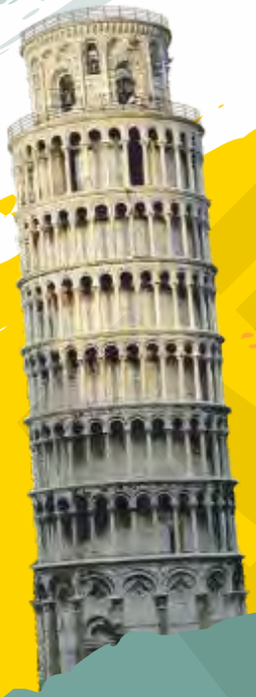
TIME TALES

Social Studies

(A Textbook of Social Studies)

6



Happiness BOOKS
FUN & CREATIVE LEARNING

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Preface

The topic of our society has many different facets. Our social existence starts in the family and eventually encompasses the entire planet. The **"Time Tales Social Studies"** series has been carefully created for grades 6 to 8 to foster topic understanding and improve goal-oriented abilities.

While framing this series, we had in mind not only the requirements of the syllabus but also the problems faced by the students and the teachers. Keeping this in mind, we have incorporated the key features of this series:

Sincere efforts have been made through pictures, diagrams, and maps.

- **Key Highlights** talk about the core of the chapter.
- **Let's Start** with gives a kick start start to the chapters.
- **Fact File** teaches a unique fact related to the chapter which develops curiosity among the learners.
- **Let's Think** is a section which develops the learners' socio-emotional intelligence, enhancing conceptual, and creative thinking.
- Word Treasure contains the meaning of the difficult words.
- Well developed exercises ensures that the learners can understand the concept of the chapter.
- **HOTS Questions** arouse a child's curiosity taking it to High Order Thinking Skills.
- **Value Based** Questions are very unique as the learners learn politeness, gratitude, care and love, sympathy, generosity, kindness, friendship, devotion, honesty, patriotism, unity, teamwork, equality, courage, determination, perseverance, harmony, love for all creatures, and self-reliance are just a few of these values that have been selected for amplification.
- **Activity Zone** hones the co-scholastic skills of the learners.
- **Flow Chart** helps the learners to revise the chapter in one shot.

We have tried to present the series in a creative way and our aim is served when it meets the requirements of our students and teachers. Further suggestions for the improvement of the book are warmly welcomed.

– Publishers

CONTENTS

1 When, Where and How?

Key Highlights

- Importance of the past in understanding history.
- Dating past events in a chronological order.
- Geographical factors influencing the history of a place.
- Major sources of ancient history.

Let's Start With

O My God! There are many old things such as pieces of pottery and coin. I even got tools and stones. To which era they might belong?

THE IMPORTANCE OF PAST IN OUR LIVES

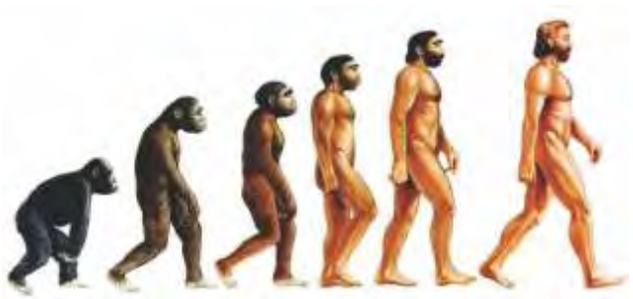
The life of our ancestors were different from our grand parents and there life were different from our parents. The study of this constant change taking from generation to generation is history. History systematically explains the record of past event. To understand the present, we need to study and understand the past.

But it is almost impossible to get written records of all past events that happened thousands, or maybe millions of years ago. People probably did not know how to read or write. So, we do not have written records of that period. This period is known as **prehistory**.

EVOLUTION OF MAN

Evolution is the process of change over time, over thousands and millions of years. The earth has existed for millions of years. By doing research on the layers of rock, we can find out about its past. We know that living things have changed over time, because we can see their remains in these rocks. These remains are called **fossils**.

MAKING OF PAST EVENTS ON A TIME SCALE



Successive stages of man's evolution from ape-like creature to modern man with upright posture

The reference point from which historians count dates is the birth of Christ. The dates of years before Christ's birth are counted backward and referred to as **BC** (Before Christ) or **BCE** (Before Common Era). For instance, any event that happened ten years before the birth of Christ is said to have taken place in 10 BC. The bigger the number when the date is BC it means it has happened that much earlier. The years after Christ's birth are noted as **AD** (Anno Domini, which in Latin means 'in the year of the Lord'). These years are counted forwards, i.e., AD 99 comes before AD 100.

To arrange historical events in a chronological order, historians refer to a **timeline**. A timeline is a description of historical events in a chronological order.

We know the dates of past events, and the sequence in which they occurred. We can then have an idea of what happened first, and which event happened after that.

Chronology is the order in which a series of events happened. Historians use chronology as the first step towards understanding historical events. In this way they can put all the past events in a proper order.

Major rivers mountains in India

GEOGRAPHICAL FRAMEWORK

Geographical factors have a great influence on the history of a country. The Indian subcontinent has distinct geographical features.

1. The vast northern Indo-Gangetic plains around which humans settled first, was very fertile. Thus, many kingdoms emerged in these plains.
2. The southern peninsular was divided into smaller regions by mountains, plateaus and river valleys.

3. The Great Himalayas in the north acted as a barrier between India and Central Asia. But people did use the passes in the mountains as routes of contact.

These routes of contact were used for different purposes.

- These routes were used by traders to travel.
- People from cold, arid places came here through them, in search of livelihood. Many tribes entered India from the northwestern side (present day Pakistan-Afghanistan) through these mountain passes.
- Religious leaders used these routes to spread their messages.
- Kings and rulers undertook war campaigns to expand their empires through them.

Some traders returned home; while others settled down to make India their homeland. They exchanged many ideas, traditions and ways of doing things. They taught as well as learn from the people living here. This exchange of ideas resulted in the development of a unique culture. Many ideas were retained and others were changed. This is how India's unique culture developed.

All early civilizations developed along river valleys. Farming resulted in the production of more food than was required. Traders traveled to different cities to sell their surplus produce. Towns and cities developed. Craftsmen began to create better crafts, writing skills developed and the use of the wheel made transportation faster.

AVAILABLE SOURCES OF HISTORY

Historians have to use evidence or clues to write history and give us a complete picture of the past. Where do they get these clues and evidence from? There are several sources from which we may get information about the past. Two main types of source material are **literary** and **archaeological**.

Literary Sources

Literary sources refer to any written accounts. Before paper was used, books were written on palm leaves or on the bark of the birch tree. Religious books, accounts of foreign travelers, and writings on cave walls or stone tablets contribute to literary sources. Each of these tell us about the social, political, economic and cultural conditions during the time in which they were written. Most ancient books found in North India were written in Sanskrit, Pali or Prakrit. Tamil was mainly used in South India.

An ancient palm-leaf manuscript

Several literary sources from the ancient period are written in scripts that are no longer used and are therefore, unknown to us. For example, the Harappans used a pictographic script which historians have not yet been able to decipher.

LITERARY SOURCES	
Indigenous works of Indian writers.	These include Akbarnama and other works written by Indian writers.
Foreign works written by travellers who visited India during different periods.	These include works such as the Indica by the Greek author Megasthenes, the writings of Fa Hsien and other travellers.
Secular or non-religious texts	The Arthashastra by Kautilya and Meghadootam by Kalidasa are examples of secular literature
Sacred or religious texts	The Vedas are considered as sacred texts

ARCHAEOLOGICAL SOURCES

Archaeological sources are objects from the past which have survived till now These could be ruins of buildings, pieces of pottery, tools, coins, jewellery or pieces of stone. These objects reveal the level of development of the society, and the expertise of craftsmen of that time.

- **Coins:** They give us information about the economy of kingdoms, prevalent arts and reigning kings. The study of coins is called **numismatics**.
- **Monuments:** They are great source of information. Much of our information about art and architectural style are drawn from the study of monuments.
- **Inscriptions:** These are records engraved on pillars, stone walls and clay tablets. Scribes carved the writings onto stone surface using chisels and hammers. They usually give details of battles won or instructions from ruler to the common people. Study of inscriptions is called **epigraphy**.

Fact File

In 1822, the French scholar Jean—Francois Champollion deciphered the hieroglyphic script, by successfully reading the inscription of the Rosetta Stone. It was a piece of rock that had been inscribed with tiny writings. When scholars examined it, they found that it contained the same passage in three ancient scripts: Egyptian hieroglyphics, a simple Egyptian script and Greek. Since scholars could read the Greek and Egyptian writings, they were finally able to decode the hieroglyphics.

- **Artefacts:** These include pottery, seals, ornaments, tools, weapons, etc. Seals and pottery provide information about trade links between two places. Through tools, weapons and ornaments we learn about the lifestyle of people who lived during that time.

Archaeological objects are usually found during excavations at historical sites. Experts known as **archaeologists** study such objects. They give us a lot of informantion, such as the time period they belong to and how people lived at that time. They even study grains, plant remains and the bones of animals found at excavated sites. These can provide further details about food, livelihood and religious beliefs of the people of those times.

Ashoka's Brahmi script

Egyptian hieroglyphic script

Use of Historical Sources for Writing History

Literary and archaeological sources both provide information required to write history. Historians study both literary and archaeological sources to reconstruct the events of the past, using clues provided by the various sources. History is thus a sequence of events ascertain in the light of their study by historians. To accurately interpret history, historians must consider all sources available and must not impose their own thoughts or ideas on the information they provide. They should use both types of sources to confirm their interpretation and ensure a fair treatment.

HISTORY

Word Treasure

Epigraphy : study of inscription

Chronology : is the order in which a series of events happened.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. People who study excavated objects are known as .....

i) cartographer ii) historian

iii) archaeologist iv) none of these

b. The people archaelogist study history through two main resource archaeological and .....

i) Literary ☐ ii) coins ☐
iii) timeline ☐ iv) numismatics ☐

c. The term used for the order in which a series of events happened is .....
i) history ☐ ii) chronology ☐
iii) fossil ☐ iv) archaeology ☐

d. Most ancient books in the South were written in .....
i) Prakrit ☐ ii) Tamil ☐
iii) Pali ☐ iv) Hindi ☐

2. Answer the following questions in detail.

a. Why is it important to date events in history?

b. Give two reasons why the Ganga Valley saw the influence of big cities.

c. Mention any two archaeological sources of ancient Indian history.

d. Explain with examples various types of literary sources.

e. What do you mean by chronology? How is the birth of Christ used as reference point in history?

3. Match the following.

a. Archaeology	i) Pictographic script
b. *Meghadootam*	ii) Megasthenes
c. *Indica*	iii) digging
d. Sumerians	iv) Kalidasa

4. Fill in the blanks.

a. The period for which we do not have written records is known as .....

b. Literary sources refer to ..... accounts.

c. In 2500 BC, cities in ..... were already flourishing.

d. To arrange historical events, historians refer to .....

e. Before paper, books were written on ..... leaves.

5. Help me classify the type of historical sources.

a. Writing on stone surfaces = ... (archaeological/literary)

b. Books written by hand = ... (archaeological/literary)

c. Ruins of buildings = ... (archaeological/literary)

d. Vedas = ... (archaeological/literary)

e. Writings of Fa Hsien = ... (archaeological/literary)

f. Portrait of the King on the coin = ... (archaeological/literary)

6. Give one word answer.

a. I can be engraved on rocks and pillars.

b. I am written on the leaves of palm trees.

c. I wrote the *Arthashastra*.

d. I study objects from an archaeological site.

e. The French found me in Egypt in 1822.

f. I stretched from west to east.

Value Based Questions

Do you think it is possible that historians may give incorrect information sometimes? What do you think could happen as a result? Held a class discussion on this.

Activity Zone

a. Close your eyes and go back to the ancient Egyptian time. Pretend that there is no form of writing. How will you send a message to someone staying far away ?

Make a chart using pictures of familiar objects corresponding to the sound and write a secret message for your friend. Let them decipher or decode the message.

b. Being an archaeologist

Imagine you are an archaeologist working on an archaeological site. How will you use the following equipments?

i) Camera

ii) Magnifying glass

iii) Measuring tape

iv) Shovel

v) Trowel

vi) Bulldozer

FLOW CHART

STUDY OF HISTORY

1. About History

What is history and why is the past important?

- History is a systematic record of past events; to understand the present, we need to study and understand the past.
- There are two periods in history.
  - — **prehistory:** the period when man had no knowledge of reading and writing.
  - — **history:** the period for which written records are available.

2. Evolution of man

- Before man appeared on Earth, many living organisms such as plants, fish, reptiles and birds appeared.
- All these have evolved over the years slowly and gradually.

3. Influence of Geography on history

- Humans first settled around the fertile Indo-Gangetic plains.
- The passes in the mountains served as pathways through which ideas, traditions and cultures were exchanged.
- These routes were used by the traders, religious leaders; while some traders just traded and returned home, few settled down in India.

4. Study of History

- History is studied in a chronological order.
- The dates of years before Christ's birth are referred to as **BC**.
- The years after Christ's birth are referred to as **AD**.
- The historical events are arranged in a chronological order into a **timeline**.

5. Sources of History

- **Literary sources**
  - — Religious literature — Vedas, Upanishads, Ramayana, Mahabharata.
  - — Secular literature — accounts of foreign travellers, biographies, etc.
- **Archaeological sources** — Coins, monuments, inscriptions, artefacts.

2 The Earliest Societies

Key Highlights

- Features of the life led by prehistoric man
- Divisions of the Stone Age
- Tools used by the Stone Age People
- Acheulian culture in the Deccan : a case study.

Let's Start With

Metal tools are the things that I have seen being used by my father but never seen stone tools.

Yes, these stone tools were used by primitive humans.

HISTORY

MAN'S JOURNEY IN TIME

Evolution from Ape-Man to Modern Man

1.5 million years ago show how man appeared on Earth for the first time. The study of fossils, show that these were ape-men. These apes and monkeys resemble human beings are called **anthropoids,** which means 'man-like animals'. Anthropoids took many years to evolve into modern man.

The most striking features of the 'ape-man' were:

- He could not walk straight.
- He had a lot of hair all over his body.
- He learnt to stand up gradually, but still walked with a shifting gait.
- He developed a grip to hold things.
- His brain became bigger while his jaws shrank considerably.

Fact File

The best evidence yet for the oldest life on Earth has been found in odd-shaped, rock-like mounds in Australia. These mounds are actually fossils created by microbes around 3.4 billion years ago.

Eventually, he began to resemble modern men who are called *Homo sapiens*.

THE STONE AGE

Man stopped living on trees, he needed food to live. He required some equipments to protect himself from wild animals. He used stones, which was available in plenty, to make weapons. Historians called this period the **Stone Age** as it was primarily dependent on stone.

The Stone Age has been further divided into three parts :

- **Palaeolithic Age** (Old Stone Age)— 5,00,000 BC-10,000 BC.
- **Mesolithic Age** (Middle Stone Age)— 10,000 BC-8,000 BC.
- **Neolithic Age** (New Stone Age)— 8,000 BC-4000 BC.

Palaeolithic Age

Palaeolithic man led a nomadic life. He moved from one place to another in search of food. Hence, he is known as a hunter-gatherer. He hunted wild animals and gathered wild fruits, roots, nuts, seeds and leaves for food. He lived in caves, on treetops and in the hollows of trees to protect himself from wild animals and from cold or rain. He also used the hide of animals or the bark of trees to shield himself from the heat, cold and wind.

Let's Think

Why did early man lead a nomadic life?

Tools

Initially, the tools were very crude and looked more like pebbles. They were typically made of **flint**—a stone that chips easily. Some of these tools have been found near riverbeds in Punjab and the Kashmir Valley in India.

The tools of Palaeolithic Age can be classified into these categories:

Hand tools : These were pear-shaped tools used for cutting or smashing things. They usually had sharp edges on all sides.

Some Palaeolithic tools

Core tools: These were made by chipping and shaping large stones. They had sharp edges and were used to cut trees and dig the earth. Examples of these tools include hand-axes and hammers.

Flint tools: These were made from smaller stone pieces, sometimes those that chipped off larger stones while making core tools. They were sharpened and used as choppers and knives. They were used to chop meat and cut through animal skin. Examples include cleavers and scrapers.

Later man learnt to make more polished and pointed tools such as spears, which helped him further in hunting.

Home Sapiens and the discovery of Fire

Fire was undoubtedly the most important discovery of the Palaeolithic Age. Interestingly, it was probably an accidental discovery. It is likely that while striking two pieces of flint together to shape into tools, man noticed sparks. These could be produced on demand and ignite dry leaves. Thus, he learnt to create fire.

Fire was very useful:

- It helped in cooking the animals he hunted.
- It provided light at night.
- It helped man to scare away wild animals, if kept burning outside the caves at night.
- It helped man to keep warm in winters.

Palaeolithic Art

Palaeolithic man took keen interest in cave painting. He painted on the walls of caves using charcoal. These paintings, some of which have survived till today, give us valuable information about his living conditions. The paintings mainly portrayed animal figures. It is possible that early man believed that painting the picture of a wounded animal would bring him success in hunting. Moreover, as they didn't know the art of writing, painting was the best way in which they could communicate their feelings and emotions. Thus, 'art' was born in this period. Such paintings have also been discovered in the **Bhimbetka** caves in Madhya Pradesh.

Places having Palaeolithic remains

A majority of sites where early man lived have been found near sources of water, such as rivers or lakes. These sites are also located in areas where good quality stones were available. These were usually **factory** sites, i.e., places where tools were made.

These strange geological structures are of different sizes. Some are smaller than a fingernail. Others are taller than a man.They are known as **stromatolites.**

Mesolithic Age

Man Learns to Make Better Tools

The rock shelter of Bhimbetka

Palaeolithic man turned from a hunter-gatherer to a food producer, or farmer. This period of transition is called the **Mesolithic Age**. Man learnt to make better tools, using the bones and horns of animals along with stone. This resulted in bows and arrows and fishing hooks with the passage of time they turned out. Smaller, sharper and more refined tools called **microlith,** such as arrowheads and spearheads, were also used.

At the end of Mesolithic Age, man started learning about **cultivation.** He understood that when seeds fell on the ground and received water, they sprouted into plants, which then produced grains. He starting putting seeds into the land himself, instead of waiting for them to fall. In this way, he started growing his own crops. In different parts of the India; wheat, barley and rice grew easily. People would have collected grains from these plants and eaten them. Later, they would have tried to grow them on their own. Thus, they became food producers. Man also began to domesticate animals such as the dog, goat, sheep and cattle.

The Deccan: A Case Study

Archaeologists and researchers have brought to light two distinct Palaeolithic cultures in the Indian subcontinent—the Soan culture and the Acheulian culture (particularly in the Deccan).

The Soan culture is found along the Soan River valley in Pakistan. The tools used in the early phase were hand axes, choppers and crude cleavers. In the later phase, the flint tools were sharper and more refined.

Acheulian sites

Several Acheulian sites have been excavated in the Deccan which gives us an insight into the living conditions of the people.

Some of these sites are:

- Bori
- Isampur
- Yedurwadi
- Bhimbetka
- Chirki-Nevasa
- Didwana
- Attirampakkam

Decline of the Acheulian Culture

According to scholars, Acheulian culture ended because of the shortage of rainfall. The rivers may have also changed their courses and affected human life as well as cultivation and animal farming. People living in Acheulian sites would have been forced to move away to look for other sources of water. This would have caused the end of the Acheulian culture.

Word Treasure

fossils	:	hardened remains of prehistoric animals or plants in rocks, soil, etc.
anthropoids	:	man-like animals that were similar to an ape; it was from these animals that modern men evolved
nomads	:	people who travel from place to place to find fresh pasture for their animals

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. What did early man use to paint on the walls of caves?

i) clay ☐ ii) charcoal ☐

iii) cement ☐ iv) lead ☐

b. The best evidence yet for oldest life on Earth has been found in odd-shaped, rock-like mounds excavated in ..... .

i) Africa ☐ ii) Asia ☐

iii) Australia ☐ iv) Antarctica ☐

c. Small, sharp and refined tools used by early man were called .....
   i) arrow heads ☐ ii) bamboo ☐
   iii) microliths ☐ iv) megalith ☐

d. Which of the following is not an Acheulian site?
   i) Bhimbetka ☐ ii) Lascaux ☐
   iii) Isampur ☐ iv) Lucy ☐

e. What does Mesolithic mean?
   i) Copper Age ☐ ii) Old Stone Age ☐
   iii) Middle Stone Age ☐ iv) Bronze Age ☐

f. Bhimbetka is located in the state of .....
   i) Orissa ☐ ii) Uttar Pradesh ☐
   iii) Madhya Pradesh ☐ iv) Sikkim ☐

g. The discovery of fire and the beginning of prehistoric art took place in the .....
   i) Palaeolithic Age ☐ ii) Mesolithic Age ☐
   iii) Neolithic Age ☐ iv) Bronze Age ☐

h. The transition from food gatherer to food producer and settling down, marks the beginning of this age.
   i) Neolithic Age ☐ ii) Palaeolithic Age ☐
   iii) Mesolithic Age ☐ iv) Iron Age ☐

2. Write short answer for the following questions.

a. Mention two changes that came about in the life of early man during Mesolithic Age.
b. What were the various types of tools used during Palaeolithic Age?
c. What are factory sites?
d. Mention the reasons that led to the decline of the Acheulian Culture.
e. What were the main characteristics of ape-man?

3. Answer the following questions in detail.

a. How was 'art' born in the Palaeolithic period?
b. Why was discovery of fire considered an important achievement?
c. Explain the different categories of Palaeolithic tools.

HOTS

a. Discuss how the Palaeolithic age was different from the Mesolithic Age?
b. Name some of the tools that we use today which resemble the tools of the Stone Age. Mention two ways in which they are similar and two ways in which they are different.

4. Match the following.

Column 'A'	Column 'B'
1. Bhimbetka	(i) protection from wild animals
2. Flint	(ii) man-like creature
3. Fire	(iii) Punjab, Pakistan
4. Core tool	(iv) small, sharp tools
5. Anthropoid	(v) hand-axe
6. Soan culture	(vi) Madhya Pradesh

5. Fill in the blanks.

a. Palaeolithic man led a ..... life.

b. The Palaeolithic culture which existed in the Deccan is called the ..... .

c. Early man used ..... to make tools.

d. ..... is a stone which chips easily.

e. Tools with sharp edges on all sides were called ..... .

6. Write whether the following statements are true or false.

a. The tools used by Palaeolithic man were very sophisticated. .....

b. Animals were domesticated in the Mesolithic Age. .....

c. Primitive man lived in mud houses. .....

d. The discovery of fire was not helpful for early man. .....

e. Early man used water to scare animals. .....

f. Neolithic Age is known as New Stone Age. .....

7. Read the following paragraph and answer the following questions.

'It was only towards the end of this age that man started learning about cultivation. He realized that when seeds fell on the ground and received water, they sprouted into plants, which then produced grains. He thought of putting seeds into the ground himself, instead of waiting for them to fall.'

(a) Which Stone Age does the above information refer to?

(b) Which crops were grown by early man?

(c) How did cultivation change their life?

Value Based Questions

Man has evolved from an ape-like creature to what we are today. What are the changes that have taken place in him through the centuries apart from the physical changes? Discuss.

Activity Zone

From Ape-man to Modern Man—the Stages of Evolution

The anthropological name of modern man is Homo sapiens. We know that man went through various stages of evolution till he reached the stage of homo sapiens. Each stage brought about physical as well as behavioural changes in him. The purpose of this project is to study the characteristics of man in each stage of evolution.

How to go about the project

Archaeologists have found fossils of early man while he was in the process of evolution from ape-man to modern man. These fossils have been dated on the basis of their characteristics and have been given different names. A project on the evolution of man should include his names in different stages of evolution, the time period he belonged to, the rough geographical location of his habitation and his characteristics.

For reference, visit these websites:

- www.becominghuman.org
- www.allaboutcreation.org

FLOW CHART

Evolution of Ape-Man to Modern Man

- Man appeared on Earth for the first time around 1.5 million years ago
- These ape-like men are called **anthropoids;** they could not walk straight
- Gradually he evolved to resemble modern man—homo sapiens

Mesolithic Age (10,000-8,000 BC)

- Man learnt about cultivation and domestication of animals
- Smaller, sharper and refined tools called **microlith** were used

STONE AGE

- It was the period when man began using stones to make weapons and tools
- This period is divided into three parts—**Palaeolithic** Age, **Mesolithic** Age, **Neolithic** Age

Palaeolithic Age (5,00,000 BC-10,000 BC)

- Man led the life of a hunter-gatherer
- This period is divided into **Early Palaeolithic, Middle Palaeolithic** and **Lower Palaeolithic** Ages
- **Hand** tools, **core** tools and **flint** tools were used
- **Fire** was discovered in this period
- The art of **cave painting** developed in this period; *examples:* **Lascaux** in France and **Bhimbetka caves** in Madhya Pradesh
- The sites were classified as habitation or factory sites

Deccan: A Case Study

- Two distinct Palaeolithic cultures the **Soan culture** (in Soan River Valley in Pakistan) the **Acheulian culture** in the Deccan
- The Acheulian culture is divided into early **Acheulian** and the **late Acheulian**, based on the tools
- Some Acheulian sites are Bari, Isampur, Yederwadi, Bhimbetka, Chirki-Nevasa, etc.

