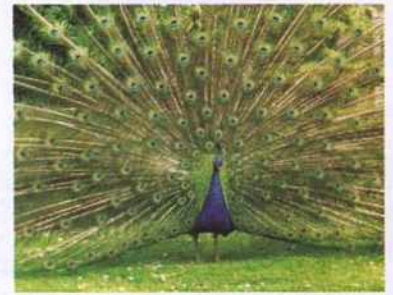
Mind opener

Why do we stand while the flag is being hoisted, and the National Anthem sung? Why can't we sit or lie down? Think and discuss.

Looking Ahead

In this lesson you will learn about:

- What are national symbols
- Some of India's national symbols, namely, the National Flag, National Anthem and National Emblem



Our national symbols

What are **national symbols**? National symbols are things that represent the values, goals and history of the people of a country. They unite the people of a country. The **National Flag**, the **National Anthem** and the **National Emblem** are the main national symbols of a country. We must respect our national symbols and be proud of them.

Our National Flag

We all feel proud when the **National Flag** is hoisted on 15 August and 26 January every year. We became independent from the British rule on 15 August 1947 and became a republic on 26 January 1950.

Our National Flag has three bands of different colours. It is called the **tiranga** (or the tricolour).

- On the top is **saffron**. It stands for courage and sacrifice.
- In the middle is **white**. It stands for truth and justice.



Our National Flag

- At the bottom is **green**. It stands for prosperity.

At the centre of the flag is the **Ashoka Chakra**—a wheel with 24 spokes in blue.

Our National Emblem

You can see our National Emblem on all coins and notes. Look at it carefully. You can see four lions (one is hidden from view) facing in different directions. There is a wheel under the lions. It is the same Ashoka Chakra that is present in our National Flag. There is a horse on the left of the wheel, and a bull on the right. The words '**Satyameva Jayate**' written below in Sanskrit mean 'truth wins'.

Our National Anthem

Our National Anthem was written by **Rabindranath Tagore**. We sing it on



Our National Emblem



The National Emblem on a two-rupee coin

Independence Day, Republic Day and on other important occasions. When the National Anthem is played we show our respect by standing at attention. We must all know the words and tune of the National Anthem.

*Jana-gana-mana-adhinayak, jaya he
Bharata-bhagya-vidhata.*

*Punjaba-Sindhu-Gujarata-Maratha
Dravida-Utkala-Banga*

*Vindhya-Himachala-Yamuna-Ganga
Uchchala-jaladhi-taranga.*

*Tava shubha name jage,
Tava shubha ashisha mage,*

Gahe tava jaya gatha,

*Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata.*

Jaya he, jaya he, jaya he,

Jaya, jaya, jaya, jaya he!

I now know

1. National symbols represent the values, goals and history of a country. They unite the people of a country.
2. The National Flag, the National Anthem and the National Emblem are the main national symbols of a country.

Words to remember

symbol: a sign or a thing that stands for something, such as the values of a country

emblem: a symbol which shows the goals of a nation

National Anthem: a patriotic song adopted by a nation

Exercises

A. Fill in the blanks.

1. The colours on our National Flag are _____, _____ and _____.
2. The animals shown in our National Emblem include the _____, the _____ and the _____.
3. Our National Anthem was written by the great poet _____.

B. Match the columns.

- | | |
|-----------------------|--------------------------|
| 1. White | a. Prosperity |
| 2. Saffron | b. National Anthem |
| 3. Green | c. Truth and justice |
| 4. Stand at attention | d. Courage and sacrifice |

C. Answer the following questions.

1. Name the three main national symbols.
2. Describe our National Emblem. What do the words 'Satyameva Jayate' on our National Emblem mean?
3. Name any two occasions on which the National Flag is hoisted and the National Anthem played in your school.
4. Describe our National Flag.

HOTS: Think and Answer

The words 'Satyameva Jayate' are part of our National Emblem. It means 'truth wins'. Have you ever seen 'truth winning'? Share your experience with your class.

Multiple choice questions

- National symbols represent the _____ of a country.
a. animals, flowers and dances b. industries, culture and agricultural advancement
c. values, goals and history d. famous sportsmen, scientists and religious leaders
- We became independent from the British on
a. 15 August 1947 b. 26 January 1950 c. 15 August 1950 d. 26 January 1947
- The green band at the bottom of the Indian flag stands for
a. courage b. sacrifice c. truth d. prosperity
- On our national emblem, there is a _____ to the left of the Ashoka Chakra.
a. elephant b. horse c. lion d. bull
- Our national anthem was written by _____.
a. Mahatma Gandhi b. Jawaharlal Nehru
c. Rabindranath Tagore d. Emperor Akbar

Enrichment Activities

- Speak out:** Speak for a few minutes on any of the National Symbols of India.
- Write right:** The tiger is the National Animal of India. Yet it is a highly endangered animal. Find out about the threats these animals face and what is being done to protect them. Write an article based on your findings.
- Art work:** Draw and colour a picture of the national flag, or any of the other national symbols of India.
- Project work:** Working in groups, do a project on the national symbols of India. You could make charts, models, posters or even prepare a website on the topic.