3 The First Farmers and Herders

Key Highlights

- Domestication of animals along with farming.
- First settled humans and their archaeological evidences.
- North-East and the Deccan carring sites of Neolithic settlements.

Let's Start With

Many excavating sites in Israel come out with dry grain in large quantity. It can be summed that grains were consumed by Neolithic people.

HISTORY

NEOLITHIC AGE (8,000 BC-4,000 BC)

Beginning of farming

There was a complete change in the living conditions of prehistoric man by the time the **Mesolithic Age** came to an end. The simple reason for this change was the fact that he knew how to cultivate. He was no longer a food gatherer but a food producer. He knew that by sowing seeds of wild cereal plants such as rice and wheat, he could grow his own food. Once he sowed the seeds, the plants had to be taken care of properly before they produced crops. Hence, man had to give up his nomadic ways. He started leading a settled life. In south-west Asia, Neolithic cultures appeared soon after 10,000 BC.

During the **Neolithic Age** man started:

- cultivation of plants
- domestication of animals
- use of polished stone tools
- settling in villages.

Fact File

The growing of plants and domestication of animals was probably started by the Mesolithic Natufian people.

Let's Think

Why Neolithic culture of the Middle East developed into urban civilizations of the Bronze Age ?

Changes Brought About by Agriculture

Earliest Human Settlements: In order to cultivate land and grow crops, man needed water. He began to settle at the banks of rivers and lakes, in proper dwelling areas. He built mud houses with thatched roofs. Gradually, a cluster of these houses appeared as a village and man began living in a community.

Domestication of Animals and Plants: Man began to domesticate animals in this age. Dogs were also trained to herd flocks of sheep and goats. Cattle, chicken and pigs were also domesticated.

People selected those plants that yielded large size grain and had strong back capable of bearing the weight of the ripe grain. Wheat and barley were the earliest to be selected agricultural activities.

Improved Tools: For the purpose of farming on a large scale, Neolithic men needed new and different tools. The primitive man was successful in finding basalt that was hard and strong and at the same time easy to polish and shape. Sickle blade and grinding stone were made by this rock. Useful in cutting, tearing and grinding as per the shape given for the required purpose.

New and More Sophisticated Pottery: Food production grew due to farming, and there was need to store surplus food. At first, baskets were woven from wild grass. Later, these were plastered with wet clay to make them more useful. Since fire had been discovered, clay pots were baked and used to store even liquids.

Neolithic potteries

Making Large Buildings: Building was another area in which Neolithic people made remarkable progress. They used mud-bricks to construct houses. The best example of this can be seen at Catal Hayuk (West Asia).

They also built tombs to bury the dead. In Europe, particularly in Ireland, many such tombs still exist.

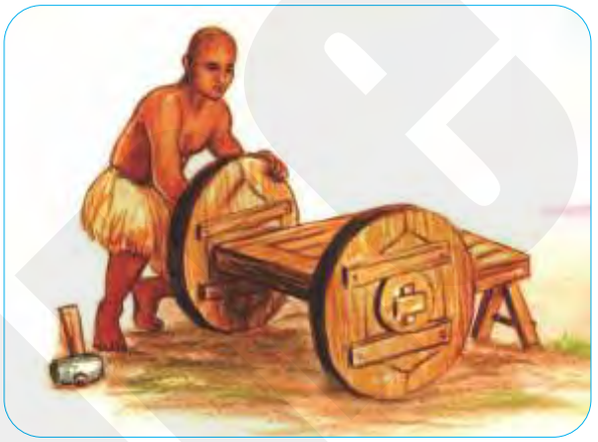
Invention of Wheel: One of man's greatest discoveries is the discovery of wheel. This made life faster and smoother. With the help of the wheel, heavy objects could also be transported easily. In addition to transport, the wheel was also used to make pots and for spinning and weaving.

CHALCOLITHIC AGE (4,000 BC-2,000 BC)

The Discovery of Metals: Following agriculture, the discovery and use of metals mark the next major change in the progress of civilization. Copper was the first metal to be discovered and used by man. It could be shaped into various tools. The period when man used both copper and stone tools is called the **Chalcolithic Age** or the **Copper Age**.

RISE IN CULTURE THROUGH CUSTOM, PRACTICES AND RELIGION

Neolithic and Chalcolithic ages worshiped natural phenomena like thunderstorm, lightining and forest fire which he was unable to understand. Addition to it sun, rain, thunder and fire were also worshipped. Earth was revered as mother (Mother Earth) as it provided food. The cow, bull, trees and plants like the *peepal* and *tulsi* were considered holy.



The wheel enabled man to carry heavy loads easily

Burials: Neolithic and Chalcolithic people looked upon death as a journey from which one did not return. They believed in life after death. So when a person passed away, he was buried with his belongings, such as baskets, stone tools and jewellery.

Mehrgarh: A Case Study

Mehrgarh in the Kacchi plain of Baluchistan, Pakistan, is one of the earliest sites of Neolithic culture. It dates between 7,000 and 5,500 BC. The site was discovered by a French team led by Jean-Francois Jarrige. The team excavated this site between 1974 and 1986.

- The site shows evidence of cultivation of wheat and barley, and domestication of cattle, sheep and goats.
- People lived in mud-brick houses and had granaries to store crops.
- Tools made from animal bones were very much in use. Neolithic inhabitants of Mehrgarh wove baskets probably of wild grass, which were lined with bitumen. The earliest ground stone axe was found here.
- Ornaments of sea shell, beads, limestone, turquoise, lapis lazuli, sandstone and polished copper have been found, along with simple figurines of women and animals.

The site also shows evidence of **pottery** which had shapes similar to baskets and were decorated with

Let's Think

Why was Mehrgarh abandoned?

HISTORY

designs similar to the motifs on the baskets. These designs/motifs perhaps had some religious significance.

Many **burial** sites have been found at Mehrgarh. At one burial, a skeleton of a goat has been found. It was probably buried to serve as food for the dead man? Mehrgarh was occupied continuously until about 2,600 BC, when it was abandoned. In the Deccan, many burial sites were marked with huge blocks of stone called megaliths.

The North-East: A Case Study

In the 1960s, a team led by H.D. Sankalia discovered the Neolithic site of **Daojali Hading**. Here, stone tools have been found. When the site was dug deeper, polished stone tools, ceramics and items used in the house, such as corn grinders and pestles were found.

Stone Age sites found in the Garo hills are Selbagiri, Thebrongiri, Mismagiri and Rongramalagiri.

Word Treasure

Natufian people	:	Mesolithic builder of stone architecture who lived in the Mediterranean region of West Asia
Mesopotamia	:	the region lying in between the rivers Tigris and Euphrates; modern Iraq in West Asia.
basalt	:	a dark rock of volcanic origin
Fertile Crescent	:	crescent shaped region between the Nile Valley (Egypt) and the Tigris-Euphrates rivers (Iraq); birthplace of two great ancient civilizations of Egypt and Mesopotamia
Chalcolithic Age	:	a period in human cultural development with advanced techniques for smelting copper and tin
megaliths	:	huge stones used to mark burial sites (from mega or 'large', and lith or 'stone')

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. In south-west Asia, Neolithic cultures appeared soon after .....

i) 3,500 B.C. ☐ ii) 10,000 B.C. ☐

iii) 7,000 B.C. ☐ iv) 5,500 B.C. ☐

b. The idea of cultivation occurred to man in .....
   i) Mesolithic Age ☐ ii) Palaeolithic Age ☐
   iii) Chalcolithic Age ☐ iv) Neolithic Age ☐
c. The site of Mehrgarh was discovered by .....
   i) Dayaram Sahni ☐ ii) Rakhaldas Banerji ☐
   iii) Jean-Francois Jarrige ☐ iv) RomilaThapar ☐
d. Basalt was used to make .....
   i) tools ☐ ii) caves ☐
   iii) megaliths ☐ iv) all of them ☐
e. The first metal discovered by early man .....
   i) iron ☐ ii) zinc ☐
   iii) copper ☐ iv) gold ☐
f. A burial site in ancient India was .....
   i) Bhimbetka ☐ ii) Mehrgarh ☐
   iii) Harappa ☐ iv) all of them ☐

2. Short answer questions.

a. Write about two changes in the life of early man during the Neolithic Age.
b. How are burial practices of the Neolithic Age an important source of information?
c. What changes came about in the creation of tools during the Neolithic Age?
d. What is Chalcolithic Age?
e. What were the building activities undertaken by the Neolithic people?

3. Answer the following questions in about 60-80 words.

a. How did the need for storing food result in the development of Neolithic pottery?
b. Name the earliest plants and animals that were domesticated.
c. What did Fertile Crescent refer to?
d. Explain the changes that the invention of agriculture brought about.
e. Why is the Chalcolithic Age also known as Copper Age?

4. Match the following.

a. Chalcolithic Age	i) first metal used
b. Stone tools	ii) Egypt
c. Burial at Mehrgarh	iii) mortar and pestle
d. Copper	iv) goat
e. Nile Valley	v) Copper Age

5. Give one word answers for the following.

a. Discovery of something that made life faster.
b. The first metal to be discovered.
c. Where the first farmers lived.

d. The place where the most elaborate example of housing can be found.
e. Where elaborate tombs for the dead still exist.
f. The two animals that were considered holy.

6. State whether the following sentences are true or false. Rewrite the incorrect ones.

a. Man gathered food during the Neolithic Period.
b. The discovery of agriculture helped to make pottery.
c. The Chalcolithic Age did not last long.
d. Man worshipped the forces of nature.
e. Neolithic people were accomplished builders.

Value Based Questions

People in the Neolithic and Chalcolithic Ages worshipped forces of nature and treated the Earth as their mother. Do you think they had the same differences then as people do now with regard to religion? Have a class discussion.

Activity Zone

1. Mark the following places on an outline map of India.

a. Chota Nagpur
b. Hallur
c. Bhimbetka
d. Narmada River
e. Daojali Hading
f. Mehrgarh

2. Create a Report.

How to go about the project

Burzahom was the first Neolithic site to be discovered in Kashmir. It can be dated back to 3,000 BC. Burzahom means 'place of the birch' in Kashmiri.

In this project, outline the main features of Burzahom on the basis of the following points:

Location: Burzahom is situated in Kashmir on the bed of a dried-up lake. The forests and lakes around Burzahom meant there was a good food and water supply.

Cave painting at Burzahom

Type of dwellings- Pit dwellings **Archaeological evidence from pits:**

- Ash, charcoal and pieces of pottery
- Ovens made of stone or clay
- Grinding stone
- Cave painting

Occupation: From the archaeological evidences, it appears that the main occupations of the people of Burzahom were growing crops, making pottery and tools and domesticating animals.

Burial practices: A unique aspect of their burial system was the fact that they even buried animals, such as dogs, cattle, buffaloes, goats and sheep with the dead.

To conclude:

- Summarize the main features of Burzahom
- Locate Burzahom on a map of India
- Draw a pit house

For reference, visit the websites:

- www.archaeology.about.com
- www.koausa.org
- www.asi.nic.in

FLOW CHART

NEOLITHIC PERIOD

The Beginning of Farming

- During this period man cultivated plants, domesticated animals, started using polished stone tools and settled down in villages.

Changes Brought About by Agriculture.

- People settled around rivers and lakes and built mud houses; cluster of houses developed into a village; beginning of **community living**.
- Wolf cubs were trained for hunting; dogs were trained to herd flock of sheep; cattle, chicken, pigs and goats were domesticated.
- **Basalt tools** such as sickle blades and grinding stones were used.
- **Basket** woven from wild grass plastered with wet clay and **baked clay pots** were used to store grain and liquids.
- Mud-bricks were used to construct houses; the best example is at Catal Hayuk (West Asia); tombs were built to bury the dead
- The **invention of the wheel** was a major benchmark in this period; it was used for transport, for spinning and weaving, and to make pots.

Mehrgarh: A Case Study

- Located in Kachi plain of Baluchistan, Pakistan, it is one of the earliest Neolithic sites; it dates between 7,000 B.C. — 5,500 B.C.
- The site was excavated between 1974-1986 by a French team led by Jean-Francois Jarrige.
- Cattle, sheep and goats were domesticated; wheat and barley were grown.
- Baskets woven of wild grass lined with bitumen were made; tools made from various animal bones were commonly in use; ornaments of various stones, figurines of women and animals, stone axes were found.
- Potteries shaped like the baskets with motifs were excavated.
- Several burial sites were found.

The North East: A Case Study

- The Neolithic sites of Daojali Hading was discovered by a team led by H.D. Sankalia in the 1960s.
- Stone tools, polished stone tools, ceramics and household items like corn grinders and pestles were found.
- Selbagiri, Thebrongiri, Mismagiri and Rongram Alagiri are some of the Stone Age sites found in the Garo Hills.

CHALCOLITHIC AGE

The discovery of metals

- The first metal to be discovered and used by man was copper; man used a both copper and stone tools.
- Period known as the **Chalcolithic** or **Copper Age**.

Customs, practices and religious life

- Man worshipped the forces of nature like sun, rain, thunder and fire.
- Earth was revered as mother; cow and bull were considered holy.

Burials

- Man believed in life after death during Neolithic and Chalcolithic Ages; hence man was buried with his belongings.

The First Cities

Key Highlights

- The ancient civilizations grow along river bank
- What was the settlement pattern of the Harappan Civilization?
- The first cities of Indian subcontinent and their architectural features
- Prevalent forms of craft, trade, belief and script and Harappan Civilization
- Indus Valley Civilization and its destruction

Let's Start With

The Indus Valley Civilization flourished in many parts of Gujarat, Punjab, Rajasthan, Haryana, etc. Mohenjodaro, Harappa and Lothal are some of the ancient cities that existed during pre-historic period.

By the Chalcolithic Age, man had started leading a settled life and was engaged in cultivation and domestication of animals. Soon, man began to produce extra food. This meant everybody did not have to be engaged in agriculture. This was the beginning of craft—especially pottery, weaving and spinning. Surplus food and craft items could be exchanged. Slowly, trading and craft centres grew into towns and cities. These changes led to progress of civilization.

Fact File

Writing was invented in Sumer about 5,500 years ago as a way to keep temple records and for merchants to maintain their accounts. The script was called cuneiform, meaning to 'wedge-shaped'. People wrote on wet clay tablets using pens made from reeds.

What is civilization?

Civilization is a developed state of human society. The main features of civilization can be summed up as:

- Urban settlements
- Material prosperity and technological advancement.
- Development of trade
- Complexity in the political, economic and social structure of the society
- Religious ideas and practices.

Which were the earliest civilizations?

Sumerians, Assyrians and Babylonians : Civilization were developed on the fertile plains between the rivers Tigris and Euphrates.

Ancient Egyptians : This civilization flourished along the river Nile in Africa.

Chinese civilization : Thrived around the Hwang-Ho river.

The Indian subcontinent : Saw the rise of its earliest urban civilization along the river Indus.

How did civilizations develop along river banks?

We see that the early civilizations flourished along the river valleys. This was because of the following reasons:

- Land along the rivers was very fertile. The water from the rivers could be used for irrigation and thus crops could be grown easily.
- The rivers provided sufficient supply of water which supported large settlements.
- Rivers could be used as a means of easy transportation for people and goods.

Common Features of Ancient River Valley Civilization

All these civilization were developed along river bank and apart from it there are other striking similarties between them.

1. They were all urban and had many cities.
2. People belonging to all of them invented some or the other form of writing, knew the art of pottery making and were able to smelt various metals.
3. Farming and domestication of animals were the most significant occupations for them through which they were able to get a regular supply of food as settled communities.
4. Another common feature that can be noticed in all ancient civilizations was their interest in the science of mathematics. They studied the movements of the moon, sun and planets to calculate seasons. That was how they created first calendars.

Let's Think

Many Indus Valley artefacts have been found in various sites of Mesopotamian civilization. What does that mean.

VARIOUS FEATURES OF INDUS VALLEY CIVILIZATION

The Indian subcontinent has been one of the oldest places of human civilization and the Indus Valley Civilization can be cited as the best instance of it. This civilization flourished between 3,000 BC and 1,500 BC in the valley of the Indus river and its tributaries in the north-western part of the Indian subcontinent. Several sites of this civilization have been found outside the Indus Valley, and they are collectively known as the **Indus Valley Civilization.** The Indus Valley Civilization is also known as the **Harappan Civilization** because Harappa is the name of the first site excavated.

Some important **Indus Valley** sites are Harappa (Punjab, Pakistan); Mohenjodaro (Sind, Pakistan); Ropar (Punjab); Lothal, Rangpur and Rojdi (Gujarat); Kalibangan (Rajasthan); Banwali (Haryana); Kot Diji, Amri and Chanhudaro (Sind, Pakistan); Alamgirpur (Uttar Pradesh).

I. Town Planning

1. The houses, built of burnt bricks, were constructed on both sides of the roads.
2. Some houses had only one or two rooms, while others had several, indicating different living quarters for the rich and the poor. Within the houses, the rooms were built around a central courtyard.
3. Windows also did not face the streets. Some houses also had wells to supply water.
4. The entrances to the houses opened into the side alleys, not the main streets.
5. They even had bathrooms.

Important sites of the Indus Valley Civilization

Many cities were divided into two main parts. The western part of the city was raised

to about 30-50 feet above the ground, and was known as the citadel. All public buildings, such as **granaries**, stood on it. Another massive structure found at the citadel in Mohenjodaro was the **Town Hall,** which was probably used as an auditorium or a prayer hall. Twenty pillars of burnt bricks were arranged in four rows of five each. The ruling class also probably stayed in the citadel. To the east and lower down, lay the rest of the city.

A street in Mohenjodaro

II. Drainage System

The Harappan cities had a very sound sewage system. The streets had sewer drains covered with large brick slabs running alongside. Since they were covered, there were holes at regular intervals for cleaning. Drains from bathrooms flowed into the sewers under the main streets.

III. The Great Bath

A large, oblong structure has been unearthed at the citadel in Mohenjodaro. Archaeologists call it the **Great Bath.** It was made of bricks and coated with a natural tar, called **bitumen,** to make it watertight. Steps from two sides led down to the sunken structure. There were even changing rooms around the bath.

Covered drains along the roads, Mohenjodaro

IV. Granary of Mohenjodaro

The Great Bath

The granary at Mohenjodoro was the largest building of the city. There were as many as six granaries in Harappa. Near these granaries, there were circular brick platforms meant for threshing grains. Grains found in the cracks in the floor of these granaries show that they grew wheat and barley.

V. Political and Social Life of the People

No substantial information has come to light regarding the social and political life of Indus Valley people. The figure of a bearded man has been found who might have been a political or a religious head.

Since we know that there were different kinds of craftsmen, it is possible that society was divided into groups according to occupation. A beautiful bronze image of a dancing girl has also been found.

Granary of Mohenjodaro

Spinning and weaving were well-established crafts. People wore cotton and woollen clothes. Women wore jewellery and used ivory combs, as indicated by ornaments found. There is also evidence that women used kohl *(kajal)* in their eyes.

VI. Farming and Rearing of Cattle

Harappan cities were flooded regularly by the Indus and its tributaries, which deposited silt in the surrounding areas. This made the land very fertile. Therefore, it is possible that agriculture became the chief occupation of the Indus Valley people. Wheat, barley, cotton, maize, and millet were the chief crops grown. Ploughs and sickles were commonly used as farm implements.

People also domesticated animals such as buffaloes, goats, dogs, sheep, pigs and asses. The horse, however, was unknown to them.

VII. Toys

Archaeologists have also recovered several types of toys, some of them quite complex. Among relics found here are terracotta cattle with moveable heads, model monkeys that slide down a string, toy carts and whistles shaped like birds.

Ornaments

VIII. Pottery

A large number of utensils found at different Harappan sites clearly indicate pottery making was an important occupation. The wheel was used to shape terracotta pots, which were then baked, glazed and decorated with black designs.

Broken pieces of pottery with motifs of animals and geometric designs have been found at many sites. The variety and fine detail indicate that the craftsmen of the time were very skilled.

IX. Trade and Commerce

Several **seals** of different sizes with a variety of designs have been found at Harappan sites. Some have been discovered at the excavated sites, while over 2,000 seals have been found in Mesopotamia.

Seals were usually square or oblong in shape and were made of soft stone. They depicted an **emblem**, often of a religious character or some animal like a bull, goat, tiger, elephant or rhinoceros. They also carried an inscription.

Some seals were used by merchants as a form of identification. Each merchant family had its own emblem on its **seal**. Some seals were used as amulets.

Dancing girl

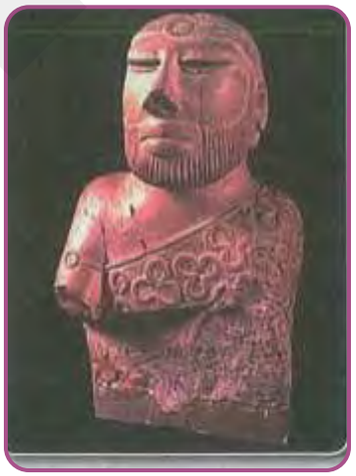
Terracotta toy

The fact that seals have been found in Mesopotamia indicates that products from the Indus Valley reached there. A large number of seals shows that people of these two civilizations had trade relations. Historians believe that the Indus Valley people were not seafaring, although their culture developed near the mouth of the river Indus. It is possible that they used land routes for trade.

X. Religious Beliefs

Bronze figures, seals and pottery unearthed provide clues about the religious beliefs of the Indus Valley people. A humped bull, elephant and rhinoceros engraved on some seals indicate that these animals may have been considered sacred.

In Harappa, the most striking deity is a horned god. On some seals, he is shown seated on a stool, wearing a horned headdress. On others, he is seated on the ground. Some scholars identify him with the Hindu god Shiva, who is also known as Pashupati, the Lord of Beasts.



Bearded man — could have been a political or religious head

Terracotta images of a **Mother Goddess** have also been found in abundance. They seem to have been kept in nearly every home, and may have been a sign of prosperity.

The *peepal* tree and the serpent were also worshipped. Interestingly, there is no evidence of the cow being worshipped or considered sacred.

XI. The Indus Script

The script used by the Indus Valley people is one of the earliest known scripts. In the form of pictographs, it was probably inspired by the early Sumerian script, which was also picture-based. Each picture or symbol represented a word or a sound. The writing was widely used on seals, inscribed on the stone. However, until now,

Mother goddess

historians have not been able to decipher the script. So, the information they contain is still hidden from us.

XII. The Decline

The Indus Valley Civilization lasted for about one-and-a-half millennia. Archaeologists believe that its decline began by 1,500 B.C. Although historians are not sure about the exact cause for its decline, they consider several possibilities.

- At some Indus Valley sites such as Nal and Dabarkot, a layer of ash has been found. Some historians believe this could have been because of large-scale burning down of the settlements.

Seal with image of Pashupati

- At Mohenjodaro and Harappa, fractured skulls have been discovered. This indicates a possible massacre.
- Another likely reason is foreign invasion, probably by the Aryans, who came from outside and destroyed the civilization. By 1,500 B.C., the Indus Valley regions were taken over by the Aryans.
- Another reason could be natural calamities such as flood or earthquake.
- Another reason cited is environmental change caused by deforestation, i.e., large-scale cutting down of forests. The need for wood for building, fuel for baking brick and metal works, would have reduced the forest cover immensely. Large-scale grazing could have further damaged the environment. As a result of these factors, the land would have dried up and lost its fertility.
- Yet another theory suggests that changes in the course of the river Indus left the cities without a source of water nearby. This forced them to move.

Case Study: Indus Valley Sites

The main wall at Lothal

Lothal

Among the Indus Valley sites of India, Lothal in Gujarat is a prominent one. It was an important trading centre

- People of Lothal traded in gems, beads and ornaments.
- A dockyard found at Lothal testifies to the fact that it played an important role in overseas trade as well. It is probably the world's oldest **dockyard.**

- Lothal achieved great advancements in science. People here used a shell compass and divided the horizon and sky into 8-12 whole parts. Perhaps, they were the pioneers in the study of stars and advanced navigation— 2,000 years before the Greeks.
- Lothal was carefully planned. It was divided into blocks of 1-2 metre high (3-6 ft) platforms of sun-dried bricks, each serving 20-30 houses of thick mud and brick walls.
- The city was divided into a citadel and a lower town. The rulers of the city lived in the citadel, which feature paved baths, underground and surface drains (built of baked bricks) and potable water wells.
- The lower town was flanked by shops of rich and ordinary merchants and craftsmen. The residential area was located on either side of the marketplace.
- A thriving town, Lothal was probably destroyed by floods.

Dholavira

- Dholavira was one of the largest cities of the Harappan civilization. This grand city seems to have been built and occupied around 2650 B.C.E.
- Most Harappan cities were divided into two parts, but Dholavira was a city which had three parts. These parts were named the citadel, the middle town and the lower town by archaeologists.
- The citadel was built on a raised area surrounded by a wall. Several buildings made of blocks of stone and a planned drainage system has been found here. Some of the buildings may have been used for religious functions or for administration.
- To the north of the citadel was the middle town which also had a wall around it.
- The third part of the city was the lower town which was not surrounded by walls. Ordinary people like craftsmen and farmers may have lived here.
- Dholavira had a unique water conservation system made of stone. This system had channels and reservoirs or tanks. They were used for storing fresh rain water or the water brought in from nearby streams.
- A large well with a drain made of stone canalized water to a storage tank. This bathing tank had steps descending downwards.

Word Treasure

citadel	:	a raised part of a city surrounded by walls for protection
terracotta	:	brownish-red, unglazed clay, used to make jewellery and artefacts
emblem	:	a pictorial image that epitomises some concept such as moral truth, allegory, etc.
seal	:	an engraved piece of clay, stone or metal used as a stamp for identification
dockyard	:	a place where ships are repaired and built

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. The literal meaning of the word 'Mohenjodaro' is ..... .

i) raised structure ☐ ii) a mound of the dead ☐

iii) a waterfall ☐ iv) a wide road ☐

b. Women used ..... in their eyes.

i) Coal ☐ ii) Khol ☐

iii) Coloured shadow ☐ iv) eyeliner ☐

c. A crop grown at Indus Valley was .....

i) potatoes ☐ ii) mustard ☐

iii) millet ☐ iv) pulses ☐

d. An important Indus Valley site was .....

i) Alamgirpur ☐ ii) Kanauj ☐

iii) Pataliputra ☐ iv) Seals ☐

e. Cuneiform script belonged to .....

i) China ☐ ii) Sumer ☐

iii) Egypt ☐ iv) None of them ☐

f. A dockyard has been found at the Indus Valley site of .....

i) Mohenjodaro ☐ ii) Lothal ☐

iii) Amri ☐ iv) Sind ☐

g. The script of the Indus Valley Civilization was .....

i) calligraphy ☐ ii) pictography ☐

iii) symbolic ☐ iv) numeric ☐

2. Write short answer for the following questions.

a. What was the Great Bath?

b. What was the use of seals during Harappan civilization?

c. Give two reasons for the decline of the Indus Valley Civilization.

d. Write a short note on the evidence that depicts Lothal's advancement in science.

e. Give two factor which indicate that craftsmen of this time were skilled?

3. Answer the following questions in detail.

a. Write a note on the script used by people of Harappa.

b. What gives the indication that a form of government existed in this civilization?

c. Did trade relations exist with different countries during Harappan civilization? Justify your answer.

d. Explain the religious beliefs of the people of Indus Valley Civilization.

e. Mention factors that facilitated the growth of Indus Valley Civilization.

HOTS

Why do you consider town planning to be unique in Harappa? Substantiate your answer with appropriate reasons.

4. Match the following.

Column 'A'	Column 'B'
a. Town Hall	(i) raised area
b. Script	(ii) terracotta
c. Great Bath	(iii) auditorium
d. Citadel	(iv) religious ceremonies
e. Mother Goddess	(v) pictographic

5. Give one word answer.

a. A place where grains were stored ..... .

b. Women used in their eyes ..... .

c. A system of human social development ..... .

d. An engraved piece of clay used as a stamp ..... .

e. A green semi-precious stone ..... .

f. The tree sacred to the Harappans ..... .

6. Picture study.

a. Describe the citadel.

b. What was this great structure used for?

c. Give another name for natural tar.

d. Name the oblong structure.

Value Based Questions

Deforestation has been cited as one of the possible reasons for the decline of the Indus Valley Civilization. What does this tell you about the 'progress' of civilization? Has man learnt from his mistakes? Write a short paragraph, expressing you view.

Activity Zone

On an outline map of India:

a. Shade the extent of the Harappan culture.

b. Mark the Indus river and any three sites on its bank.

c. Collect empty match boxes and create a replica of the great bath.

FLOW CHART

CIVILIZATION

What is Civilization?

- It is a developed state of human society with a large part of human population living in cities marked by maturity and complexity in the political, economic and social structure of the society
- They grew along river banks where land was fertile; all were urban settlements; had many cities; knew the art of making pottery; able to smelt various metals; farming and domestication of animals; interest in science and mathematics

Lothal—An Indus Valley Site: A Case Study

- A prominent Indus Valley site in Gujarat
- Important trading centre
- During Indus Valley Civilization, it was a part of the Arabian Sea
- Pioneers in the study of stars and advanced navigation
- Traded in gems, beads and ornaments
- Carefully planned that it could protect itself from regular floods; city divided into a citadel and a lower town
- The city was probably destroyed by floods

- The early river valley civilizations were Mesopotamian Civilization, Egyptian Civilization, Chinese Civilization and Indus Valley Civilization

The Indus Valley Civilization

- Flourished in the Indus River Valley and its tributaries in the north-western part of the Indian subcontinent between 3,000 BC-1,500 BC
- Some important Indus Valley sites—Harappa, Mohenjodaro, Ropar, Lothal, Rangpur and Rojdi, Kalibangan, Banwali, Kot Diji, Chanhudaro, Alamgirpur

Town Planning

- Roads cut each other at right angles; divided city into large blocks; network of narrow lanes within each block
- Houses constructed on both sides of the road; different living quarters for the rich and poor; few houses had wells and bathrooms
- Cities divided into two main parts—the raised western part with the **citadel, town hall** and **granaries,** and the lower eastern part

Drainage System

- Covered drains along the street; holes at regular intervals for cleaning; drains from the bathrooms flowed into the sewers under the main streets

Great Bath

- Made of bricks and coated with a natural tar to make it watertight, reflected remarkably advanced engineering skills of the time; steps from two sides led down to the structure
- Believed that it was used for religious purposes

Granaries

- It stood on a raised platform to the north of the citadel, protected from floods
- Grain was possibly collected from the peasants as land tax

Political and Social Life of the People

- Society may have been divided according to occupation; bearded men might have been a political or a religious head
- Cotton clothes and woollens; ornaments and *kajal* were used by the people

Farming and Rearing of Cattle

- Main crops grown were wheat, barley, cotton, maize and millet; sickle and ploughs were common farm implements
- People domesticated animals

Pottery

- The **wheel** was used to shape terracotta pots that were baked, glazed and decorated with geometric designs and motifs of animals

Trade and Commerce

- **Seals** of different sizes and designs have been found with emblem of a religious character; carried an inscription
- Large number of seals in Mesopotamia indicates that people of these two civilizations had trade relations

Religious Beliefs

- The most striking deity is a horned god
- Numerous images of **Mother Goddess** have been found; peepal tree and serpent were also worshipped

The Indus Script

- Script in the form of pictographics associated with a word or a sound

Decline

- Various reasons—natural calamities; change in the course of Indus River; possible massacre; deforestation; foreign invasion
- Started declining by 1,500 B.C.

5 Changes And Development with the Arrival Aryans

Key Highlights

- Who were the Aryans and where did they come from?
- Vedas and the life of the Aryans.
- Salient features of the Chalcolithic culture during the Vedic period.

HISTORY

Let's Start With

Can anyone tell me what Vedas are?

Vedas are the sacred texts of the Hindus. They are a collection of many things like hymns, prayers, rituals, etc.

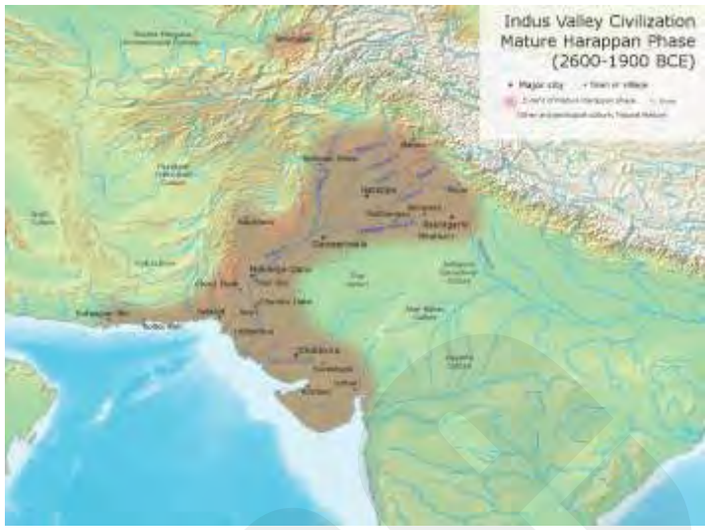
ARYANS AND THEIR NATIVE LAND

The Indus Valley Civilization started declining by 1,500 B.C. and that one of the possible reasons for it might have been the invasion of the **Aryans**. The Aryans, probably belonged to Central Asia, from where they migrated to different parts of the world. The migration was probably because the pastoral lands of Central Asia became dry and barren, or there was an increase in population. The group which came to India, called the **Indo-Aryans**, probably came through the Hindukush mountains in around 1,500 B.C. They had limited knowledge of agriculture.

The Advent of Aryans in India

After their arrival, Aryans settled in the region of the declining Indus Valley Civilization, i.e., around the river Indus in Punjab. This is proved by the fact that the rivers Kurman, Kabul and other western tributaries of the Indus are mentioned in the *Rigveda*. Gradually, they moved eastwards along the river Ganga. Finally, they settled in the region between the river Ganga and Yamuna— the area known as the Ganga-Yamuna doab.

The Aryans brought with them horses and chariots. They subjugated the original inhabitants of the Ganga-Yamuna doab, and reduced them to the status of slaves or dasyus who performed all the menial jobs.



The route of Aryan invasions

SOURCES

Two types of sources are available to us that are helpful in studying the Aryan culture—**literary** and **archaeological**.

Literary Sources

The Vedas : The Vedas are among the world's oldest religious scriptures and belong to this age. There are four Vedas—the *Rigveda*, the *Samaveda*, the *Yajurveda* and the *Atharvaveda*.

- The *Atharvaveda* consists of charms, incantations, or the recitation of words or sounds believed to have a magical effect and magical formulae.
- The *Yajurveda* comprises sacrificial prayers.
- The *Samaveda* is mostly a rearrangement of the Rigveda for musical rendering.
- The *Rigveda* consists of 1,028 hymns.

The Brahmanas : These describe the sacrifices in which the hymns mentioned in the Vedas were to be used. They also explain the meaning of the various sacrificial **rituals**. The most important of the *Brahmanas* is the *Shatapatha Brahmana* of the *Yajurveda*.

Other theological works are the *Aranyakas* and *Upanishads*. They are the spiritual interpretations of the Vedas, and are assumed to be their concluding portion. Hence, they are also known as *Vedanta* (the end of the Vedas).

The Vedas give us a wide range of information about life in the Vedic Age—about the daily life of the people, their religious beliefs and their rituals.

Since the Vedas are one of the most important sources of information for the Aryans, the period of Aryan settlement is also known as the **Vedic Age**.

Archaeological Sources

The most important archaeological source is **pottery**, which has been found at various places associated with the Aryans. Relics unearthed provide information about the Aryans and their religious and social beliefs.

Let's Think

Why is the Vedic Age also called the Iron Age?

Remains of Vedic Age pottery, excavated in the Ganga Valley have been termed **Painted Grey Ware Pottery** (PGW). It was, at times, contemporary to and a successor of the **Black** and **Red Ware Pottery** of the Late Harappan Civilization. The Painted Grey Ware Pottery was followed by **Northern Black Polished Ware**, in about 500 B.C.

In about 3,000 B.C., people started making **iron tools** in West Asia. Iron was harder than copper and bronze. So, many agricultural implements such as sickles, shovels, spades and ploughshares were made of iron. Iron axes helped man to clear dense jungles and helped in the spread of civilizations. In India, iron implements came to be used from about 1,000 B.C.

MEGALITHIC BURIALS AND DISPOSAL OF THE DEAD

A **megalith** is a grave or a memorial for dead people.The word 'megalith' comes from two Greek words 'mega' meaning 'big' and 'lithos' meaning, `stones'. `Megalith' therefore means 'big or large stones'. Many tribes of India have built various megalithic architectures since Neolithic and Chalolithic Ages. The megaliths were burials in graveyards away from the area where people lived.

Megaliths have various shapes and forms. These shapes and forms may have been used by different tribes for dead people according to their hierarchy or importance or to show different causes of death.

Megalithic Tomb, Mane Braz, Brittany

Many megalithic burials have been found in Maharashtra (around Nagpur), Maski (Karnataka), Nagatjunakonda (Andhra Pradesh), Adichanallur (Tamil Nadu) and Kerala.

The megalithic burials show a variety of methods for the disposal of the dead bodies. In some cases, the bones of the dead were collected in large urns and buried in a pit. This pit was marked by a circle made of stones. Another kid of megalithic burial found is a grave with rows of stones in a diagonal or square pattern.

LIFE OF THE PEOPLE

Political Life

The Aryans lived in tribal settlements. Each tribe had many villages under it. The community was referred to as *Jana* and the small kingdoms that they formed were

known as *janapada*. These tribes fought battles for cattle, land and water. They used horse-drawn chariots in these battles.

A village or *grama* was the smallest unit. The tribes elected a king called *Rajan*, who protected his tribe from external attacks and looked after law and order within the village. He was assisted by the *Senani* or the commander of the forces, the *Purohit* or the priest and the *Gramani* or the village headman.

Two assemblies, the *sabha* and the *samiti*, advised the king on important matters such as wars. The *sabha* comprised some selected people of the village while the *samiti* comprised all the villagers.

In the Later Vedic Age, the king became an absolute ruler, and was both the supreme commander of the army and the chief justice. He used titles such as *Samrat* and *Maharajadhiraj*. He performed the *Rajasuya* sacrifice and the *Ashwamedha yajna* to exhibit his power. The king was assisted by another minister, the *sangrihitri*, who collected tax. The structure of the *sabha* and the *samiti* also changed—they began to be dominated by the Brahmins. Women were no longer allowed to become their members.

Social Life

The Aryan society was divided into four groups based on occupation. These groups were called varnas. They were:

- ***Brahmins*** - the priests and teachers who performed religious ceremonies.
- ***Kshatriyas*** - the warriors who fought to protect the people.
- ***Vaishyas*** - the farmers, craftsmen, shopkeepers and traders.
- ***Sudras*** - the indigenous residents of the Ganga Valley or the dasas. They did menial jobs such as sweeping, cleaning, and disposing of dead bodies.

In the early Vedic period, the caste system was based on occupation. However, in the later Vedic period, the caste system came to be based on a person's birth. For example, a Brahmin's son or daughter would always be a Brahmin. As a result, the caste system became rigid.

Family

The Aryans lived in patriarchal joint families.The male head of the family took all decisions. They were supposed to serve their male relatives.

However, women were also held in great respect and were allowed to participate in all religious ceremonies with their husbands. There were no restrictions on marriages between the social groups. Music, dancing, chariot racing, gambling and the game of dice were the chief sources of recreation.

Economy

- Cattle rearing and agriculture were the main occupations during the Early Vedic Age. Other occupations included hunting, pottery, spinning, weaving, carpentry, metalwork and leather work.
- Barley, wheat, rice, fruits and vegetables were grown. Wooden ploughs drawn by oxen were used in the fields. Cows, horses, dogs, sheep, goats and oxen had been domesticated and were used. The cow was considered sacred.

Early and later Vedic Settlements

- Apart from agriculture crafts also developed during the Later Vedic Age. The expertise in weaving, leather work, pottery, jewellery designing and carpentry improved.
- With the discovery of iron, agricultural tools and weapons were made. Trade flourished and village settlements developed into towns.

Wheat

Dress

The dress of the Aryans was somewhat similar to that of the Harappans. Wool and cotton were used to make garments. Men wore *dhotis* and *turbans*, while women wore *saris*. Both men and women wore ornaments of gold, silver, etc.

Religion

The main objects of worship were the *Devas*, derived from the Latin word *deus* meaning 'shining ones'. The gods of the Early Vedic Age were mostly male, and were mainly connected with the sky.

The Aryans worshipped various forces of nature because they wanted protection from the natural disasters. The important ones were *Indra*, the warrior God; *Agni*, the God of fire; *Varun*, the sky God; *Prithvi*, the Goddess of the Earth; *Aditi*, the mother of the Gods; *Usha*, the Goddess of dawn; *Ratri*, the spirit of night; and *Aranyani*, the lady of the forest. Another important God was *Soma*, the God of the plant from which a special intoxicating drink was extracted, which was drunk only during special occasions.

However, neither temples nor image worship was prevalent. The Aryans worshipped in the open, offering prayers, making sacrifices and singing hymns. The *Rigveda* has

many prayers for cattle and horses. Many hymns of the *Rigveda* are dedicated to *Soma*. They have been placed in a separate book called *Mandala*.

In the Later Vedic Age, people began to worship new gods such as **Brahma**, the Creator; **Vishnu**, the Protector; and **Shiva**, the Destroyer.

Rituals and sacrifices became very complex and were performed elaborately. Special occasions such as the birth of a child or a marriage, were celebrated with lavish ceremonies. Priests received gifts of gold, clothes, cows and horses.

Education

The system of education prevalent among the Aryans was called the **Gurukul** system. The teacher or the guru lived in an *ashram*, which was often isolated within a forest. Once accepted by the guru, the student or the *brahmachari* lived in the *ashram* with the teacher. The *guru* taught the student, who in return, served his teacher and helped out with household tasks.

A gurukul

Much of the Vedic culture has survived till today. For the Hindus, the Vedas and the *Upanishads* are still sacred. The Sanskrit we use today, originated in the Vedic period. To a large extent, most of the Indian languages trace their origin to Sanskrit. Hence, the Vedic Age holds a prominent place in Indian history.

Inamgaon — A Chalcolithic Site: A Case Study

Inamgaon is the name of a Chalcolithic site in Maharashtra, near the river Ghod. The site was excavated in the 1960s and 1970s. Archaeologists have found much information about the early farmers who lived at this site from 1,600 B.C. to 700 B.C.

- 134 mud houses have been excavated at Inamgaon. These houses were usually rectangular and quite spacious. One of the biggest houses had as many as five rooms. They were sometimes divided by a partition.
- Inside the houses, there were oval-shaped pits where people cooked their food.
- Some other structures built during that period include wall around the settlement, landing platforms for boat, and an embankment and channels built to use the water of the Ghod river to irrigate the fields.

- The richer farmers probably lived in the centre of the settlement. Artisans such as potters, goldsmiths, lime makers and ivory-carvers lived on the western edge of the settlement.

Tools and pottery

Archaeologists have found red pottery with black designs on them at Inamgaon. Tools found at Inamgaon were made of stone, probably used for cutting plants and animal hide. Copper was known to the people, but it was not used much.

Eating habits

People grew crops such as wheat, barley, lentils, peas, gram and beans They domesticated cattle, sheep, goats, dogs, horses and pigs. People ate plant food, meat and dairy products.

Artefacts

Artefacts found in Inamgoan are terracotta figurines, such as the animal figurines and beads, made of terracotta, semi-precious stones, ivory and even seashells. All these indicate trade relations with other settlements. The most frequent animal figure is the bull, which might have been worshipped.

Burial

Objects were placed inside burials. In one such burial, archaeologists have found a clay bull and a headless female figurine. Below these, there was a clay box with a female figurine in it. The curious thing was that there was a hole in the stomach of the headless female and in the back of the bull figurine.

Decline

Around 1,000 B.C. onwards. Inamgaon showed signs of decline. There was a decline in farming activity. People started relying more on hunting and collecting wild plants. They also started keeping more sheep and goats instead of cattle. There were changes in the kinds of houses they lived in. Instead of the large, rectangular houses, we find small, round huts. It seems, people were becoming poorer and their old way of life had come to an end.

Word Treasure

rituals	:	religious ceremonies.
Aranyakas	:	religious texts that form part of the Vedas; concerned with the proper performance of rituals, particularly those that could be observed only in wilderness and involved danger to life.
Jana	:	a tribe in the Vedic Age.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Education system prevalent among Aryans was called .....

i) Gurukul ☐ ii) Ashram ☐

iii) Bramchari ☐ iv) Upanishad ☐

b. People started making tools in West Asia in .....

i) 3000 B.C. ☐ ii) 2900 B.C. ☐

iii) 3100 B.C. ☐ iv) 2800 B.C. ☐

c. ..... is the name of the God of the plant from which a special intoxicating drink was extracted.

i) Varun ☐ ii) Soma ☐

iii) Aditi ☐ iv) Prithvi ☐

d. ..... comprises charms, inchantations and magical formulae.

i) Samaveda ☐ ii) Rigveda ☐

iii) Yajurveda ☐ iv) Atharvaveda ☐

e. ..... did menial jobs such as sweeping, cleaning, etc.

i) Kshatriyas ☐ ii) Vaishyas ☐

iii) Sudras ☐ iv) Brahmins ☐

f. The minister who collected taxes was called .....

i) senani ☐ ii) sangrihitri ☐

iii) gramani ☐ iv) purohit ☐

g. The farmers, craftsmen, shopkeeper and traders all came under ..... group.

i) Vaishya ☐ ii) Sudras ☐

iii) Kshatriya ☐ iv) Brahmin ☐

2. Short answer questions.

a. Explain the political structure at the time of Aryans?

b. Mention two features of the religion practised during the Early Vedic Age.

c. What were the main occupations of the people during Early and Later Vedic Age?

d. What are *Brahmanas*?

e. Name the main new deity of Aryans?

3. Answer the following questions in about 60-80 words.

a. What are the main literary sources of information we have of the Vedic Age? Explain the four divisions of this source.

b. Who were the Aryans and where did they come from?

c. What changes did the Aryans make after they settled in the Ganga Yamuna doab?

d. What changes were bought into the political life of the people in the later Vedic Age?

e. How was Aryan society divided? What were the functions of each social group?

Explain some of the practices that have continued from the Vedic age till present day.

4. Answer the following quiz.

a. I am the Hindu God of sky .....

b. I am considered a sacred book for the Hindus. .....

c. I was the commander of forces.....

d. I did menial jobs such as sweeping and cleaning. .....

e. I am the archaeological source associated with the Aryans. .....

f. I am the first of a series of four books and one of the world's oldest scriptures .....

5. Complete the sentences.

a. The original home of the Aryans was .....

b. The ..... is the last of the Vedas.

c. The Later Vedic Age extends from ..... B.C. to ..... B.C.

d. The Aryans who settled in India were called the .....

e ....., ... and ..... were the main gods worshipped during the Later Vedic Age.

f. Inamgaon is the name of a Chalcolithic site in ..... .

6. Solve the following crossword puzzle with the given clues :

Across

a) God of fire

b) Theological work

c) A tribe in the Vedic Age

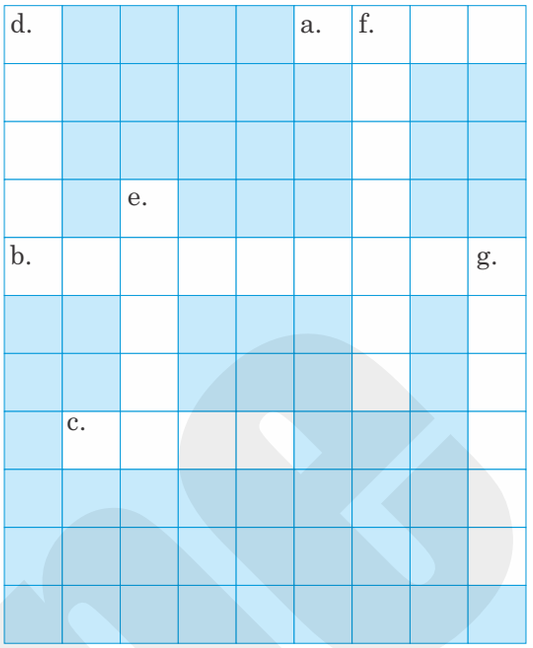
Down

d) The destroyer

e) A committee of selected members

f) System of education

g) A general assembly of all the villagers



Value Based Questions

Although there is a difference of many centuries between Vedic Age and present day India, some things have changed and some haven't. List some of these and express your views on them. You can work in pairs or groups.

Activity Zone

1. **Imagine yourself to be a student under the Gurukul system of education. How do you think your life would be different or similar to the students of the present system of education?**
2. **Vedic customs—do we still follow them?**

   The Vedic religion is considered to be the base of Hinduism. The Vedic religion, as you have read in this chapter, was full of rituals and sacrifices and the Brahmins played a very important role in it. Let us study some of the features of Hinduism and see if any of the Vedic customs still continue.

   How to go about the project

   - Elaborate on these points: similarities and dissimilarities
   - Customs and rituals at birth and death
   - Importance of priests
   - Idol worship
   - Temples
   - Rituals such as the *Ashwamedha yajna*.

FLOW CHART

ARYANS

Advent of the Aryans
- They probably belonged to Central Asia and settled around the Indus River in Punjab; gradually they moved eastwards along the Ganga.
- The Aryans subjugated the original inhabitants and reduced them to the status of slaves.