Hands on!

Learn and recite our National Anthem. Make sure that you get all the words and the tune correct.

Life Skills and Values

Protecting our national monuments

Our national monuments are part of our heritage. We should be proud of them and learn to take care of them. Never write on them or spit on the walls, or litter the place.

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Saving the Environment

Mind opener

Have you heard of the word 'pollution'? What do you understand by it? Can you give your class an example of pollution?

Looking Ahead

In this lesson you will learn about:

- The meaning of environment
- How humans are polluting the environment
- What can be done to help the environment

Everything surrounding us makes up our **environment**. The environment includes both living and non-living things. The **non-living** components of the environment are land, water, air, light and temperature etc. The **living** components are plants, animals, germs and all other living things. The environment provides us with all the things we need in order to live.

Pollution and the Environment

We humans have misused the environment and changed it to suit our needs. We have dirtied the land, water and air by:

- Dumping wastes from houses and factories into water bodies and the land
- Releasing harmful substances from vehicles and factories into the air

Air, water or land, which has been dirtied by harmful substances is said to be **polluted**. Pollution of land, water and air, harms us and causes many other environmental problems.

We have also cut down forests to make space for cities and farms. This causes further problems as:

- Trees help to keep the air clean.
- Trees help absorption of



Air pollution



Water pollution

water by the soil, so that groundwater levels are maintained.

- The roots of the trees bind the soil and prevent **soil erosion**.

Saving the environment

Here are some ways in which we can prevent damage to the environment.

- Plant a tree for every tree cut down.
- Save fuel, since burning of fuels causes air pollution. Walk or cycle for short distances to save fuel.
- Switch off bulbs and fans when not being used. This saves electricity. Saving electricity also saves fuel as most electricity is made by burning fuels.
- Use solar energy. For example, install a solar heater on the rooftop of your house. Solar energy does not cause pollution.

I now know

1. Humans have changed the environment to suit their needs.
2. Pollution of land, water and air harms us and causes environmental problems.
3. We must think of ways to reduce, reuse and recycle the things we use every day.

Words to remember

environment: everything that surrounds us, including both living and non-living things

pollution: damaging of land, water and air by harmful substances

Exercises

A. Write T for true and F for false sentences.

1. Saving fuel reduces air pollution.
2. The fumes released by factories and cars cleans the environment.
3. Reusing things helps reduce pollution.

Did you know?

Different kinds of living things survive in different kinds of environments. Their bodies adapt or adjust to the environment. For example, camels can survive in deserts because their bodies are adapted to live in dry places. They have a thick coat of hair that protects them from the Sun. They can also stay for a long time without drinking water. In the same way, a polar bear is adapted to live in very cold places.

- Reduce the use of unnecessary materials that increase garbage and pollute the environment. For example, carry your own bag when you go shopping, instead of taking plastic bags from the shopkeeper. Plastic bags cause land pollution.
- Reuse things instead of throwing them away—for example reuse plastic bottles to store water.

B. Answer the following questions.

1. What are the main components of the environment?
2. How are trees useful to the environment?
3. How can you save fuel? How does this help the environment?
4. Carrying your own bag when you go shopping helps the environment. How?



Multiple choice questions

1. Which of these is not a part of our 'natural' environment?
a. air b. water c. houses d. fruits
2. If we make a city by cutting down a forest, which of these will not happen?
a. air pollution will increase b. soil erosion will increase
c. groundwater will increase d. groundwater will decrease
3. Which of these will not help the environment?
a. using solar energy b. saving electricity
c. reusing things instead of buying new ones d. cutting down trees



HOTS: Think and Answer

We say that smoke from industries causes air pollution. What about the smoke blown out by people smoking cigarettes? Does that also cause pollution?



Enrichment Activities

- **Project work:** Working in groups, do a project on any one form of pollution. You could choose from land pollution, water pollution, air pollution, or other forms of pollution like noise pollution. You could also work on deforestation. Explain what it is, how it is affecting the environment, and what each of us can do to prevent it.



Life Skills and Values

Saving the environment

List the measures we can take to save:

- a. water b. electricity c. petrol d. trees

How many of these measures do you follow in your daily life? Discuss with your teacher and classmates.