Sources
- **Archaeological:** pottery provides information about the Aryans and their religious and social beliefs; Painted Grey Ware Pottery has been excavated in the Ganga Valley.
- **Literary:** the four Vedas—The *Rigveda*, the *Samaveda*, the *Yajurveda* and the *Atharvaveda* belongs to this period; it gives an insight about daily life of the people, their religious beliefs, etc; *Brahmanas*, *Aryakas* and *Upanishads* are other theological works.
- Vedic period is divided into—Early Vedic Age (1,500-1,000 B.C.) and the Later Vedic Age (1,000-600 B.C.)

EARLY VEDIC AGE

Political Life
- Lived in tribal village settlements; community known as jana and small kingdoms as janapada; fought for cattle, land and water on horse-drawn chariots.
- *Grama* was the smallest unit, *Rajan* was assisted by *Senani, Purohit* and the *Gramani*; *sabha* and *samiti* advised the king on important matters.

Social Life
- Society divided into Brahmin, Kshatriya, Vaishya, Sudra on the basis of occupation.

Family
- Patriarchal joint families; decision-making by male head of the family; women held in great respect; no restrictions on marriages between the social groups.

Economy
- Cattle-rearing and agriculture; oxen-driven wooden ploughs.
- Hunting, pottery, spinning, weaving, carpentry, metalwork and leather work.
- Animals were domesticated; cow was considered sacred.

Religion
- Various forces of nature were worshipped by the Aryans; no image worship or temples; many prayers for cattle and horses.

LATER VEDIC AGE

Political Life
- King became an absolute ruler; used titles like *Samrat* and *Maharajadhiraj*; assisted by the tax collector *sangrihitri*.
- Change in the structure of *sabha* and *samiti*; dominated by Brahmins; women could not become members.

Family
- Caste system based on one's birth; rigid caste system.
- Women forbidden to participate in religious rites; to serve male members.

Economy
- Agriculture; improvement in weaving, tannery, pottery, jewellery, designing and carpentry.
- Agricultural tools and weapons made with discovery of iron.

Religion
- People began to worship *Brahma*, *Vishnu* and *Shiva*.

Inamgaon—A Chalcolithic Site: A Case Study
- A Chalcolithic site in Maharashtra,excavated in the 1960s and 1970s.
- Houses were rectangular, spacious with sometimes a partition; oval pits to cook food.
- Landing platforms for boat; embankments and channels to use water for irrigation.
- Artisans lived in the western edge, the rich farmers lived in the centre of the settlement.
- Red pottery with black designs have been found; stone tools for cutting plants and animal hide.
- Cultivation and domestication of animals was practiced.
- Terracotta figurines and beads, semi-precious stones, ivory and sea shells indicate trade relations with other settlements.
- Objects were placed inside burials.
- Society started declining; people became poorer and started living in small, round huts; reverted to hunting and gathering, decline in agriculture.

Dress
- Garments were made of wool and cotton.
- While men wore *dhotis* and *turbans*, women wore *saris*.
- Ornaments of gold and silver were worn by both men and women.

Education
- Gurukul system was prevalent where the *brahmachari* lived in the *ashram* with his *guru*.
- Sanskrit originated in the Vedic period

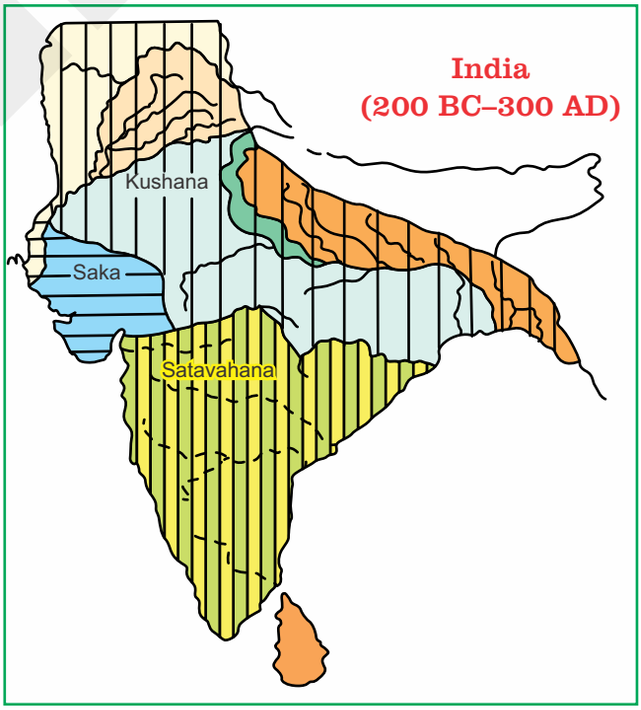
The Deccan and the Southern India

Key Highlights

- Prominent rule in South.
- Relation between North and South in various sphere.
- Development in area of religion art and science.
- Beginning of new era named Bhakti.

Let's Start With

The Mauryan period lasted from 321 BC to 185 BC. After the Mauryas, India was divided into a number of kingdoms. The Shunga, Kanvas, Satavahana and Kharvelas were part of the subsequent history of northern India. Likewise, Satavahanas, Cholas, Pandyas, and Cheras ruled in the south India. Around this time many foreign tribes also entered the Indian Subcontinent through the north-western mountain passes.



India from 200 BC to 300 AD

KINGDOMS OF THE DECCAN

Dakshin, a Sanskrit word, meaning 'south', distorted by the British became 'Deccan' and in the southern part of the Indian Peninsula, it was known as Dakshinapatha in ancient times. It was that part of India which lay to

the south of the Vindhyas and river Narmada. To the south of the Deccan there lived the Dravidian language-speaking people. The founder of the Satavahanas dynasty was Simuka.

The Satavahanas

In the Deccan and Central India, the Satavahanas were the most important native successors of the Mauryas. They are also known as the Andhras. They encouraged trade and commerce. Therefore, the country became very prosperous under them. The most famous of the Satavahana kings was Gautamiputra Satakarni.

Gautamiputra Satakarni (106-130 AD)

Satavahana Coins

Gautamiputra Satakarni was regarded as the Lord of Dakshinapatha. He was a great conqueror. Before his accession, the Sakas had driven the Satavahanas away from Nasik in Maharashtra and western India. But Gautamiputra Satakarni defeated the Sakas and reinstated the power and prestige of the Satavahanas. The Satavahana kingdom extended from the Krishna delta to the mouth of the Godavari in the east, and extended up to Nasik, the Kathiawar area (for some time) and a little beyond the Narmada, into the north.

Contact between South India and North India and Promotion of Trade and Commerce

Indo-Greek coins

To establish good relationship between South India and North India, the Satavahana kingdom played very important role. There was a brisk trade between the Deccan and north-western India. The growth of trade and commerce boosted the prosperity of numerous towns and, in fact, that of the entire kingdom. On the west coast, the port of Bharuch provided good chance for foreign trade. This port was used by the ships coming from Iraq, Persia, Arabia and Egypt. Trade with Burma and Malaya was carried on through ports in the Godavari delta, on the eastern seacoast.

Administration of Satavahanas

The Satavahanas were good administrators. The king got unlimited power. The provincial governor was generally appointed as the Senapati. The administration in the rural areas was also placed in the hands of a Gaulmika, who was the head of a military regiment. The headman of each village was responsible for collecting land revenue and other taxes.

Religion

Rich merchants and the leaders of guilds of artisans had enough money to spare to make Jainism and Buddhism more popular. Most of the merchants were either Buddhists or Jains. Therefore, they made generous donations to the cause of popularising them. The donated money was used to decorate stupas and chaityas. The chaityas were halls of Buddhist worship, while the stupas were large semicircular mounds in which the relics of Buddha or Buddhists monks were enshrined. Thus, stupas were the most important of all Buddhist monuments. There are two famous stupas—one at Sanchi, near Bhopal and the other at Amravati in Maharashtra.

The monasteries that were near the stupas were called viharas. A vihara consisted of a central hall with a doorway entrance from a verandah in front. Buddhist monks lived in the viharas. Many of the Buddhist viharas were built close to cities. Two such monasteries have been found at Taxila, near Peshawar and at Sarnath, near Varanasi. The monks living in these monasteries would go into the cities and beg for alms. Some Buddhist monks lived in monasteries which were carved into hillsides. In fact, these monasteries were huge caves. Like stupas and chaityas, viharas were also decorated with sculptures. The monasteries at Karle and Vidisa are remarkable specimens of architecture.

Chaitya Hall

Stupa at Amravati

A Buddhist Stupa

Kingdoms of North India

The Shunga dynasty, established by Pushyamitra, ruled for 112 years. The famous Sanchi Stupa near Bhopal was built during the Shunga era. The gateways and railings around the stupa were built during Satavahana rule.

The Shungas were always at war with the Satavahanas and the Deccan powers and with Kharvela, king of Kalinga. Kharvela even attacked Pataliputra. The Shungas were finally overthrown by the Kanvas. The rule of the Kanva dynasty was, however, shortlived.

KINGDOMS OF THE SOUTH

The Southern Kingdoms

Chola, Pandya and Chera the three importance kingdom in South India. These kingdoms made rapid progress during the early history of South India. The main source of our knowledge about these kingdoms is the Sangam literature.

Pillar of Heliodorus near Vidisa

1. The Chola Kingdom

The Chola kingdom was situated in an area to the north-east of the Pandya kingdom, between the Pennar and the Velar rivers. The chief centre of this kingdom was Uraiyur, a place famous for its cotton trade. Karikala was the most powerful Chola ruler. A Chola king named Elara conquered Sri Lanka and ruled over it for nearly 50 years. This proves that the Cholas had a fleet of large, seaworthy ships and were experts in naval warfare. Kaveripattinam was the capital of Chola.

2. The Pandya Kingdom

The Pandya kingdom was famous for pearls. The Pandyas occupied the southern most and the south-eastern portion of the Indian Peninsula. It covered Tirunelveli, Ramnad and Madurai in Tamil Nadu. The Sangam literature talks about some of the Pandya kings of whom Nedunchezhian is the best known. The third Sangam in Madurai was probably held under his patronage. The Pandyans were great patrons of art and literature. Madurai was the hub of the Pandya kingdom.

Chera and Pandya coins

3. The Chera Kingdom

The Chera kingdom was situated in the west and north. It included the regions between the sea and the mountains covering a portion of modern Kerala state. Vanji was its capital. This kingdom owed its eminence to trade with the Romans. Neduncheraladan was a famous Chera king who fought against the Cholas and the Pandyas.

Trade and Routes

Chola, Pandya and Chera were greatly enriched by their trade with Rome. There was a brisk foreign trade between India and the west. The Romans were the chief customers of south Indian goods such as spices, textiles, precious stones, birds, (usually peacocks) and animals (such as bears and monkeys). The markets of Rome were

full of Indian luxury goods. Roman ships came from the Red Sea across the Arabian Sea to the Malabar Coast or sailed up the straits of Mannar to the east coast.

The condition of the trade was very good in the country. The south Indians sent their goods to the North Indians. The trade made South Indian kingdoms very rich.

Foreign Invasions

The Mauryan empire split into many kingdoms after the death of Ashoka. The north-western part of India now saw the coming of a number of warlike foreign races—the Bactrians, Parthians, Sakas, and Kushanas. They came in the years between 200 BC and 100 AD.

Roman Coins found at Arikamedu

Invasion of the Bactrian Greeks

First of all, the Bactrian Greeks came to the north western part of India. They were also called the Indo-Greeks. Menander, their most powerful king was also known as Milinda. He embraced Buddhism. A number of coins of their dynasty give information about this dynasty.

Headless Statue of Kanishka

Invasion of the Sakas

After the Indo-Greeks, the Sakas came to India. They capatured a larger part of India than the Greeks did. They came to western India and overran sind and Saurashtra. They finally settled down in Kathiawar and Malwa. The most famous Saka ruler in India was Rudradaman (130-150 AD). The Sakas successfully checked the expansion of the Satavahanas north of the Narmada.

Invasion of the Kushanas

They first occupied Bactria or north Afghanistan by displacing the Sakas. Gradually, they advanced to the Kabul valley and seized Gandhara, replacing the rule of the Greeks and the Parthians in these areas. They then established themselves at Taxila and Peshawar. Their two major centres of power were Peshawar and Mathura.

Kanishka coin

Kanishka was the most famous Kushana ruler. From the statue, situated at Mathura, it is evident that he was a well built man. He worked hard to make his kingdom strong and powerful in Northern India. He conquered Kashmir, Punjab and Mathura. But his real fame rests upon the wholehearted patronage he gave to Buddhism. He organised a Buddhist council in Kashmir where the doctrines of Mahayana form of Buddhism were finalised. He gave monetary support for building Buddhist monasteries. Kanishka was also a great patron of art and the Sanskrit language.

Art

Greek sculpture was brought to Northern India from the contacts of Western Asia. Indian craftsmen, especially in the north-western frontiers of India in Gandhara, were greatly influences by this new style of sculpture. They adopted the style with local influenced and thus gave rise to a new kind of art in which the images of Buddha were made in the Greco-Roman style. This new style of art came to be known as Gandhara art.

The Mathura school of art was the result of Gandhara art. A famous specimen of this art is the headless statue of Kanishka found at Mathura.

Exchange of Ideas

New ideas on religion, art and science influenced various aspects of Indian Culture because of contacts with Central Asia. The Greek too enriched Indian culture immensely. India came in closer contact with Iran and Western Asia. The Kushanas controlled the Silk Route, which started from China and passed through their empire in Central Asia and Afghanistan to Iran and Western Asia. This trade route was a great source of income to the Kushanas. A number of Indian goods were carried to the towns and ports of the Mediterranean Sea. This brought gold in India. Booming trade made towns like Taxila, Mathura, and Ujjaiyini prosperous and important cities.

Religion

Indian religions especially Buddhism were greatly influenced by the foreigners. It was no longer the simple religion which Buddha had taught. It had changed immensely by now, and had split into two parts: Mahayana or the Great Wheel, and Hinayana or the Small Wheel. The followers of the Mahayana sect began to worship the images of Buddha and the 'Bodhisattvas. We find many stories about them in the Jakata tales. Soon, the Mahayana form of Buddhism became the dominant sect and spread throughout China and Central Asia.

Buddha

Expansion of Buddhism

Buddhism attracted a large number of followers because of its simplicity. The Buddhist monks did selfless service to spread Buddhism, and many kings became followers of Buddhism.

Eventually, Buddhism, born in Magadha, spread to many parts of the world. Kings like Ashoka and Kanishka took vigorous steps to spread this religion, not only in India but also in foreign countries. Kanishka and Ashoka sent missionaries to South-East Asia. Today Buddhism is a world religion. As it is casteless, it attracts those wishing to sidestep the caste system.

Today countries like China, Thailand, Japan, Myanmar and Sri Lanka are known as Buddhist countries. Buddha has been rightly called the "Light of Asia." Today, Buddhism has even become popular in Europe.

Fact File

The ideas of the Bhakti movements later became the central feature of Hinduism.

Science

Indian astronomy and astrology profited by contact with the Greeks. We notice that the Greek terms related to the movement of the planets are almost the same as the terms used in Sanskrit texts.

There is no denying to the fact that Indians are not indebted to the Greeks in medicine. Physicians like Sushruta and Charaka dealt with the subjects adequately. Charaka lived in the court of Kanishka. The Charaka Samhita contains names of many plants and herbs from which drugs were prepared to treat the ailing. Considerable achievements were made in the field of surgery.

Period between 200 BC to 300 AD : During this period the Indians got tremendous achievement in all walks of life. Indian culture was enriched by the influx of new knowledge and new practices. Modern India's official calendar is the ancient 'Saka Calendar' founded by Kanishka.

THE BEGINNINGS OF BHAKTI

The beginning of the Bhakti movement was an important achievement of this period. The concept of Bhakti originates from the Bhagvad Gita. The Bhagvad Gita is a part of the great epic, the Mahabharata. In the Bhagavad Gita, Krishna asks his devotee Arjuna to surrender in him, as only he can set him (Arjuna) free from every evil.

Bhakti comes from the Sanskrit word 'Bhaja', which means to share *bhaga* or good fortune by the blessing of God. Bhakti means devotion or complete unquestioning surrender before the Lord. The devotee is known as a Bhakta. In Bhakti, there is no place for desire, only sacrifice. Bhakti does not allow any Brahmanic creeds or rituals. Bhaktism emphasizes devotion and individual worship of the god or goddess. The ideas of the Bhakti movement later became the central feature of Hinduism.

Fact File

Dr. BR Ambedkar, the architect of Indian constitution, got converted to Buddhism just before his death on December 6, 1956.

Word Treasure

Hub	:	central point of activity
Patronage	:	support given by a patron
Missionary	:	a person sent on a religious mission
Bhakti	:	a person sent on a religious mission

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Who is regarded as the lord of Dakshinpatha?

i) Ashoka ☐ ii) Mahavir ☐

iii) Gautam Buddha ☐ iv) Gautamiputra Satakarni ☐

b. The Mathura school of art was the result of ..... art.

i) sakas ☐ ii) Gandhara ☐

iii) Mauryan ☐ iv) Roman ☐

c. The ..... kingdom was situated in the west and north.

i) pandya ☐ ii) chola ☐

iii) chera ☐ iv) Deccan ☐

d. Saka calender was founded by ..... .

i) Ashoka ☐ ii) Pushyamitra Sunga ☐

iii) Kanishka ☐ iv) Neduncheraladan ☐

e. ..... was a famous chera king who fought against the cholas.

i) Gautamiputra Satakarni ☐ ii) kanishka ☐

iii) Pushyamitra ☐ iv) Neduncheraladan ☐

f. Which of these is related to Buddhism?

i) Ramayana ☐ ii) Mahabharata ☐

iii) Puranas ☐ iv) Jakata tales ☐

g. Buddha preached in ..... .

i) Hindi ☐ ii) Sanskrit ☐

iii) Pali ☐ iv) Tamil ☐

h. Which empire lasted from 321 BC to 185 BC?

i) The Gupta Empire ☐ ii) The Harsha ☐

iii) The Mauryan Empire ☐ iv) None of these ☐

2. Short answer questions.

a. Who were Satavahanas?

b. Which articles were exported to Rome?

c. Name the kingdoms that came up after the decline of the Mauryan Kingdom.

d. Why is Lord Buddha called "Light of Asia" ?

e. What was silk Route?

f. What were the chaityas?

3. Answer the following questions in about 60-80 words.

a. What was the purpose of Chaityas and Stupas?

b. Discuss the role of Kanishka in spreading Buddhism.

c. How did Buddhism spread to other parts of the world ?

d. Who was Gautamiputra Satakarni? What he did for his empire?

e. Why did the Mauryan empire fell apart after the death of Ashoka?

f. Discuss about the Greco-Roman Ayle of art?

HOTS

a. From where did the concept of Bhakti originates?

b. India is the birthplace of Buddhism and here Buddhists are in minority. Why is it so?

4. Fill in the blanks.

a. The south Indian rulers showed tolerance towards the ..... .

b. The founder of the Satavahana dynasty was ..... .

c. Kanishka was the most famous ruler of ..... .

d. The Satavahanas are also called ..... .

e. Mathura School of Art was the result of ..... art.

5. Define the following terms.

a. Deccan

b. Chaityar

c. Andhrar

d. Silk Route

6. Match the following.

Column A	Column B
1. Gaulmika	i) Chola
2. Karikala	ii) Chera
3. Rudradaman	iii) Buddhist branch
4. Vanji	iv) Saka
5. Mahayana	v) Military officer

Value Based Questions

1. How did the Sakas capture a large part of India?
2. Who were the Bactrian Greeks?
3. Who was the most famous kushana rular?
4. Which kingdom occupied the southern most and the south – eastern portion of the Indian Peninsula?
5. How did the Shungas overthrown by the kanvas?

Activity Zone

Collect pictures of various Indian relics of ancient India found in other countries of the world and paste them in your scrapbook.

FLOW CHART

KINGDOMS OF THE DECCAN

KINGDOMS OF NORTH INDIA

- The Shunga dynasty, established by Pushyamira ruled for 112 years.
- The famous Sanchi Stupa near Bhopal was built during the Shunga era
- The gateways and railings were builts during Satavahana rule

KINGDOMS OF SOUTH INDIA

CHOLA KINGDOM

- It was situated in an area to the north-east of the Pandya kingdom.
- It was situated between the pennar and the vellar rivers.

PANDYA KINGDOM

- It was famous for pearls.
- The Pandyas occupied the southern most and the southern eastern portion of the Indian Peninsula.

CHERA KINGDOM

- It was situated in the west and north.
- It included the regions between the sea and the mountains.

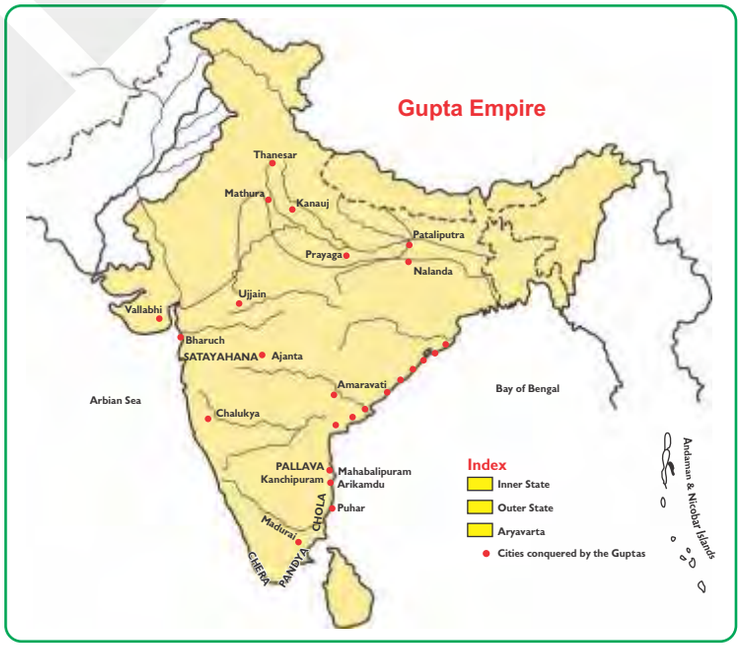
7 New Empires and Kingdoms

Key Highlights

- The Golden Age of Indian History Gupta Age.
- Major Rulers of Gupta Dynasty.
- Conquests and Rule of Gupta Dynasty.
- Development in various sphere of art and science.
- Decline of Gupta Dynasty.

Let's Start With

The Gupta Age is considered the **Golden Age** of ancient Indian history. On the other hand, the period between the decline of the Kushanas and the rise of the Guptas is called the "Dark Ages".



Gupta Empire

CHANDRAGUPTA I (320–335 AD)

Chandragupta I was the first ruler of the Gupta dynasty. He ruled over India from 320 AD to 355 AD. He was the first to have the title of **Maharajadhiraja**. He ruled over Pataliputra. When he came to the throne, Magadha was the only territory he ruled. He married the

Lichchhavi princess, Kumardevi. With the help of the Lichchhavis, he was able to extend his empire over Saket (the region of Ayodhya), Prayaga (Allahabad) and Magadha.

Gupta Temple at Sanchi

SAMUDRAGUPTA (355–380 AD)

Samudragupta became the successor of Chandragupta I. He defeated many territories of India and added them to his kingdom. Therefore, he is known as the **Indian Napoleon**. Unlike Napoleon, however, he was never defeated in battle. Thus, he can be said to be even greater than Napoleon.

Conquests of Samudragupta

He was one of the greatest rulers of the Gupta dynasty. He was chosen by his father to succeed him. As soon as he became king, he proceeded on a long campaign which brought him many victories. First he defeated northern India, and added Delhi and Uttar Pradesh to his kingdom. He fought against a number of kings in the Deccan and Southern India such as those of Odisha, Andhra Pradesh and Tamil Nadu.

Samudragupta

Samudragupta defeated many kings in eastern India. He set out against the forest tribals of the South. The tribals of the south, accepted his rule and pledged loyalty to him.

He then triumphed over nine tribal republics of Rajasthan. He marched further West and North. The Saka and Kushana kings also agreed to pay tribute. The power of Samudragupta extended beyond India. The king of Sri Lanka and South-East Asia, regularly paid tribute to the Gupta emperor. The Gupta Empire was mainly confined to northern India.

A great poet and scholar

Samudragupta was not only a great conqueror, he was also a great scholar, a poet and a lover of music.

Samudragupta had keen interest in art and learning. He himself was a good poet and

Fact File

The Allahabad pillar Inscription, also known as Prayag Prashasti, composed by his court poet Harisena, is the main source of information on his conquests.

musician. In one of his coins, he is shown playing a **Veena**. Though he was a Hindu, he showed respect towards other religions. He was also a patron of learning. He worshipped Lord Vishnu.

CHANDRAGUPTA II (380–412 AD)

Chandragupta II is known as Chandragupta Vikramaditya. He was the son of Samudragupta. In 380 AD, he ascended the throne. He extended the boundaries of his empire by matrimonial alliances and other conquests. He married with a Naga princess. His first military achievement was his victory over Bengal, but his greatest victory was the one over the three provinces of western India – Malwa, Gujarat and Kathiawar.

He assumed the titles of 'Vikramaditya' (the son of bravery and power) and 'Sakari' (the enemy of Sakas) after defeating the Saka chiefs. He maintained friendly relations with the kings of the Deccan and South. Fa-Hien, the Chinese traveller, visited India during the reign of Chandragupta II and left a comprehensive account of life in the Gupta Empire.

Achievements of Chandragupta Vikramaditya

1. He developed trade relations with China as well as with Rome and Egypt.
2. Being Hindu, he always worshipped Lord Vishnu, but he allowed his people to have their own religious beliefs.
3. He issued a large number of coins which speak about the prosperity of the Gupta Empire.
4. Chandragupta II was a patron of literature and arts. Kalidasa was the greatest literary figure of this age.

ADMINISTRATION OF CHANDRAGUPTA II

Fa-Hien, the Chinese pilgrim, has written about the efficient administration of the Gupta Empire. The Gupta dynasty produced a number of able rulers. They established an efficient administration system. There were three levels of administration.

Central Administration

The king carried titles like **Maharajadhiraj**. The ministers were selected on the basis of their personal qualities. Several ministers were recruited to assist the king in administrative tasks, like minister of justice, minister of war and peace etc.

Provincial Administration

The empire was divided into several provinces called **Uparika**. Each province was headed by a Governor known as **Uparika Maharaja**. The provinces were further

divided into districts called **Vishyas**. The head of the district was known as **Vishyapati**. The persons who had a position of authority were **Pratham Kayastha**.

Local Administration

The village continued to be the basic unit of administration. Each village was under a village headman known as **Gramika**. His duty was to enforce the law and to keep the peace. He was assisted by a village council comprising the elders of the village. The **Nagarpatis** with the help of a Parishad, that is the Council of Citizens carried on administration in towns and cities.

New System in Army

During this period, the system of giving land grants was prevailing. It had started during the Satavahana period, and gradually became a practice. Earlier, land grants were given only to the priestly class. But later on, it was provided to bureaucrats also in lieu of their salary.

Samantas, a class of landlords, were the result of increasing land grants. They acted as intermediaries between the king and the peasants. They were assigned to collect revenues, to maintain soldiers and horses, and to provide equipment for warfare. The king maintained a regular army. Samanatas also provided the king with troops whenever he needed.

TRADE AND COMMERCE

During the Guptas, people progressed in every field—trade, commerce, manufacture, science, medicine, mathematics, astronomy, art and architecture, language and literature, in international contact and diplomacy — India's name and fame spread in all directions. The Guptas issued coins in gold. This shows the economic prosperity of this period. Trade and commerce, both internal and external, flourished. There was a network of good roads that connected the major cities. India was prosperous and politically stable.

Gupta coins

SCIENCE

Great progress was made in the field of astronomy, mathematics and medicine. The Gupta's Age, therefore, was called as an age of science. Aryabhatta and Varahamihira, both were astronomers and mathematicians. Aryabhatta declared that the earth moves round the sun. He wrote two famous books—Aryabhatiya and Surya Siddhanta. Brihat Samhita written by Varahamihira deals with astronomy and mathematics.

There were master-smiths during the Guptas, who had profound knowledge of metals. They made experiments in mixing metals to make alloy. The Iron pillar at Mehrauli is proof of that.

SOCIAL AND RELIGIOUS CONDITIONS

Fa-Hien gave a lot of information about the social condition of the people during the Gupta Age. Society was divided on the basis of the four **Varnas**. The Brahmins were highly respected. Slavery was prevalent in the Gupta Age, but not in any rigid form. Untouchability continued to be practised rigidly. The joint family continued to be the backbone of Hindu society. The practice of **Sati** was becoming a practice among the royal families.

Statue of Narayana

Brahma, Vishnu and Mahesh were worshipped at that time because the kings were the followers of Hindu religion. Shiva was worshipped in his many names, e.g., Kailashnath, Lokeshwara, Trilokeshwara, etc. Many temples were built in the kingdom. People performed Vedic Yajnas. Other religions including Buddhism and Jainism were also adopted. They also built Jaina temples. Buddhism was in decline but had not quite disappeared.

Fa-Hien

DECLINE OF THE GUPTA EMPIRE

India was threatened from the north by a race of nomadic people known as Hunas in the 5th century AD. Repeated invasions of the Hunas weakened the Gupta Empire to such an extent that the provincial governors had no difficulty in breaking away and becoming independent. The Gupta dynasty came to an end with the death of Vishnu Gupta in 550 AD.

HARSHAVARDHANA AND HARSHCHARITA

A new kingdom arose at Thanesar, near Kurushetra (Haryana), in the 7th century about a hundred years after the end of the Gupta era. It was also the birthplace of Harshavardhana, who is known better in history as Harsha. He came to the throne after the death of his brother in 606 AD. He is the last great Hindu emperor of Northern India. He died in 647 AD.

Sources

There are two important sources which give us information about Harsha and his achievements. The first important source is the **Harshacharita** which was written by his court poet **Bana Bhatta**. Harsha himself took intense interest in art and literature he wrote three Sanskrit plays : Ratnavali, Priya Darshika and Nagananda. The second is the travel account of the Chinese pilgrim **Hieun Tsang**, who visited India during the reign of Harsha.

Kanauj was a central place and hence Harsha shifted his capital from Thanesar to Kanauj. With the help of his large army, he conquered many parts of northern India, including the Punjab, eastern Rajasthan and the Ganga valley as far as Assam. He led a powerful army against the kings of the Deccan. But he was stopped by the Chalukya king Pulakesin II of Vatapi or Badami in Karnataka. As a result, Harsha had to return without success in his mission. Banabhatta has said that Harsha was totally changed after this setback.

The dimension of Harsha's empire was similar to that of the Gupta. It extended from the Arabian Sea to the Bay of Bengal, and from Kashmir to Narmada. His greatest achievement was the political unification of a large part of India. The subdued kings paid him tribute and sent him soldiers when he was at war with others. But they continued as rulers of their kingdoms.

Hieun Tsang

Religions beliefs of Harsha

It is believed that Harsha adopted Buddhism it and made a great efforts to popularise it. But he still respected other faiths. Harsha met **Hieun Tsang** and had a long discussion with him. He used to hold a religious assembly every fifth year at **Prayag**, where he liberally distributed grants and alms to saints of all religions.

Hieun Tsang

Hieun Tsang was a Chinese traveller who wrote a

book which contained lots of information about Harsha's reign. The dress of the people varied from region to region. Hieun Tsang described the Indian people as hot-tempered but honest. The people were very particular about cleanliness. He found that Buddhism was on the decline. It was popular in eastern India. He spent some years at the Nalanda University. This was a leading university of the time. Students flocked from all parts of Asia to this university. After Hieun Tsang's visit, Harsha sent a mission to China, which established the first **diplomatic** relations between China and India.

The Decline of Harsha's Empire

Hasha was a great king. He died in 647 AD. After his death, there was much confusion in the country. No one could keep the empire united. The kingdom broke up into many smaller units, which kept fighting against each other.

Fact File

Harsha organised the fifth Buddhist Council at Kanauj in 643 AD.

RULERS OF THE DECCAN

The Pallavas

The Pallavas were the officers of the satavahana period. After its decline the Pallavas established an independent kingdom of their own. They made Kanchipuram their capital. The Pallavas fought prolonged wars against the Pandyas and the Chalukyas. They conquered the land to the south of Kanchipuram, Tanjore and Puddukottai region. Mahendravarman was a famous king of the Pallava dynasty. He ruled at the same time as Harsha and Pulakesin II. The Pallavas has a very strong navy and they also built several dockyards.

Ellora Temple

The Chalukyas

Pulakesin II was the best known king of the Chalukya dynasty. We know about him from a **Prashasti** which was composed by his court poet Ravikirti. He ruled in the

South at the same time as Harsha in the North. He was an ambitious ruler and wanted to control the whole of the Deccan Plateau. He fought a battle against Harsha on the banks of the river Narmada. He fought bravely and finally defeated Harsha, demoralising him badly.

The capital of the Chalukyas was Aihole which was regarded as a flourishing city. The Chalukyas had trade relations with Iran, Arabia and Red Sea ports in the west, and also with the kingdoms of South-East Asia. The Chalukyan kings were great patrons of art. They gave money liberally for the building of temples and cave shrines in the Deccan hills. We find fine specimens of sculpture at Ellora. The credit for these masterpieces of art goes to the Chalukyan kings.

Administration

Almost all administrative units were set up in the villages. In connection with the management of village affairs, various types of committees were formed. Some of these were: **Sabha, Ur, Sirur** (small village), etc. Of all the Village Committees, the Sabha was considered the most important. The Sabha was an assembly of Brahmin landowners. Besides, several sub-committees were formed to complete all the different tasks of a Sabha.

The task of looking after irrigation, sanitation, agricultural production, temples, roads, etc. was assigned to these sub-committees. The assembly of non-Brahmin villages was known as Ur. In this assembly, matters important to a village were discussed by the local residents. The assembly of mercantile groups was known as nagaram. It is believed that village assemblies enjoyed full powers in the management of rural affairs. Many of these local assemblies continued to function for centuries.

Word Treasure

Nomadic	:	living the life a nomad; wandering
Uparika	:	provinces into which the kingdoms were divided
Samanta	:	vassals of a king or feudal lords
Astronomer	:	a scientist who studies the stars, planets and other natural objects in space
Diplomatic	:	anything that concerns the relations between the government of two countries
Prashastri	:	words of praise or admiration for a king written by a poet in his court in the form of inscriptions
Mercantile	:	relating to trade or commerce

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. A village headman during the Guptas was called ..... .

i) Vishyapati ☐ ii) Uparika ☐

iii) Negarapati ☐ iv) Gramika ☐

b. Kailashnath, Lokeshwara and Trilokeshwara are the names of..... .

i) Lord Shiva ☐ ii) Lord Brahma ☐

iii) Lord Vishnu ☐ iv) Lord Krishna ☐

c. The first Gupta king to assume the title of Maharajadhiraj was ..... .

i) Chandragupta I ☐ ii) Samudragupta ☐

iii) Chandragupta II ☐ iv) Vikramaditya ☐

d. The court poet of Samudragupta was..... .

i) Kalidasa ☐ ii) Ravikriti ☐

iii) Banabhatta ☐ iv) Harisena ☐

e. King Harsha died in ..... .

i) 606 AD ☐ ii) 647 AD ☐

iii) 607 AD ☐ iv) 674 AD ☐

f. The best known king of the Chanakya dynasty was ..... .

i) Harshavardhana ☐ ii) Pulkeshin II ☐

iii) Mahendravarman ☐ iv) Narsimhavarman ☐

g. ..... also provided the king with troups whenever he woeded.

i) Landlords ☐ ii) Gramika ☐

iii) Sanuitas ☐ iv) Nagarpatis ☐

h. The Power of ..... extended beyond India.

i) Chandragupta II ☐ ii) Samundragupta ☐

iii) Chandragupta I ☐ iv) Vikramaditya ☐

2. Short answer questions.

1. What were the religious beliefs of Harsha?
2. What led to the emergence of 'Samantas'?
3. How can we say that Samudragupta had keen interest in art and learning?
4. Why was there a conflict between the Pallavas and the Chalukyas?
5. Who assumed the titles of 'Vikramaditya' and 'Sakari'?
6. Who was Palakesin II?

3. Answer the following questions in about 60-80 words.

1. Why is the Gupta period considered the Golden Age of the ancient India?
2. Why is Samudragupta called 'Indian Napoleon'?
3. What were the achievements of Chandragupta Maurya?
4. Describe the administration under the Guptas.
5. Discuss about the administration of Chandragupta II?
6. How did the Gupta empire decline?

HOTS

1. Indian people were hot tempered but honest. Who said this and why?
2. Samantas played a significant role in bringing down the Gupta empire. Why?

4. Fill in the blanks.

1. Chandragupta I married ..... the Lichchhavi princess.
2. In one of his coins, Samudragupta is shown playing ..... .
3. The Gupta empire was divided into several provinces called ..... .
4. ..... , a class of landlords, were the result of increasing land grants.
5. Ratnavali was written by..... .

5. Write 'T' for true and 'F' for false statements.

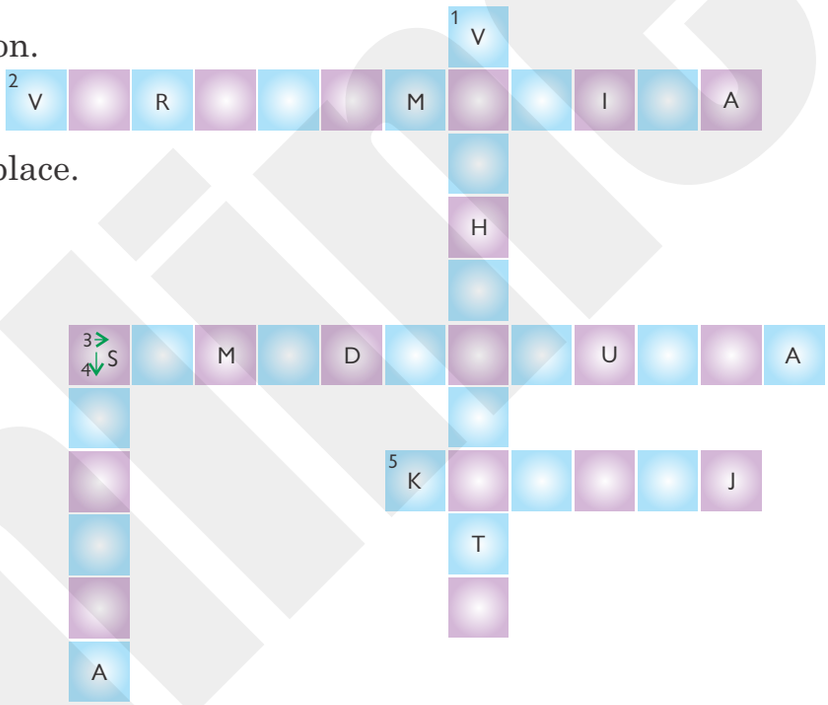
1. Hiuen Tsang spent some years at the Taxila University.
2. Chandragupta II was the worthy son of Samudragupta.
3. Harsha shifted his capital to Thanesar.
4. Aryabhatta declared that the sun moves round the earth.
5. The Pallavas defeated Harsha.

6. Define.

1. Maharajadhiraja
2. Sakari
3. Prashasti
4. Samantas

7. Complete the Crossword puzzle with the help of given clues.

1. The head of the district.
2. He wrote Brihat Samhita.
3. He is known as Indian Napoleon.
4. The enemy of the Sakas.
5. Harsha shifted capital to this place.



Value Based Questions

1. Who was Fa-Hien? What information did he give about the Gupta Age?
2. What are the sources that give us information about the achievement of Harsha?
3. How did the Pallavas establish their own independent kingdom?
4. Why did the Gupta's Age called as an age of science?

Activity Zone

Collect pictures of temples, stupas and monuments of Gupta period.

FLOW CHART

Literary Source of Information

- Prayag Prashasti gives information about conquests; paintings of Ajanta and coins issued tell about life in Gupta period.
- Navratna included the famous poet, Kalidasa and the astronomer Varahamihira.
- Accounts of Fa-Hsien; dramatist Vishakhadatta described how Chandragupta Maurya came to the throne.
- Panini composed Ashtodhyayi; Pandit Vishnu Sharma compiled the Panchatantra.

AND GUPTA EMPIRE

- Emergence of one of the biggest empires, the Gupta Empire in AD 4.
- **Golden Age** in Indian history.

The Gupta Administration

Empire → Provinces → Districts → Villages

King → Council of ministers → Governors of provinces → District head → Village head → Town head

Chandragupta I

- Sri Gupta (AD 240-280) established a small kingdom in Magadha.
- Chandragupta I (AD 320-335) extended empire to Prayag; received Pataliputra as dowry; first Gupta King to be referred to as Maharajadhiraja.

Samudragupta

- Rule extended from the Himalayas to the river Narmada in the south and from Brahmaputra in the east to Yamuna in the north.
- Great patron of art and literature; court poet Harishena.
- Poet and musician; asserted his political supremacy through Ashvamedha yajna.
- Worshipper of Lord Shiva; tolerant towards other religions.

Chandragupta II

- Zenith of Gupta power and prosperity; conquest of West India; ports of Bharuch; Cambay and Sopara controlled by the Guptas.
- Conquered Bengal cheifdoms; control from coast-to-coast; took the title Vikramaditya.
- Supported Buddhist and Jain cultures; fine example of Gupta art Dashavatara Temple in Deogarh.
- Issued gold coins; established trade relations with Rome and Egypt.

DYNASTIES THAT RULED IN SOUTH

The Chalukyas (AD 6-12)

- Ruled over large parts of southern and central India; Capital was Badami (Vatapi).
- Rose to prominence during the reign of Pulakeshin II (AD 609-642); empire up to Konkan, Goa and Malwa; halted southward march of Harsha; defeated Vishnukundins in the South-eastern Deccan.
- Defeated by Pallava King, Narasimhavarman.
- Remarkable achievement infield of culture and architecture

The Later Guptas

- Succeeded by Kumaragupta and then by Skandagupta.

The Pallavas

- Capital at Kanchipuram (AD 4); dominated northern parts of Tamil region till the end of 9th C.
- Constant conflict with Chalukyas, Chola and Pandyas.
- Important Pallava King— Mahendravarman I (AD 371-630); Narsimhavarman captured Vatapi, capital of the Chalukyas.
- Constructed Shore Temple, Rathas at Mahabalipuram; lald foundations of classical Dravidian architecture.
- Beginning of Bhakti movement; later spread to north India.

UPSURGE OF HARSHAVARDHANA

- Harshavardhana (AD 606 – 647) of Pushyabhuti dynasty of Thanesar extended empire from Punjab, Kashmir and Nepal in the North to the river Narmada in the South; capital at Kanauj.
- Source of Information—*Harshacharita*; Chinese traveller Hieun Tsang.
- Patronized Buddhism; built stupas, monasteries, state hospitals; organized 5th Buddhist assembly at Kanauj.

Culture and Science

Key Highlights

- Architectural development
- Literary Heritage
- Unique Art Forms
- Ancient Knowledge of Science and Technology

HISTORY

Let's Start With

If one looks at the Iron Pillar near Qutub Minar in Delhi that has not rusted till date, it is difficult to imagine that it was built more than 1500 years ago. It suggests that architecture was in a very developed state in ancient period. The growth of civilisations and kingdoms also led to the growth of art, literature and science. Let's know more about them. Art and architecture in the region seems to have begun during the Harappan period. The archaeological evidences, ancient monuments and other remains of this period continue to be a very important part of our cultural heritage. Let's know more about them.

Iron Pillar

ART AND ARCHITECTURE

Art and architectural works of a particular age throw light on the life of the people, their thoughts, advancement in technology and materials used, etc. These were patronised by a number of kings, princes, rich merchants and land owners during this period.

Sanchi Stupa

Stupas

During Ashoka, a number of stupas were constructed. These are dome-shaped Buddhist monuments. The inner chamber of a stupa contains the relics—such as teeth, bones, ashes, or any other holy objects of the Buddha or his **disciples**. The stupa, or mound over the inner chamber, was made of bricks and clay and plastered on the outer surface. A stone or wooden umbrella was built at the top as a sign of honour. A stupa is sacred and devotees visit it to show their reverence. Often, they move around the stupa in a clockwise direction a path called the **pradakshina**. The path is surrounded by a fence made of stone.

Amravati Stupa

Fact File

Why Sanchi Stupa is a UNESCO World Heritage site?

The Sanchi Stupa in Madhya Pradesh is one the most famous monuments of ancient India. It was built by Ashoka. Other famous stupas are Dhamek Stupa at Sarnath, Deokothar and Bharhut Stupas in Madhya Pradesh and Amravati Stupa in Andhra Pradesh.

Chaityas and Viharas

Viharas and monasteries have been found in different parts of India. In the beginning they were made of wood. Some monasteries in western India are cut out of rocky hills. Most viharas had a hall for prayers surrounded by a running verandah on three sides. There were rooms for monks and nuns. Prayer or meditation halls known as **chaityas** were built near the **viharas**.

Chaityas and Viharas

Rock-cut Architecture

Many rock-cut Viharas and Chaityas have been found in the Ajanta and Ellora caves, near Aurangabad in Maharashtra. The Chaitya at Karle, near Pune are rock-cut cave structures with carved pillars. In the chaityas and viharas at the Ajanta caves, numerous paintings depicting scenes from the Buddha's life have been found. The Ellora caves have Hindu, Jain and Buddhist monasteries and temples.

Ajanta Caves

Many temples were built during the Guptas. People started to believe in idol worship. The idol or image was placed in the garbhagriha, a central room in the temple. This was the place where priests performed religious rituals and devotees made their offerings. The temples had beautifully carved pillars. Stone temples also had a tower known as the **shikhara** that was built on top of the **garbhagriha**. A big hall or **mandapa** was an area for people to gather.

Gupta Temple, Deogarh

During the Chalukyas, temples dedicated to Vishnu and Shiva were constructed in Vatapi, Pattadakal and Aihole. The Pallavas made cave temples, rock-cut temples, brick temples, and rock sculptures. The most famous rock-cut temples are the five **Pandava rathas,** each carved out of a single rock. The temples located in Mahabalipuram, mark the transition between rock-cut cave temples and free standing stone temples.

Mostly, the kings and rulers provided money and land for the construction of these structures. Sometimes rich traders also gave donations for such construction. Often, devotees who visited these holy shrines paid for some added features to beautify the structures further.

Lion Capital

Sculptures and Paintings

Ashokan Pillars were erected across the country. The pillars were made of a single stone, which was cut, shaped and polished. We have read about the relevance of the Ashokan edicts.

Some of these edicts were written on tall, polished, sandstone pillars. These had animal capitals or tops like the Lion Capital, our National Emblem. The Sarnath pillar has four lions seated back to back. The Mauryans were also good at cutting caves out of hillsides. The inside walls of these caves were polished very smoothly.

The Gandhara School of Art developed during the Kushanas. It was a combination of both the Greco-Roman and Indian styles. Many beautiful sculptures of the Buddha were created using this style. This Buddhist sculptures created by the Mathura School of Art were made of red sandstone and looked different.

Gandhara School of Art

Mahabharata

Panchatantra Tales

LITERARY HERITAGE

India is blessed with a rich literary heritage. The Vedas, the earliest literary works, are four in number. The **Rig Veda,** the earliest Veda, is a collection of 1028 hymns in Vedic Sanskrit. It was followed by three more Vedas— **Yajur Veda, Sama Veda**, and **Atharva Veda.**

The great epics, the **Ramayana** and the **Mahabharata** were developed over a period of centuries. The Mahabharata contains about 100,000 verses and is the longest single poem in the world. It was written by sage Ved Vyas. Besides the main story of the war between the Pandavas and the Kauravas, a number of other interesting stories are woven into this epic. The Ramayana, the story of Rama, is full of interesting adventures and episodes. The Ramayana, written by Valmiki in Sanskrit, originally consisted of 12,000 verses. The number of verses was later increased to 24,000. These two great epics have greatly influenced Indian society. Even today, people often find **solace** in times of sorrow or trial in these noble writings.

There are a number of religious and secular literatures in Sanskrit in this period. There are 18 Puranas and 108 Upanishads. kautilya's **Arthashastra** and Megasthene's **Indika** are important sources of information of mauryan Empire. Harshacharita by Banabhatta describes important events from the life of Harshavardhana.

Poets and writers were motivated by the Gupta kings. It is said that Kalidasa, the great poet and dramatist, lived for some years at the court of Chandragupta II. Kalidasa wrote his world-famous works **'Shakuntalam', 'Raghuvansam'**, **'Meghaduta'**, etc. during this age. The greatest work of Kalidasa is Abhijanasakuntalam. Another popular work of the Gupta period is the **Panchatantra** written by Vishnu Sharma. Today, it has been translated into many languages of the world. The **Sangam** literature, composed in Tamil, describes the kingdoms of South India. Silappadikaram, composed by Ilango and Manimegalai, composed by **Sattanar are** two important Tamil epics. They throw light about the towns, people and life in general.

SCIENCE AND TECHNOLOGY

India made tremendous improvement in the fields of knowledge, such as science, mathematics, medicine and surgery. Aryabhatta, a great mathematician and astrologer in 5th century AD, introduced the principle of zero. Also he was the first Indian to claim that the Earth rotates on its own axis. He calculated the positions of the planets and explained the movements of the stars. In addition, he explained the causes of solar and lunar eclipses.

Aryabhatta

Varahamihira (6th century AD), who wrote Pancha Siddhantika, was another great astronomer of the Gupta Age. He stated that the moon revolves round the Earth, as does the Earth around the sun. **Brahmagupta** was a great astronomer and mathematician who clarified the laws of gravitation even before Newton. **Bhaskaracharya** propounded the theory that the Earth is round, not flat. The power of gravitation was also described by him.

Charaka and Sushruta made important contribution in the field of medicine. **Sushruta Samhita** is the oldest text on surgery. **Charaka Samhita** tells us about the methods of curing many diseases.

Word Treasure

Reverence	:	awe mingled with respect and esteem
Chaityas	:	sacred place of worship
Cave temples	:	temple built inside caves
Rock-cut temples	:	temples built by cutting pieces of rocks
Garbhagriha	:	the innermost chamber of a temple with the idol or icon of the primary deity
Shikhara	:	tower of the temple built on top of the garbhagriha
Solace	:	comfort in distress
Eclipse	:	temporary obscuring of one heavenly body by another

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Indika is a source of information of ..... .

i) Mauryas ☐ ii) Guptas ☐

iii) Harsha ☐ iv) Pallavas ☐

b. ..... tells us about the methods of curing many diseases.

i) Charka Samhita ☐ ii) Varahamihira ☐

iii) Sushruta Samhita ☐ iv) Brahmagupta ☐

c. The number of verses in Ramayana was later increased to ..... .

i) 12000 ☐ ii) 30000 ☐

iii) 11000 ☐ iv) 24000 ☐

d. Who introduced the principle of zero ?

i) Varahamira ☐ ii) Aryabhatta ☐

iii) Bhaskaracharya ☐ iv) Brahmagupta ☐

e. There are 18 Puranas and ..... Upanishads.

i) 100 ☐ ii) 101 ☐

iii) 108 ☐ iv) 109 ☐

f. ..... pillars were erected across the country.

i) Sangam ☐ ii) Ashoka ☐

iii) Dhamek ☐ iv) Gupta ☐

g. Amravati stupa is in .....

i) Uttar Pradesh ☐ ii) Madhya Pradesh ☐

iii) Bihar ☐ iv) Andhra Pradesh ☐

h. Some temples also had a tower known as ..... .

i) Pillar ☐ ii) Shikhara ☐

iii) Garbhagriha ☐ iv) Mandapa ☐

2. Short answer questions.

1. Name four Vedas.
2. List the works of Kalidasa.
3. What constitute our cultural heritage?
4. Write about some important text of secular literature.
5. Which is the oldest text on surgery?
6. Which school of art developed during the period of kushanas?

3. Answer the following questions in about 60-80 words.

1. Write about the construction of Ashoka's stupa.
2. Write about the contributions of Buddhism to the field of architecture.
3. Throw light on the Pallava's architecture.
4. How did India contribute to science and technology?
5. Write about the architecture of ancient India?
6. Who was Aryabhatta? Write about his contribution.

HOTS

1. Why founded the viharas and monasteries in India?
2. Why did kings and monarchs build temples and monuments?

4. Fill in the blanks.

1. ..... near Qutub Minar in Delhi has not rusted till date.
2. Prayer or meditation halls known as chaityas were built near the ..... .
3. The Gandhara School of Art developed during the ..... .

4. ..... was composed by Ilango.

5. ..... introduced the concept of zero.

5. Write 'T' for true and 'F' for false statements.

1. The deity was kept in the Garbhagriha of a temple.
2. Bharhut stupa is in Andhra Pradesh.
3. The early temples were actually rock cut caves with no complex structure.
4. Rig Veda is the last Veda.
5. The Sangam literature, composed in Tamil, describes the kingdoms of North India.

6. Match the columns.

Column A	Column B
1. Sanchi Stupa	i) Kalidasa
2. Pandava rathas	ii) Sattanar
3. Shakuntalam	iii) Pallavas
4. Manimegalai	iv) Varahamihira
5. Pancha Siddhantika	v) Ashoka

7. Define.

1. Pradakshina
2. Chaityas
3. Garbhagriha
4. Panchatantra

Value Based Questions

1. Who was Bhaskaracharya?
2. Who built the sanchi stupa?
3. What is the earliest known veda?
4. Who wrote pancha siddhantika?

Activity Zone

Make a visit to a historical place and record your observations about the archaeological evidences you find there. Share your experiences with your classmates.

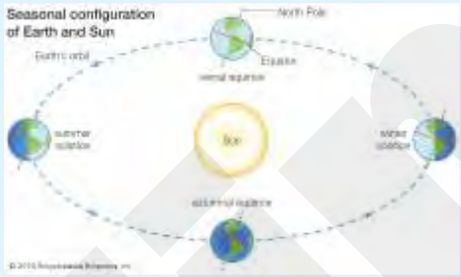
The Gupta "Golden Era" 325-550 AD

FLOW CHART

Advances in math include the discovery of pi and infinity, and the first use of zero.

Buddhist temples that were created in Gupta Golden Era are still around today.

So are Hindu temples.



The fact that the Earth rotated and revolved around the sun was discovered.

The cause of solar and lunar eclipses were also discovered.

This iron pillar located in New Delhi was built in about 410 AD has yet to rust or wear down.

Kālidāsa was one of the greatest poets and dramatists in the Sanskrit language.

Copper coins were used in the empire

The Ajanta Caves tell the story of Buddha, from 200 to 650 AD in carved drawings.

9 Earth in the Solar System

Key Highlights

- What are celestial bodies and galaxies?
- Solar system and the various components of the solar system.
- Understanding planets, satellites, asteroids, meteors and comets.

Celestial is the word given to all objects belonging to space. The sun, moon, stars and planets including our earth, are celestial bodies which we can see. There are many other celestial bodies that lie far away from us.

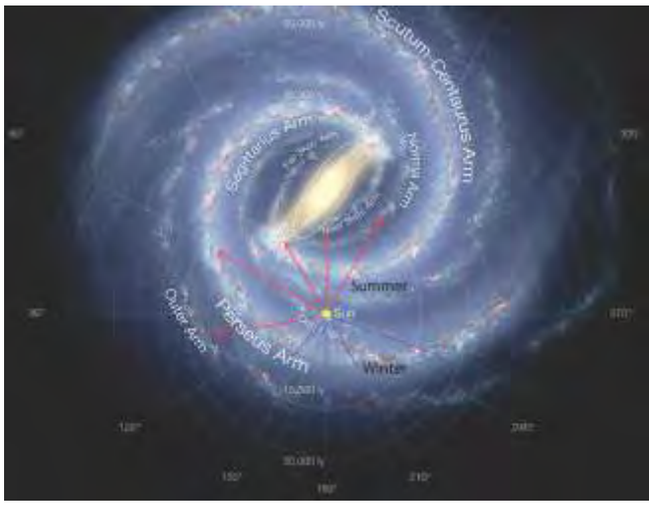
Astronomers are people who study celestial bodies and their movements. Astronomy is the branch of science which deals with the study of celestial bodies.

Different types of galaxies

A massive, gravitationally-bound cluster of stars, gas and dust is called galaxy. Galaxies vary in size and form. Three types of galaxies have been identified so far, namely, spiral, elliptical and irregular galaxies. The earth lies in a spiral galaxy called the Milky Way. It is estimated to have about 100 to 400 billion stars.

Light year is the unit used for measuring distances in space which is extremely vast. A light year is the distance travelled by light in one year. For example, Andromeda, the closest neighbour of our own galaxy, is about 2.5 million light years away from us.

Astronomers estimate that there are about 170 billion galaxies in the observable universe, separated by vast distances in space. Some 15 billion years ago, the universe was very small and very hot. An explosion known as the **Big Bang** started off the process of expansion and change from an extremely dense and hot state. After the explosion, atomic particles came together to form helium and hydrogen gases. Over millions of years these produced the galaxies,



Milky Way

GEOGRAPHY

the stars and the universe as we know them today. This process is going on even today. The galaxy to which our solar system belongs is called ***Akash Ganga*** or **Milky Way**. At night, it appears as a white band in the sky. It is a spiral galaxy.

Let's Think

Are clouds, rainbows, halos and other phenomena seen in the sky considered celestial objects?

SUN - A STAR AND OTHER STARS

Stars are very big celestial bodies, but they look small because they are very far from us. They are made up of hot glowing gases. They produce their own heat and light. The best known example of a star that lies closest to our planet is the sun. Other than our sun, the Alpha Centauri, group of three stars including Proxima Centauri is nearest, being about 4.3 light years away from the sun.

Most stars make a recognizable pattern as a group. Groups of stars laid out collectively to form certain patterns in the sky are called **constellations**. Some 88 constellations have been identified and named so far.

Elliptical Galaxy

The ladle-shaped **Big Dipper** is part of the constellation Ursa Major or **Great Bear**. The two stars Dubhe' and `Merak' on the Ursa Major `Polaris', the Pole Star (the *Dhruva Tara*).

The Orion (containing a hunter's figure), Leo (having the appearance are called 'Pointers' since, a line drawn through them points us to Elliptical galaxy of a lion), and Scorpion or Scorpius (having a scorpion's appearance) and Crux (the appearance of a cross) are other constellations formed with some bright stars.

Star twinkle while planets don't. If we observe the sky on successive evenings, we find that stars do not move with respect to each other. Planets appear to be moving with respect to stars.

Big Dipper

The sun, with a diameter about 100 times that of the earth, is about 150 million km away from the planet. Even though light travels at a tremendous speed of about 3,00,000 km per second, it takes about 8 minutes and 20 seconds to

reach the earth from the sun. The surface temperature of the sun is 5600°C which increases to 20 million degrees Celsius in the interior. Over 99% of the mass of the solar system is contained in the sun.

OUR SOLAR SYSTEM: The Sun and Its Planets

The word 'Solar' is related to the sun. The family of the sun is called the solar system which includes eight planets and their satellites. Besides, there are many **comets**, countless **asteroids** and **meteors**. The movement of a celestial body around a host is called 'revolution'. All planets revolve around the sun in elliptical paths called **orbits**.

Originally, our solar system included nine planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. However, in 2006, the International Astronomical Union (IAU) reclassified Pluto as a **dwarf planet**. Hence, our solar system now has eight planets.

The solar system

The word 'planet' is originally a Greek word which means 'wanderer'. Planets have various composition and size with a spherical shape. They are opaque bodies with no heat or light of their own. They are visible because they reflect the light of the sun. They also 'rotate on their axis' at different speeds. All planets except Venus and Uranus spin in the same direction on their axis.

Out of the eight planets of our solar system, the first four are **inner planets**, i.e.,

Mercury, Venus, Earth and Mars. They are made up of rocks, which is, why, they are called **Terrestrial Planets**. The **outer planets** include Jupiter, Saturn, Uranus and Neptune. They are mainly gaseous in nature and are called **Jovian planets**.

Fact File

On April 24, 2007, astronomers discovered the most earth-like extra solar planet called **Gliese 581c**. The planet revolves around its sun-Gliese 581.

Mercury is the smallest planet in the solar system. It does not have an atmosphere. It lies closest to the sun and has the shortest orbit around the sun. It takes only 88 days to complete one revolution and nearly 59 days to complete one rotation. Its surface has many craters like those on our moon.

Venus is the hottest planet. It has carbon dioxide in its atmosphere that hides its surface from view. A blanket of sulphuric clouds and gases in its atmosphere trap its heat just as the glass roof of a greenhouse prevents the heat accumulated in the day. It is the brightest object in the sky seen without a telescope and often referred to as **Morning Star** or **Evening Star**. Venus is identical to the earth in size. So, it is called **earth's twin**.

Our home planet is Earth. Its atmosphere is rich in oxygen and nitrogen. 71% of it is covered with water, and it is the only planet which is known to have life on it. Earth is the third nearest planet to the sun and fifth largest in size in the solar system.

Mars looks red as it has red oxide in its soil and is called the **Red Planet**. Its atmosphere is very thin, mainly carbon dioxide with traces of water vapour and other gases. Its surface is pockmarked with volcanic craters. A year on Mars is equal to two earth years.

Jupiter is the largest in size. Its mass is twice that of all the other planets put together. Jupiter spins much faster than any other planet, i.e., once in 9 hours and 55 minutes.

Saturn has beautiful rings that can be seen through a telescope. They are made of dust particles, rock and ice. It is such a light planet that it is said if this ringed planet fell into a huge body of water, it would float!

Uranus and Venus rotate from east to west unlike other planets which rotate from west to east. The sun as seen on these planets rises in the west and sets in the east.

Neptune is the eighth planet from the sun and the farthest. It is the fourth largest

planet in the solar system. Its atmosphere contains hydrogen, helium and some methane which gives it a bluish colour.

Fact File

An easy way to learn the names of the planets is: 'My Very Educated Mother Just Showed Us Nightingales.' The first letter of every word tells you the sequence of planets as they appear in solar system. Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune.

THE EARTH AND ITS MAJOR FEATURES

Earth

The earth is **geoid** (earth-shaped) in shape, i.e., it is bulging at the Equator and flat near the poles. This is because of the high speed at which it rotates on its axis.The earth takes nearly 24 hours (actually 23 hours 56 minutes and 4 seconds) to complete one rotation.

- Planet of the solar system where life exists.
- Active planet with volcanoes and earthquakes.
- Planet with liquid water which makes it appear blue in colour from space. Hence it is called 'watery planet or blue planet.'
- Its distance from the sun is almost 150 million km. As a result, it is neither as hot as Mercury and Venus nor as cold as Neptune. The combination of an ever-changing surface and presence of air and water along with moderate temperatures has made it possible for the existence of life on earth.

SATELLITES

The word **satellite** means 'attendant'. A celestial or artificially projected entity that circles around planet is called satellite. Celestial satellites are also called **natural satellites** or **moons** because like other celestial bodies such as planets, stars, etc., they have existed in space for millions of years. Just as planets revolve around the sun, a satellite moves around its 'host planet'. They are opaque and do not have their own heat or light, but reflect the light from the sun. Every natural satellite also rotates on its axis.

Almost all the planets in the solar system have one or more natural satellite except Mercury and Venus.

Objects placed in a planet's orbit by human efforts are called **artificial satellites**.

MOON

The only natural satellite of Earth is Moon. Fifth largest among all natural satellites of the solar family, it is earth's closest neighbour in space (nearly 3,84,400 km away).

The moon completes one revolution around the earth in 27 days and 8 hours. It spins on its axis in about the same time that it takes to complete an orbit of the earth. As a result, we always see the same face of the moon from earth and never get to see its other side. The moon shines because it reflects the light of the seconds for the reflected light to reach us on earth.

Phases of the moon

Phases of the moon or its different shapes when we see is lit part at night as it moves around the earth in about 29 days.

All the space missions sent to moon revealed that it is a dead, barren and airless world, dotted with circular depressions called craters formed by impact of meteoric bombardment. It has many mountains and plains on its surface. Temperatures on the surface of the Moon vary from above 105°C during the day to as low as —155°C at night.

Surface of the moon

American astronaut Niel Armstrong was the first man to step on the surface of the Moon on July 29, 1969.

Other Celestial Bodies

Asteroids : These are a swarm of rock pieces that lie in the belt between the orbits of Mars and Jupiter. Like the planets, they also revolve around the sun. They are believed to be fragments of a planet which exploded and disintegrated after its birth. Out of over 1,00,000 asteroids, nearly 4,000 have been identified. However, their total mass is not more than a few hundredth of the mass of the Moon. Ceres is the largest asteroid nearly 700km across in diameter.

Meteors : The other name used for them is shooting stars. Meteors resemble flashes of light in the sky. When a small piece of rock and dust (meteoroid) is drawn from its revolution around the sun into the earth's atmosphere at a speed of about 70 km per second, it burns. Friction with the atmosphere begins at about 1,000 km above the earth's surface.

The burning pieces cause a flash of light. Some meteors may not burn out completely and thus reach the earth's surface. They are called **meteorites**.

Comets : The word 'comet' originates from the Greek word *Kome*, which means 'hair of the head'. They sometimes appear in the sky as beautiful, shining bodies. They are made up of ice, gas and dust. As they approach the sun, the frozen surface starts to evaporate, forming a cloud of gas and dust with two tails. That is how a comet is formed.

Halley's Comet

Solar winds force the gas back along with some dust to form a glowing tail. Comets visit the solar system from time to time from far beyond the orbits of Neptune and Pluto. Some appear at very regular intervals such as the Halley's Comet which reappears every 76 years. Comet Encke takes 3.3 years to orbit the sun. Comet Klemola visits the solar system once in every eleven years.

Word Treasure

dwarf planet	:	a planet that is smaller than the others and much larger than a satellite or moon.
Astronomical Unit or AU	:	is the average radial distance between earth and sun which is about 150 million km.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. The planet that travels fastest in its axis .....

i) Earth ☐ ii) Uranus ☐

iii) Jupiter ☐ iv) Saturn ☐

b. Comet originates from the Greek word .....

i) kome ☐ ii) craters ☐

iii) geoid ☐ iv) asteroids ☐

c. The planet that is known as the Morning or Evening Star is .....

i) Mercury ☐ ii) Venus ☐

iii) Mars ☐ iv) Saturn ☐

d. The largest asteroid with a diameter of 700 km is .....

i) Pluto ☐ ii) Mercury ☐

iii) Ceres ☐ iv) Phobos ☐

e. The planet that has the four largest satellites in the solar system is .....

i) Saturn ☐ ii) Mars ☐

iii) Jupiter ☐ iv) Uranus ☐

2. Short answer questions.

a. How are planets and stars different?

b. Explain why planet Venus is called the Morning star and also earth's twin.

c. What is a constellation? Which two group of stars point to the Pole Star?

d. Why are meteors called 'shooting stars'?

1. 'The earth is a unique planet'. Justify giving reasons.
2. Scientists have determined that both Moon and earth have many craters formed by the impact of meteoric bombardment. Why don't we see these craters easily on earth?

3. State whether the following statements are true or false.

a) Comet Klemola visits the solar system little over every 3 years or so.

b) The gravity of the earth keeps all the planets in their orbits.

c) Ganymede is also known as *Akash Ganga*.

d) All planets revolve on their axis from west to east except Uranus and Venus.

e) Life is possible on earth because of suitable air, water and temperature.

f) The four 'inner planets', namely Mercury, Venus, Earth and Mars are the rocky or terrestrial planets.

4. Fill in the blanks.

a) ..... is the planet nearest to the sun with the shortest orbit.

b) ..... is the only star in our solar system.

c) A day is of shortest duration on planet .....

d) ..... are known as shooting stars.

e) Comet ..... visits the solar system once in every eleven years.

5. Identify the following.

a) Planet smallest in size. .....

b) Third largest planet .....

c) Galaxy to which our earth belongs. .....

d) Largest planet .....

e) Unit to measure distances in space. .....

f) Ringed planet .....

6. Table: Solar System Data

Object	Distance from sun in million kms	Rotation period in earth days	Revolution period in earth days	Moons
Sun	-	27 days	-	-
Mercury	57.9	243 days	88 days	o
Venus	108.2	243 days	224.7 days	o
Earth	149.6	23 hrs 56 min 4 seconds	365.26 days	1
Mars	277.9	24 hrs 37 min 23 seconds	687 days	2
Jupiter	778.3	9 hrs 50 min 30 seconds	11.86 years	62
Saturn	1,427	10 hrs 14 min	29.46 years	31
Uranus	2,869	17 hrs 14 min	84 years	27
Neptune	4,496	16 hrs	164.8 years	18
Earth's Moon	149.6	27 days 8 hrs	27.3 days	-

Study the table given above and answer the following questions:

a) Which planet takes the longest to revolve around the sun?

b) Which planet is the farthest from the sun?

c) Identify the planet that takes longer to rotate than to complete one revolution.

d) Which planets have more satellites—Terrestrial or Jovian?

Value Based Question

Is the heavy cost incurred in space exploration justified for a developing country like India where so many people die of hunger each year? Give at least two reasons to justify your answer.

Activity Zone

a) Learn about the Solar System

- Divide the class in various groups and assign one planet each to the group.
- Let each group prepare a report on the features, structures, conditions, etc of the planet.
- You can also add interesting pictures of the planet and mention any news or recent development related to it.

b) Observe the night sky in the northern hemisphere. Try to spot the North Star (Polaris) with the help of Big Dipper in the constellation Great Bear or Ursa Major. [Note: We will find that in the course of the earth the Big Dipper rotates around the North Star. Its pointers, Dubhe and Merak, continue to point to the pole star]. Keeping this in mind, answer why we always keep a track of North Star.

FLOW CHART

CELESTIAL BODIES

- **Celestial bodies** are all the heavenly bodies belonging to space
- **Astronomy** is the branch of science that studies celestial bodies

Galaxies

- A **galaxy** is a massive, gravitationally bound cluster of stars, gas and dust
- Galaxies vary in size and form; spiral, elliptical and irregular galaxies; earth belongs to spiral galaxy–Milky Way
- Distances in space are measured in **light years**; a light year is the distance covered by light in one year

Satellites

- **Satellite** means 'attendant'; small celestial body or man-made device that revolves around a planet
- **Celestial** satellites are called natural satellites as well as moons
- Satellites which are created and designed by scientists to orbit the earth for gathering information are called **artificial** satellites

Stars and the sun

- **Stars** are big celestial bodies made up of hot glowing gases and produce their own heat and light
- **Constellations** are groups of stars connected together to form certain shapes in the sky
- The sun, a star, is about 150 million km away from the earth.

Moon

- Fifth largest natural satellite in the Solar System; only one natural satellite of earth
- Completes one revolution around the earth in 27 days and 8 hrs
- Moon is a dead, barren and airless world, dotted with circular depressions called **craters**

The Solar System

- The family of the sun is called the **Solar System**; it includes eight planets, dwarf planets, satellites, comets and asteroids
- The planets revolve around the sun in an anti-clockwise direction and move in an **orbit**

Planets

- Planet is a Greek word which means 'wanderer'; planets rotate on their axes at different speeds; do not have their own heat or light
- Mercury, Venus, Earth, Mars are **inner** or **terrestrial** planets; made up of rocks
- Jupiter, Saturn, Uranus and Neptune are **outer** or **jovian** planets; mainly gaseous in nature

Other Celestial Bodies

- **Asteroids** are swarms of rock pieces that lie in the belt between the orbits of Mars and Jupiter; fragments of a planet which exploded and disintegrated after its birth
- **Meteors**, also called **shooting stars**, resemble flashes of light in the sky; small pieces of rock and dust **(meteoroid)** drawn from its revolution around the sun into the earth's atmosphere that burn; some may not burn out completely and reach the earth's surface and are called meteorites
- **Comets** are made up of ice, gas and dust; the frozen surface starts to evaporate, forming a cloud of gas, dust and two tails as they approach the sun

The Earth

- **Geoid** in shape; takes nearly 24 hrs to complete one rotation
- The earth is the only planet of the solar system where life exists; marked with active volcanoes and earthquakes; appropriate distance from the sun and atmosphere support plant and animal life

10 Utility of Globes and Maps

Key Highlights

- What is a globe?
- Use of globes in the study of Geography
- What do we mean by maps? How are they useful?
- Different types of maps

GLOBES

Man-made models of the earth, which is an **oblate spheroid**, slightly flattened at the poles and bulging at the equator is called Globe. Poles are the top and bottom ends of the sphere while equator is the imaginary circular line around its middle (waist). A globe is useful in depicting directions, shape of Earth and relative shape, size and position of ocean, continents, lands and seas. It also shows the correct location of different places and features in relation to one another. Globes are useful in understanding how days and nights are caused and how we have different seasons over the year. We can stimulate the effects of rotation and revolution of the earth with the help of a globe because it is mounted on an axis that tilts at an angle in the same way that our earth remains tilted at an angle of 66½° to the plane of its orbit.

Model of a globe

A globe has some limitations. It is expensive, bulky and difficult to store and carry. These days, however, folding globes are available. A globe cannot provide detailed information about landforms, vegetation, soils, climatic conditions, means of transport and other related information. If you want to go around your city, would a globe be of any use? Certainly not! It is for these reasons that people prefer to use maps.

MAPS

A representation of the earth's surface or a part of it, on a flat surface, drawn according to scale is map. To make a map, actual distances on ground are measured and reduced as per the scale and then drawn. Maps can show great details of

Let's Think

Why does the diameter of these circles become smaller as we move away from the equator to each pole?

landforms, roads, railways, towns and villages, etc with the help of symbols selected to represent them. Maps give a bird's eye view of the earth's surface (made so that the person reading them feels he or she is looking at the ground represented from the sky above).

Maps can be rolled or folded, stored or carried around easily. Unlike globe every map has some distortion because the curved surface of the earth cannot be shown on a flat surface without errors.

Maps are important and useful to everyone—navigators and pilots use them to steer their ships and find their locations; town planners, geologists, miners and engineers need maps; the army requires maps for defence. In modern times very accurate maps are made by mapmakers (cartographers). They use aerial photographs and satellite pictures.

Let's Think

Why is the globe always mounted on a tilted shaft?

A map can retain either the correct size of the countries or the correct shapes of very small areas, but not both at the same time. As a result, there are distortions in direction as well as distance. The larger the area covered by a map, the greater is the distortion. Note how 90°N is shown on a map as latitude. On the globe it is only a point.

The **Geographical Information System** (GIS) is a computer mapping system that links databases of geographically based information to maps that display the information.

Types of Maps

Political maps : Political maps divide an area into administrative units such as countries, states, districts, villages, cities or towns with the help of lines to show borders or boundaries.

Physical maps : Physical maps show a number of geographical features such as mountain ranges, peaks, plateaus, hills, oceans, seas and rivers. Different colours are used to show different landforms.

Thematic maps : Such maps provide specific information regarding the distribution of temperature, rainfall, minerals, crops, industries, etc.

Weather maps : A weather map is a kind of thematic map. It may show the movement of weather systems, the distribution of rainfall or snowfall, areas of equal temperature or air pressure or even wind direction.

Topographical maps : Topographical maps show great details of the natural features of a small area including rivers, lakes, mountains, etc., along with man-made areas like parks, wells, cities and towns.

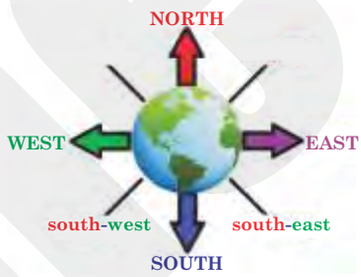
Distribution maps : Distribution maps show the distribution of crops, minerals and forests.

Nautical charts : Nautical charts are used to navigate ships. They show details of the shoreline as well as depth of water, hazards like rocks, location of lighthouses and buoys.

Aviation charts : Aviation charts show airways, traffic control towers, airports and air routes.

Geological maps : Geological maps show the ages and types of rocks and soil.

Tourist maps : Tourist maps point to places of interest, museums, monuments, etc.



Cardinal directions and Intermediate directions

Hence, depending on the information given, maps are provided with suitable titles.

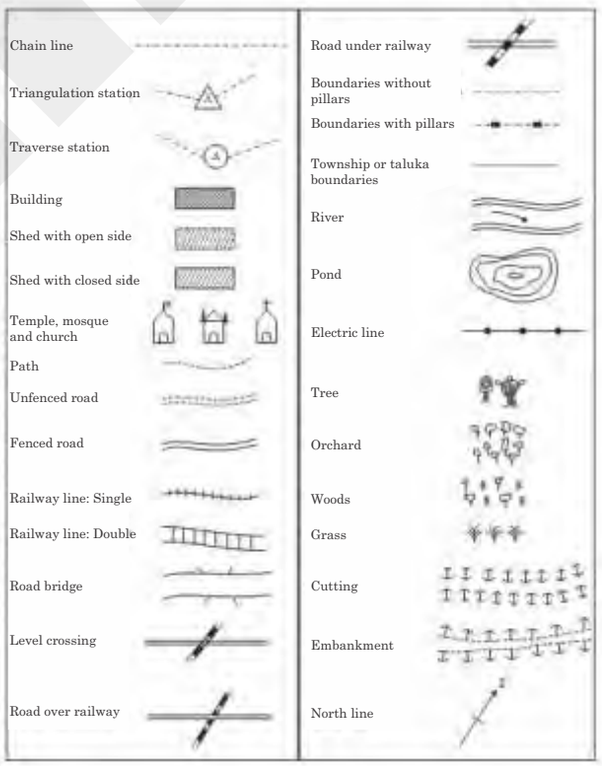
Atlas

An **atlas** is a collection of maps usually bound together as a book. Besides maps of the world, selected continents and countries, it may include information and diagrams related to geographical features and population data. Maps are usually printed in colour in an atlas. It is easy to understand and compare various maps in an atlas.

Essential Elements of Maps

The common essential elements of every map are **title, directions, scale, legends** (signs and symbols), **latitudes** and **longitudes**. Systematically reading and understanding these elements will unlock the information contained in a map.

Title : The title of a map generally explains its main purpose.



Some conventional symbols used in maps

Direction : Direction is shown in every map with the help of a north-south line (T). An arrow with the letter 'N' is printed in the upper right-hand corner of the map. This points to the direction north. It is very easy to mark the other cardinal directions: south east and west. There are intermediate directions also, i.e., north-east, north-west, south-east and south-west. Directions should never be referred to as the top or bottom of the map. If it is not mentioned, then the north is usually at the top of the map.

Magnetic compass

A **magnetic compass** is an instrument with which directions can be found.

Fact File

Some conventional colours are: blue for oceans and other water bodies, green for plains, uplands in yellow, mountains in brown, snow and ice white, roads and settlements can be shown in red.

Legend or key : The legend or key of a map explains the symbols that are used in it. There is not enough space on the map to show the actual size and shape of features like bridges, dams, forests, railway tracks, etc. So, different symbols, lettering and colours are used to present the information. Cartographers use internationally accepted signs and symbols. They are called **conventional symbols**. Some of these are given in the figure on the previous page. Conventional colours are used to show certain features.

Scale : It shows the ratio of the distance between two places on a map to their actual distance on the ground. For instance, if we say a scale of 1 cm is equal to 4 km, it means that one centimetre on this line represents four kilometres on the ground.

So, on a map using this scale, if we measure the distance between the places P and Q and it reads 5 cm, we would immediately know that the distance between the two places P and Q on the ground would be 5x4 = 20 km.

A map can be drawn to many different scales depending on its purpose.

(i) *Small-scale maps* : Maps that represent large areas of the earth and show less details are called small-scale maps. Maps in an atlas are of this type. In such a map a distance of one cm may represent 5,000 km on the ground, e.g., a world map.

Fact File

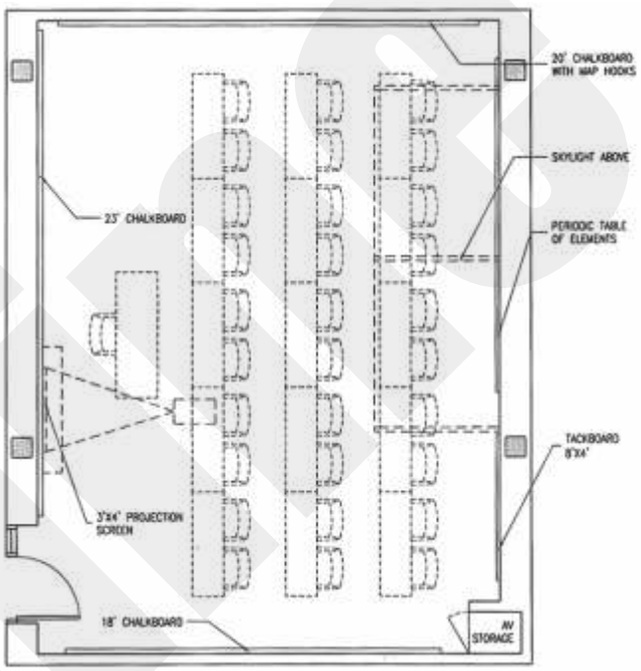
What are the steps taken while preparing maps to minimize distortion?

(ii) *Large-scale maps* : Such maps show a small area of the earth in great detail. They may use a scale of 1 cm on the map equal to 1 km on the ground, e.g., district map or map of your city.

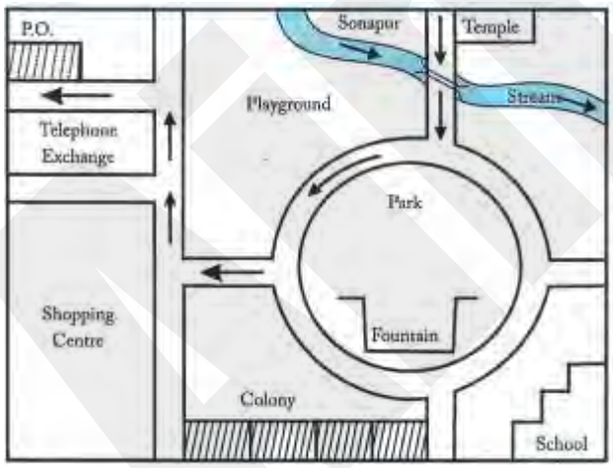
Latitudes and Longitudes : These are imaginary lines used to find the exact location of places on a map. They are numbered in degrees. The east-west parallels of latitudes and north-south meridians of longitudes form a grid on a globe or a map.

SKETCHES

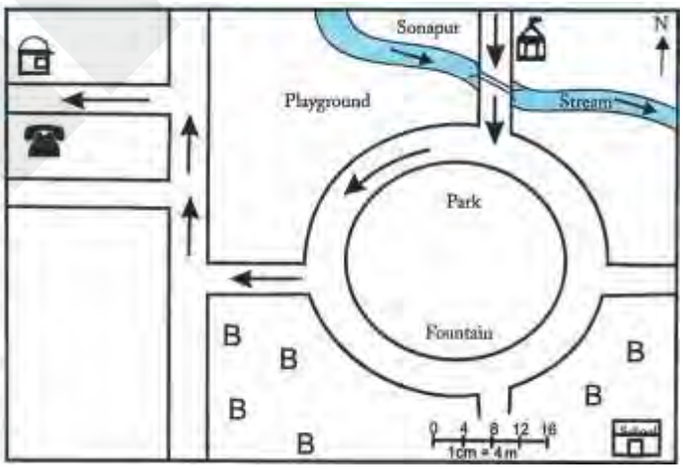
A sketch is usually a rough diagram of an area made without measuring the actual distance on the ground. It is an observation based drawing without scale. A sketch may show correct direction, have a title and even a legend or key, but it is not drawn to scale. It cannot show distances and directions accurately nor does it show all details, only those that are necessary. However, it is quite useful in expressing an idea in a hurry. A sketch may be used as a base drawing before a final plan or map is made with actual measurements.



Plan of a classroom



Sketch showing the route from the temple to the post office



Plan of the same area

PLANS

A **plan** is an outline drawing of the layout of a building or a room or a small area, such as a market or a housing complex, or even a classroom, drawn to scale. So, it is

different from a map. A plan uses a comparatively larger scale than one used in a map. For example, 1 cm is equal to 1 m or so. A plan gives a clear idea of the area to be studied but a map only gives a general idea of the area to be studied. A plan gives many details while a map gives only the main features of the area to be studied.

A plan is different from a sketch because it is drawn to scale, whereas a sketch is not. A plan is very accurate, shows correct directions and gives an exact idea of the conditions on the ground while a sketch only gives a rough idea.

Look at the sketch given on page 117 and answer the following questions:

(i) In which direction is the river flowing?

(ii) On what side of the playground do the following lie—

- Shopping centre
- Post Office
- Temple
- School

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. ..... maps show great details of the natural features of a small area.

i) Distribution ☐ ii) Nautical ☐

iii) Geological ☐ iv) Topographical ☐

b. Which of the following is not an essential feature of maps?

i) Sketch ☐ ii) Scale ☐

iii) Legend ☐ iv) Direction ☐

c. A representation of the earth's surface on flat piece of paper according to scale is called .....

i) plan ☐ ii) map ☐

iii) sketch ☐ iv) atlas ☐

d. The earth remains tilted at an angle of ..... to the plane of its orbit.

i) 66½° ☐ ii) 23½° N ☐

iii) 33½° S ☐ iv) 32½° ☐

e. What do ships use for navigation?

i) Aviation charts ☐ ii) Weather maps ☐

iii) Nautical charts ☐ iv) Topographical maps ☐

f. Which essential feature of a map minimizes distortion?

i) Key ☐ ii) Scale ☐

iii) Latitude ☐ iv) Longitude ☐

2. Short answer questions.

a. What are the essential elements of a map?

b. Explain conventional symbols. Draw the symbols used to denote the following:

♦ River bed (dry) ♦ Grass ♦ Dam ♦ Spring ♦ Metre gauge

c. Differentiate between Topographical maps and Nautical charts.

d. Define: (i) cardinal points and (ii) scale of a map

Do you agree that maps are useful to everyone today? Justify giving examples.

3. Fill in the blanks.

a. Instrument used to find direction .....

b. It gives a clear idea of the area to be studied and purpose of the map .....

c. Maps that show the age and types of rocks and soil .....

d. It is a sphere, slightly flattened at the poles .....

e. These are imaginary lines in east-west direction parallel to equator .....

4. Give reasons for the following.

a. A north-south line is used on a map.

b. Conventional symbols are used on maps.

c. Every map has some distortions.

d. People prefer to use maps instead of globes.

e. A globe is the most accurate model of the earth.

5. Match the following.

a. Atlas	i) intermediate direction
b. Northeast	ii) Latin word *mappa*
c. Map	iii) collection of maps
d. Geographical Information System	iv) brown
e. Mountains	v) computer mapping system

6. Distinguish between the following pairs.

a. Physical and topographical maps

b. Large-scale and small-scale maps

c. Map and globe

d. Plan and sketch

e. Nautical and aviation charts

f. Distribution and tourist maps

7. If you are asked to draw a plan of your classroom using symbols, which symbols are you going to use? List ten such symbols.

Value Based Questions

Maps use symbols to represent actual features found on the ground. Abbreviations like PS for police station are used. Features showing an area can be shown in conventional colour like a 'lake in blue' 'plain in green' and so on. What are the advantages of using conventional symbols and colours on maps?

Activity Zone

Make a sketch of your school and show:

- Direction of your school. (***Hint:*** At the outset, determine the 4 cardinal directions with respect to sunrise in the East.)
- Your classroom.
- The Principal's office.
- The library, teachers' room, music room and the canteen.
- Compare the sketches made by all the students and point out their similarities and differences.

This activity will clarify the concept of directions in yours minds.

FLOW CHART

GLOBES → Limitations of a Globe

- Man-made models of the earth
- Shows exact shape of the earth, directions, relative sizes and shapes of the oceans, continents, islands and seas; correct location of different places
- Useful in understanding how day and night and different seasons are caused; simulate the effects of rotation and revolution

- Expensive, bulky and difficult to carry
- Does not provide detailed information about landforms, vegetation, soils, climatic conditions, means of transport, etc.

MAPS → Types of Maps

- Representation of the earth's surface or a part of it on a flat surface, drawn according to **scale**
- A scale is the ratio of the distance between two places on the map to the actual distance between the two places on the earth
- Shows great details of landforms, roads, railways, towns, and villages
- Useful for navigators, pilots, town planners, geologists, miners, engineers, army, tourists
- Map of the whole world can be drawn or a small part can be drawn to show more details
- Maps can be rolled or folded, stored or carried around easily

- **Political maps** divide an area into administrative units; **physical maps** show geographical features; **weather maps** show the movement of weather systems; topographical maps show details of the natural features and man made features of a small area
- **Distribution maps; nautical charts** to navigate ships; **aviation charts; geological maps** and **tourist maps**
- **Atlas** is a collection of maps usually bound together in a book
- The essential elements of maps are **title, directions, scale** (linear scale, verbal scale and representative fraction), **legends** (conventional signs and symbols), **latitudes** and **longitudes**; there are **small-scale** and **large-scale** maps
- A **sketch** is a rough diagram of an area made without measuring the actual distance on the ground
- A **plan** is an outline drawing of the layout of a building or a room or a small area, such as a market or a housing complex, or even a classroom, drawn to scale

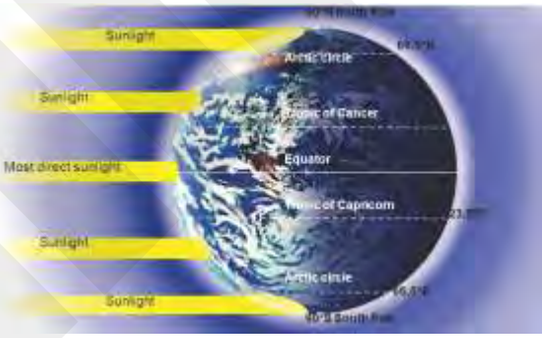
Latitudes and Longitudes

Key Highlights

- What are latitudes and longitudes?
- Main heat zones of the world
- How do they help us in the study of Geography?
- Relation of longitude to time

WE DRAW LATITUDES

Imaginary lines on a globe running in an east-west direction are called the parallel of latitudes. The circular line halfway between the North Pole and South Pole is known as the **Equator**. The part of the globe that lies in the north of the equator is known as **Northern hemisphere**. The part in the south of the equator is known as **southern hemisphere**. A latitude is defined as the angular distance of a place north or south of the Equator.



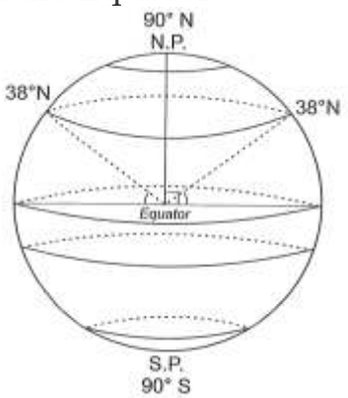
Major heat zones of the earth and important latitudes

All other latitudes are small circles parallel to the equator, drawn at an interval of one degree. The distance between each latitude is 111 km. To find the exact location of a place, it is necessary to divide the latitudes into minutes and seconds. The value of a latitude is followed by the letters 'N' or 'S' for north or south of the Equator.

Features of Latitudes

The main features of latitudes are as follows:

1. There are 180 parallels of latitude, 90 to the north and 90 to the south of the Equator. The North Pole and South Pole are mere points.
2. Each parallel of latitude is a circle.
3. Latitudes are of unequal length. The Equator is the longest latitude (0°) and each circle becomes smaller towards the poles which are mere points (90°N and 90°S).



The distance from the Equator to North Pole is 90° or a fourth of the circumference of earth which is 360°

4. The distance between two parallels is always equal except at the poles where it is a little more than near the Equator because of the polar flattening of the earth.

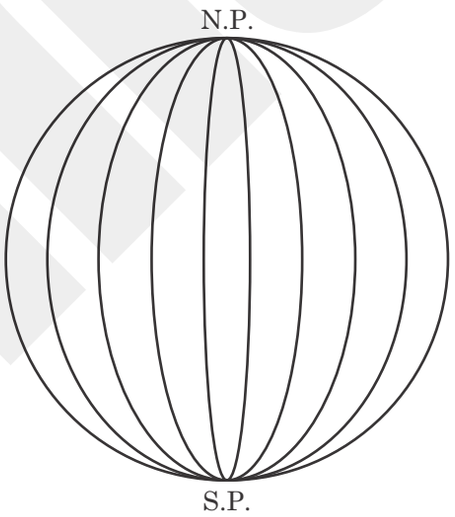
Important Latitudes

The most important lines of latitude are the **Equator** (0°), the **Tropic of Cancer** (23½°N), the **Tropic of Capricorn** (23½°S), the **Arctic Circle** (66½°N) and the **Antarctic Circle** (66½°S). The direct rays of the sun are experienced only in the tropical areas. The vertical or direct rays of the sun are hotter than the slanting ones.

Heat Zones

The latitudes help us to demarcate certain zones of similar temperature conditions. There are three main heat zones.

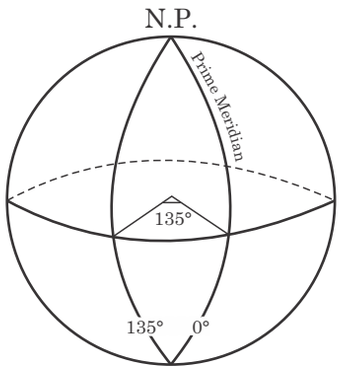
1. The **Torrid Zone** lies between the Tropic of Cancer and Tropic of Capricorn (23½° N to 23½°S). As the sun's rays fall vertically throughout the year, this zone receives maximum heat. The word 'torrid' means hot.
2. The **Temperate Zone** lies between the Tropic of Cancer and Arctic Circle in the northern hemisphere (231/2°N to 661/2°N) and between the Tropic of Capricorn; and the Antarctic Circle in the southern hemisphere (23½° S to 66½° S). Temperate means moderate. This zone has moderate temperatures as the sun's rays fall at a slant here.
3. The **Frigid Zone** lies between the Arctic Circle and North Pole in the northern hemisphere and between the Antarctic Circle and South Pole in the southern hemisphere. The rays of the sun are very much on a slant and hardly rise above the horizon. As a result, the region remains cold throughout the year and especially so in winter. The word 'frigid' means cold.



Meridians of longitude

LONGITUDES

Longitude is defined as the angular distance of a place in east or west of the **Prime Meridian** (0°). The angle of measurement is formed at the centre of the earth. Meridians of longitude are imaginary lines that run from the North Pole to the South Pole. Counting of the meridian begins from Prime Meridian to the east and west. These lines face the sun turn by turn (on a rotating earth). When a particular longitude faces the sun, then the time along that longitude is



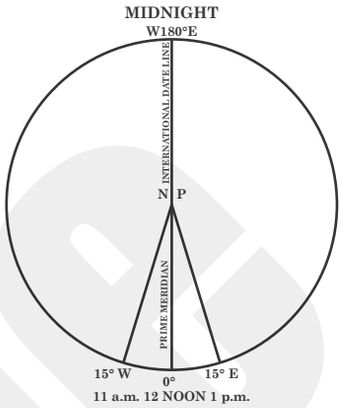
Meridians of longitude

12 noon. The value of a meridian is followed by degrees 'E' for east or degrees 'W' for west.

Features of Longitudes

The main features of longitudes are as follows:

1. Unlike latitudes, longitudes are semi-circles equal in length also called **meridians**.
2. The 0° longitude is called the Prime Meridian.
3. There are 360 meridians of longitude, 180 to the east of the Prime Meridian and 180 longitudes to the west of the Prime Meridian.
4. The 0° and 180° longitudes together make a **Great Circle**. All great circles are equal and divide the earth into equal halves.



Relation between longitude and time

5. The word meridian means mid-day. All places located on a meridian receive the overhead rays of the sun at the same time.
6. The distance between two meridians does not remain constant. They converge from the equator to the Poles.

International Date Line (IDL)

The 180th meridian is called the **International Date Line**. 180°E and W is the same meridian. This line is drawn in a zigzag manner on maps so that it does not cut through any island or cause confusion of dates.

While crossing the IDL, one has to adjust the date and time of a watch. Crossing it from east to west a traveller will add or gain a day. On crossing the IDL from west to east a traveller will subtract or lose a day.

International Date Line

Longitude and Time

Longitudes help us to calculate time. As the earth rotates from west to east once in 24 hours, with reference to the sun, it takes 24 hours for every longitude to pass through 360 degrees (the circumference of the globe is 360 degrees). In other words, the sun covers 15° of longitudes in 1 hour and takes 4 minutes to pass over each degree of longitude.

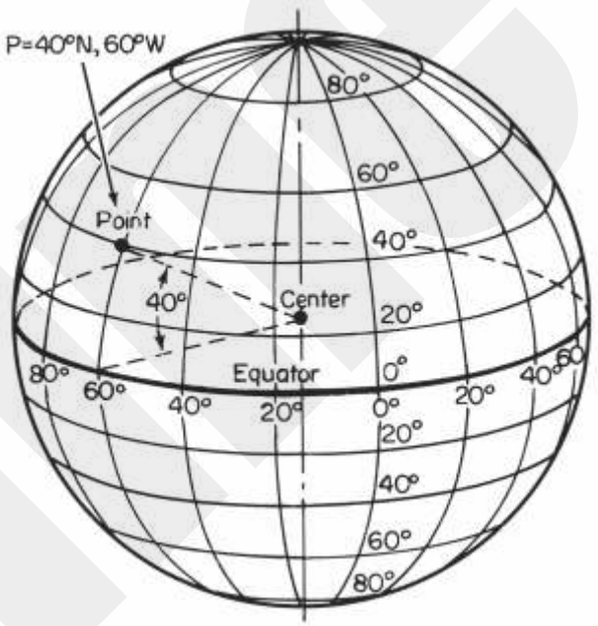
It has been accepted by all countries of the world to refer to the local time of 0° longitude or the Prime Meridian as the **Greenwich Mean Time** or **GMT**. Greenwich is a place near

London through which 0° longitude passes. GMT has been decided as a reference for world **standard time**.

When it is 12 noon at Greenwich, the time at 15° east of Greenwich will be 1 pm (15 x 4 minutes = 60 minutes), one hour ahead of Greenwich Mean Time. However, at 15° west of the Prime Meridian the time will be behind GMT by an hour, i.e., it will be 11 am. Similarly, it will be midnight at 180° longitude when it is 12 noon at Greenwich.

As the local time differs by 4 minutes at every longitude, it would create a lot of confusion regarding time for any country as a whole which may stretch across several longitudes. Therefore, each country selects a central meridian and the local time of this meridian is the **standard time** of that country.

In India, there is a difference of about 30 degrees between the westernmost and easternmost. To avoid confusion, the local time of 82½°E longitude is selected as the standard time for the entire country. Thus, 82½° E is accepted as the **Standard Meridian for India, or IST**. It shows time five-and-a-half hours ahead of Greenwich Time (82½° x 4 min = 330 min or 5½ hours. Thus, when it is noon at Greenwich in England, it would be 5:30 p.m. in India. As the earth rotates from west to east, places in the east see the sun first while places in the west see the sun later.



The precise location of place P is latitude 40°N and longitude 60°W where they intersect

Word Treasure

local time	:	the time of a place when the midday sun is overhead
standard time	:	the local time of the standard meridian of a country

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. The total number of meridians we can have on the globe is .....

i) 180 ii) 90

iii) 360 iv) 54

b. The Arctic Circle lies at .....

i) 66½°S ☐ ii) 23½°N ☐

iii) 90°N ☐ iv) 66½°N ☐

c. The total number of latitudes on a globe is ..... (The poles are points).

i) 360 ☐ ii) 90 ☐

iii) 180 ☐ iv) 45 ☐

d. Latitudes and longitudes help us to .....

i) find time ☐ ii) locate places on the earth ☐

iii) draw maps ☐ iv) draw Great Circles ☐

e. The criss-crossing of lines of latitude and longitude on the globe forms a pattern known as .....

i) rotation ☐ ii) grid ☐

iii) Temperate ☐ iv) Equinox ☐

2. Short answer questions.

a. How are latitudes helpful to us?

b. Why is it necessary to have standard time for every country?

c. Explain with the help of a diagram the major heat zones of the earth.

HOTS

a. 'Longitudes help us to calculate time'. Justify your answer.

b. Indian Standard Time meridian 82°30' E of Greenwich shows the time 5 hours and 30 minutes ahead of GMT. Calculate what time it is in London if it is 8:30 pm in India.

3. Fill in the blanks.

a. The heat zone which lies between Arctic Circle and North Pole is called .....

b. ..... is the angular distance of a place east or west of the prime meridian.

c. The distance between two ..... does not remain constant.

d. The Tropic of ..... lies in the southern hemisphere.

e. All ..... are of equal length.

4. Match the following.

Column 'A'	Column 'B'
a. Time reckoned by the noon sun at a given place	i) hot
b. This latitude divides the globe into equal hemispheres	ii) 82½°E
c. Torrid means	iii) equator
d. The Indian Standard Time Meridian	iv) local time
e. 66½° south latitude	v) 180°
f. The longitude of International Date Line	vi) Antarctic Circle

5. Give one word answer.

a. A heat zone between the Tropic of Cancer and the Tropic of Capricorn .....

b. The longest latitude .....

c. The other name of World Time .....

d. Any one Heat Zone .....

e. 0° and 180° longitudes together .....

f. 0° meridian .....

6. Distinguish between the following pairs.

a. Latitudes and Longitudes

b. Local and Standard time

c. Torrid and Frigid Zone

d. IDL and 1ST

Value Based Questions

Prime meridian was fixed and determined internationally as the start line for marking longitudes on the globe. Prior to 1884, many countries made use of their own "localised prime meridians" to establish their grids and coordinate systems within their country and around the world. Why was it necessary to establish an internationally accepted and recognised uniform longitude as Prime Meridian?

Activity Zone

a. Understanding the Concept of Latitudes and Longitudes

Activity

- Have a class discussion on latitudes and longitudes.
- Now write a short paragraph on the importance of latitudes and longitudes.

b. With the help of an atlas, locate the following cities and their latitudinal and longitudinal extent. Canada - Winnipeg, Mexico city, Ecuador Quito, Australia - Melbourne, South Africa - Durban.

FLOW CHART

LATITUDES

What are Latitudes?

- Parallels of latitudes are imaginary lines on a globe running in an east-west direction
- The equator (0°) divides the earth into two equal halves — the **northern hemisphere** that lies in the north of the equator and the **southern hemisphere** that lies in the south of the equator
- A latitude is the angular distance from the equator; the apex of the angle is the centre of the earth

Some Important latitudes

- The most important lines of latitude are the **Equator** (0°), the Tropic of Cancer (23½°N), the **Tropic of Capricorn** (23½°S), the **Arctic Circle** (66½°N) and the **Antarctic Circle**

Features of Latitudes

- There are 180 parallels of latitude; equator is the longest latitude; each circle becomes smaller towards the poles which are mere points; distance between two parallels is always equal

Heat Zones

- The **Torrid Zone** lies between the Tropic of Cancer and Tropic of Capricorn; sun's rays fall vertically throughout the year; receives maximum heat
- The **Temperate Zone** lies between the Tropic of Cancer and Arctic Circle in the northern hemisphere and between the Tropic of Capricorn and the Antarctic Circle in the southern hemisphere; moderate temperature; sun's rays fall slanting here
- The **Frigid Zone** lies between the Arctic Circle and the North Pole in the northern hemisphere and between the Antarctic Circle and South Pole in the southern hemisphere; remains cold throughout the year; sun's rays are very slanted

LONGITUDES

What are Longitudes?

- Meridians of longitude are imaginary lines that run from the North Pole to the South Pole
- It is the angular distance of a place in east or west of the Prime Meridian (0°) from the centre of the earth

Features of Longitudes

- Longitudes are semi-circles equal in length; 360° meridians of longitude, 180° longitudes to the east of Prime Meridian and 180° longitudes to the west of the Prime Meridian.
- The 0° and 180° longitudes together make a Great Circle
- The distance between two meridians converge from the equator to the Poles

International Date Line

- 180°E and W is the same meridian
- International Date Line (180° meridian) is drawn in a zigzag manner on maps so that it does not cut through any island or cause any confusion of dates (66½°N)

Longitude and Time

- Helps to calculate time; 24 hrs for every longitude to pass through 360°, sun covers 15° of longitude in 1 hr and 4 mins to pass over each degree of longitude
- **GMT** has been decided as a reference for **world standard time**
- All places on the same meridian of longitude have the same local time.
- Each country selects a central meridian and the local time of this meridian is the **standard time** of that country

GRID

- The **latitudes** and **longitudes** cut each other at right angles and their criss-crossing on the globe forms a pattern known **as grid**.

Rotation and Revolution

Key Highlights

- Various movement by Earth
- Occurance of day and night
- Causes and effects of revolution
- Change in seasons throughout the world

GEOGRAPHY

ROTATION: Earth's Daily Movement

The daily movement of the earth on its axis, from west to east is called **rotation**. It is similar to the spinning of a top. It takes 24 hours to complete one rotation. The **axis** is tilted at an angle of 66½° to the plane of the earth's orbit around the sun (or we can say, the axis is 23½0 from a line vertical from the orbital plane). This is known as **inclination of the earth's axis**.

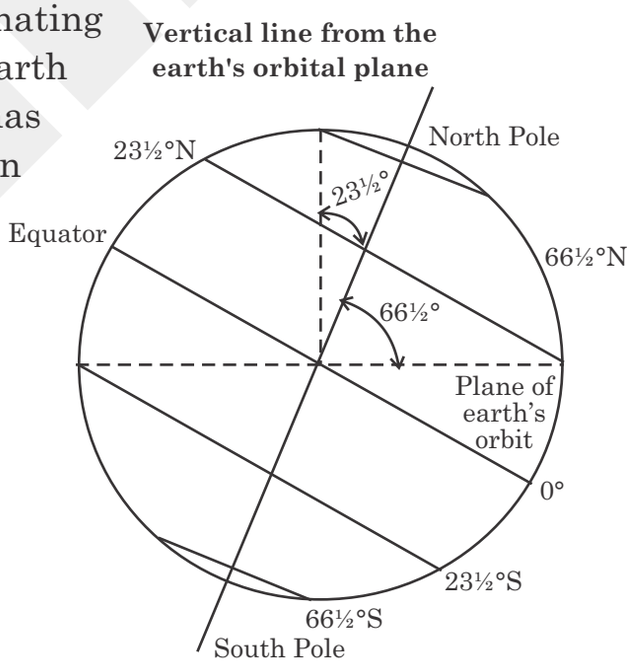
Effects of Earth's Rotation

The rotation of the earth causes the alternating phenomenon of **day and night**. When the earth rotates on its axis, one half faces the sun and has day. The other half is tilted away from the sun and remains in darkness and has night.

The sun rises in the east and so places in the east experience daylight earlier. The change from dawn, noon, dusk to midnight occurs due to earth's rotation with respect to the sun.

All particles in motion on the rotating earth's surface get deflected to the right in the northern hemisphere and towards the left in the southern hemisphere.

Earth's rotation gives us a sense of direction. The earth rotates from west to east so we see the sun and other heavenly bodies appear to rise in the east and set in the west everyday.



The earth's axis is inclined at an angle of 66½° from the orbital plane and 23½° from a line perpendicular to the orbital plane

The earth gets its peculiar 'geoid' shape, which is bulging at the equator and flattened at the poles, due to rotation. It gets more spread out at the equator because it spins faster there.

Tides, which are the rhythmic rise and fall of water, are also generated because of earth's rotation.

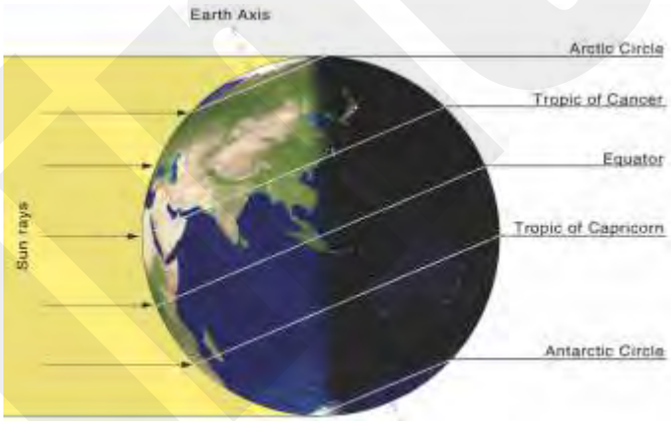
The **circle of illumination** (the line that divides the lighted part of the earth from the dark half) does not coincide with the axis from pole to pole.

Days and nights are of unequal length due to the inclination of the earth's axis. Only at the equator, they are of the same duration throughout the year.

REVOLUTION OF THE EARTH AND ITS EFFECTS

The movement of the earth around the sun in its orbit in an anti-clockwise direction is called **revolution**. The earth revolves around the sun in a fixed elliptical path called **orbit**.

The period taken by the earth to complete one revolution is called a **calendar year**. A year has 365 days and six hours in its duration, i.e., 365 1/4 days. After every four years, the 6 hours add up to one extra day. Every fourth year, the month of February has 29 days instead of the usual 28 days. A year comprising 366 days is called a **leap year**.



Rotation of the earth causes day and night, dawn, dusk, noon and midnight. The circle of illumination does not coincide with the axis due to tilt of the axis.

How Revolution Affects Us

The annual movement or revolution of the earth and the tilt of its axis result in:

1. Difference in the distribution of heat
2. Variation in the length of days and nights
3. Cycle of seasons

1. Distribution of Heat

The equator and the region around it receive the direct rays of the sun. Therefore, the heat is intense and it is hotter in the tropics. As we move away from the equator, sun's rays travel through a longer distance and get scattered. Hence, the heat is less intense. When the northern hemisphere is tilted towards the sun, it experiences summer and the southern hemisphere experiences winter.

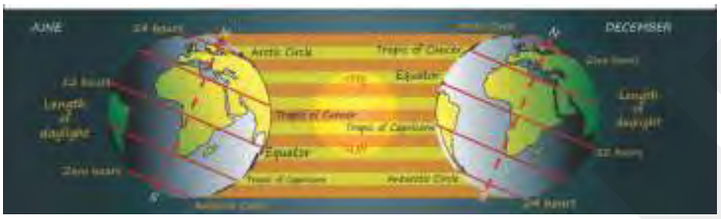
When the northern hemisphere is tilted away from the sun, it experiences winter and the southern hemisphere experiences summer.

2. Variation in the Length of Day and Night

Revolution and inclination of the earth's axis causes unequal days and nights. If we study the diagram carefully, we will notice that the number of daylight hours at different latitudes at different times of the year varies. While places on the equator have equal duration of days and nights (12 hours each), towards the poles, the days become longer during the summer and the nights become longer during the winter. At the poles, we have six months of constant day. light in summer and six months of constant darkness in winter. Places located polewards from beyond the Arctic Circle and south of the Antarctic Circle experience a phenomenon called "White Nights". The rays of the sun fall at an extreme slant during summer at these high latitudes. Evening twilight is followed by morning twilight and it does not get dark at all in this period. In St. Petersburg, Russia, from about 11 June to 2 July it is so bright that even street lights are not required at night.

Fact File

The brief period of diffused light before sunrise is called **dawn**. The brief period of diffused light between sunset and complete darkness is called **dusk**.



The tilt of the earth's axis and the revolution of the earth leads to variation in the length of days and nights

3. Seasons

The four common seasons — spring, summer, autumn and winter are caused by the inclination of the earth's axis and its revolution around the sun. There is a change in temperature and in duration of days and nights with the change in season. However, the places located on the equator have hot weather throughout the year. Each season occurs for approximately three months. Study the diagram showing the change in seasons in the course of the earth's revolution.

Fact File

- The 'midnight sun' is a geographical phenomenon that occurs in regions where the sun remains visible at the local midnight.
- In one-fourth of Finland's territory, the sun does not set for 73 days during summer.

Position of the sun on June 21

The North Pole is inclined or tilted towards the sun. Areas beyond the Arctic get 24 hours of daylight. Areas beyond the Antarctic Circle are in complete darkness for approximately three months.

The rays of the sun fall vertically at the Tropic of Cancer (23½°N). In the northern hemisphere, days are longer than nights. The conditions are reverse for the southern hemisphere.

It is summer season in the northern hemisphere and winter in the southern hemisphere. The day 21st June is known as the **Summer Solstice**. It is the longest day in the northern hemisphere.

Position of the sun on September 23

On this day none of the poles is inclined towards the sun. The rays of the sun fall vertically at the equator. All places have equal length of days and nights. It is autumn in the northern hemisphere and spring in the southern hemisphere. The day 23rd September is known as **Autumn Equinox**.

Position of the sun on December 22

The South Pole is inclined towards the sun and the North Pole is away from it. The rays of the sun fall vertically over the Tropic of Capricorn (23½°S). The greater part of the southern hemisphere gets the rays of the sun, so days are long and nights are short in the southern hemisphere. In northern hemisphere nights are longer than days.

The southern hemisphere has summer and the northern hemisphere has winter. The areas above the Arctic Circle remain in complete darkness for about three months. Areas beyond the Antarctic Circle get 24 hours of daylight. The day 22nd December is known as the **Winter Solstice**.

Earth's revolution determines change of seasons

Position of the sun on March 21

None of the poles is inclined towards the sun. The rays of the sun fall vertically at the equator. All places have equal length of days and nights as both poles receive the rays of the sun. It is spring in the northern hemisphere and autumn in the southern hemisphere. The day 21st March is known as the **Spring Equinox**.

This cycle of seasons is repeated year after year.

Equinoxes do not always occur on the same dates each year because of the difference of

6 hours in revolution time (365¼ days and length of a calendar year 365 days. This is adjusted in the leap year.

Cycle of Seasons

	June 21 (Solstice)	September 23 (Equinox)	December 22 (Solstice)	March 21 (Equinox)
Tilt of the North Pole is	towards the sun	—	away from the sun	—
Tilt of the South Pole is	away from the sun	—	towards the sun	—
Direct rays of the sun at	Tropic of Cancer	Equator	Tropic of Capricorn	Equator
Seasons in northern hemisphere	Summer	Autumn	Winter	Spring
Length of days/nights	Longer days and shorter nights in northern hemisphere. Southern hemisphere has shorter days.	Equal length of days and nights all over the world	Shorter days and longer nights in northern hemisphere. Southern hemisphere has longer days.	Equal length of days and nights all over the world.

Word Treasure

solstice : 21st June and 22nd December when days and nights are of unequal duration all over the world

equinox : 21st March and 23rd September when days and nights are equal all over the world

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. 23 March is known as .....

i) Rainy ☐ ii) Autumn ☐

iii) Spring ☐ iv) Summer ☐

b. The longest day in the northern hemisphere is on .....

i) 22nd December ☐ ii) 23rd September ☐

iii) 21st June ☐ iv) 21st March ☐

c. A leap year consist of ..... days.

i) 366 ☐ ii) 365 ☐

iii) 365½ ☐ iv) 364 ☐

d. Leap day is added to the month of .....

i) March ☐ ii) September ☐

iii) December ☐ iv) February ☐

e. Spring Equinox is observed on .....

i) 21st March ☐ ii) 22nd December ☐

iii) 23rd September ☐ iv) 21st June ☐

2. Write short answer for the following.

a. Define rotation. What would happen if the earth stopped rotating?

b. Why is it hotter in the tropics?

c. Explain why there is a leap year after every four years.

d. How are the seasons caused?

e. Why do areas close to the equator have a maximum duration of twelve hours of daylight?

a. Discuss the effect of the inclination of the earth's axis.

b. Think about living your life in a place where sun do not set for six months. Make a list things that would get affected in this condition.

3. Study the table and answer the following questions:

Daylength varies with latitude and time of the year. The farther we go north of the equator, the longer the period of daylight, until the Arctic Circle is reached and daylight lasts for 24 hours in summer. Note: the rays of the sun are very slanting in the higher latitudes and spread over a larger area but are less intense. This is because of the spherical shape of the earth.

No	Latitude degrees	Equinoxes	Summer Solistice	Winter Solistice
1	0°	12 hrs	12 hrs	12 hrs
2	10°	12 hrs	12 hrs 35 min	12 hrs 25 min
3	30°	12 hrs	13 hrs 56 min	10 hrs 04 min
4	50°	12 hrs	16 hrs 18 min	7 hrs 42 min
5	60°	12 hrs	18 hrs 27 min	5 hrs 33 min
6	70°	12 hrs	24 hrs (for 2 months)	0 00
7	80°	12 hrs	24 hrs (for 4 months)	0 00
8	90°	12 hrs	24 hrs (for 6 months)	0 00

a. What is the daylength in the latitudes 60°N in summer? What is it in spring and autumn equinoxes in the same belt?

b. What is the daylength at the North Pole? Why?

c. How would duration of daylight in northern hemisphere's summer affect weather in the temperate belt? Tick the right option.

i) It would be as hot as tropics

ii) It would be too cold

iii) It would be frozen because of high latitude

iv) Rays of the sun are at a slant so even with longer sunlight duration it would not be as hot as the tropics

4. Give the geographical term for each of the following.

a. An imaginary circle that divides the lighted part and the dark part of the earth ……

b. The angle at which the earth's axis is inclined to the plane of its orbit ……

c. The short period of diffused light before sunrise ……

d. The phenomenon of days and nights are caused by this ……

e. The tilt of the earth's axis ……

f. The position of the earth on September 23rd ……

5. Distinguish between the following pairs.

a. Rotation and Revolution

b. Calendar year and Leap year

c. Solstice and Equinox

Value Based Questions

As a result of the movement of the earth around the sun and the tilt of its axis, we have different seasons. In the polar regions, it is daylight for six months and darkness for the next six months depending on which pole is facing the sun. With reference to this answer the following questions:

i) How is life in those regions different from yours?

ii) How have the people in these countries (Norway, Sweden, in particular) adapted to the lack of sunlight for six months and the opposite for another six months?

iii) How have the animals adapted themselves to the climatic conditions and the extreme cold?

Activity Zone

Learning about the Cycle of seasons

♦ Tell the children about the countries in northern and southern hemisphere.

- Ask them in which hemisphere Egypt, Australia, New Zealand, Columbia, Libya, Brazil, Zimbabwe and Venezuela lie.
- Now, let the students choose any of these countries and ask them to imagine themselves as the inhabitants of the country they have chosen.
- Write short diary entries describing the season of 'their' country on June 21, September 23, December 22 and March 21.
- The activity will help students understand the cycle of seasons in various parts of the world.

FLOW CHART

ROTATION

Earth's Daily Movement

- Daily movement of the earth on its axis, from west to east is called **rotation**; 24 hrs to complete one rotation
- **Axis** tilted at an angle of 66½° to the plane of earth's orbit around the sun is known as **inclination of the earth's axis**.
- Due to **circle of illumination** not extending from pole to pole, length of days and nights is not equal except at the equator

Effect of earth's Rotation

- The **rotation of the earth causes alternating** phenomena of day and night; brief period of diffused light before sunrise is called **dawn; dusk** is the brief period of diffused light between sunset and complete darkness
- Earth gets its geoid shape; tides are caused
- Deflection of all particles to the right in the northern hemisphere and to the left in the southern hemisphere; deflection in the direction of winds and ocean currents

REVOLUTION

- The movement of the earth around the sun is called **revolution**
- The period taken by the earth to complete one revolution is called a year; has 365¼ days; February has 29 days every fourth year, known as **leap year** (366 days)

Affect of Revolution

- **Distribution of heat**
  - Differs due to spherical shape of the earth; equator receives direct rays of the sun; hotter in the tropics; sun's rays get scattered towards the poles, heat less intense towards the poles
  - When the northern hemisphere is tilted towards the sun, it experiences summer and the southern hemisphere experiences winter; when the northern hemisphere is tilted away from the sun, it experiences winter and the southern hemisphere experiences summer
- **Variation in the length of day and night**
  - Unequal days and nights
  - Equal days and nights at equator; towards the poles, the days become longer during the summer and nights become longer during the winter
  - Six months of constant daylight and darkness at the poles
- **Seasons**
  - Spring, summer, autumn and winter caused by revolution and inclination the earth's axis, each season occurs for approximately three months
  - Change in temperature and in duration of days and nights with change in season
  - June 21st, **Summer Solstice**; North Pole tilted towards the sun; sun's rays vertically on the Tropic of Cancer; summer in northern hemisphere and winter in southern hemisphere; Areas beyond Arctic get 24 hrs of daylight; areas beyond the Antarctic in complete darkness for approximately three months. Days longer than nights in the northern hemisphere and reverse in the southern hemisphere
  - September 23rd, **Autumn Equinox**; sun's rays fall vertically on the Equator, equal days and nights all over the world; autumn in northern hemisphere, spring in southern hemisphere
  - December 22nd, **Winter Solstice**; sun's rays vertically on the Tropic of Capricorn; South Pole tilted towards the sun; summer in southern hemisphere and winter in the northern hemisphere; Days longer than nights in the southern hemisphere and reverse in the northern hemisphere
  - March 21st, **Spring Equinox**, sun's rays fall directly on the equator; equal days and nights all over the world; autumn in the southern hemisphere and spring in the northern hemisphere

Realms of the Earth

Key Highlights

- Lithosphere and distribution of land and water on earth
- Composition of hydrosphere
- What is atmosphere?
- How do the physical and living domains interact?
- Role of humans in bringing changes in their surrounding realms

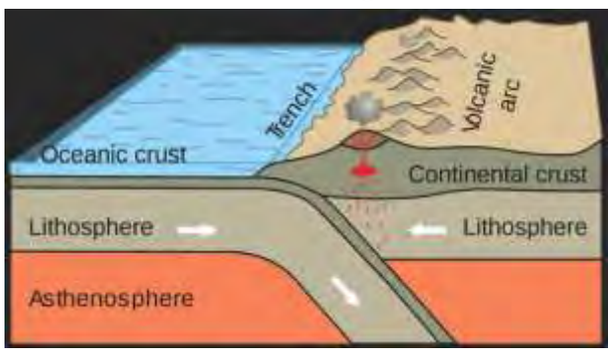
Our earth is unique because it is the only planet known to have plant and animal life on it —land, water and air.

The three realms that sustain life on earth. Scientists describe the earth in terms of **spheres**. They are the **lithosphere, hydrosphere and atmosphere**, respectively. The fourth realm of the earth is found in the narrow zone where the three realms come in contact with one another. It is called the **'biosphere'**. This is where all forms of life (both plants and animals) exist.

LITHOSPHERE

'Lithosphere' refers to the surface of the earth, which is made up of land, rock and soil. Crust is the upper most layer of lithosphere 'Litho' in lithosphere means 'rocks' consists of two types-an upper layer of lighter continental rocks called **sial**, rich in silicon and less dense aluminium. There is a heavier lower layer of crust making the ocean basins, called **sima**. It has rocks rich in denser materials like magnesium. Sima encircles the whole earth while sial only rests above sima.

There are many factures in the crust of the Earth which form a kind of slabor plate called tectonic plate. These move on a fluid layer of denser rock towards or away from each other colliding, separating, and sliding past each other. These movement are responsible for the formation of



Since sial is lighter than sima, continents are said to be foating' on a layer of denser oceanic rocks or sima.

physical features or landforms all over the world. The friction among plates also cause volcanoes and earthquakes to occur.

Oceans and important seas

Mountains, hills, plateaus, and plains that are distinguished on the, basis of height above sea level are different feature formed due to uneven surface of Earth. Such features are called **landforms**. A satellite picture of the earth shows vast blue areas called **oceans** covered by water and some very large brown parts that are landmasses called **continents**. The continents project above the vast oceans like islands. An **island** is a piece of land surrounded on all sides by water.

Continents

There are seven **continents** in the world that make up 29% of the earth's surface. They are Asia, Africa, North America, South America, Europe, Australia and Antarctica.

Almost 2/3rd of the land lies to the north of the equator. Only Australia and Antarctica lie entirely south of the equator.

1. **Asia** is the largest continent. It is separated from Europe by the Ural mountains, the Ural river and the Caspian Sea. Together, the two continents are often referred to as 'Eurasia'. Most of Asia lies north of the equator. Yangtse Kiang or Chiang Jiang is its longest river. It flows through China.
2. **Africa** is the second largest continent by size. Both the Tropics, the equator and the Prime Meridian pass through it. It is separated from Asia by the Suez Canal. The world's longest river, the Nile originates near Lake Victoria and flows north into the Mediterranean Sea.
3. **North America** is the third largest continent in area. River Mississippi is the longest river of the continent. This continent is bordered on the north by the Arctic Ocean, on the east by the Atlantic Ocean and on the west by the North Pacific Ocean. South America lies to the southeast of it. North and South America were once joined by the Panama isthmus. An isthmus is a narrow strip of land that joins two large landmasses and separates two water bodies. When the Panama Canal cut through the isthmus, they were separated into two continents.

4. **South America** ranks fourth in size. It is bordered on the west by the Pacific Ocean and on the north and east by the Atlantic Ocean. North America and the Caribbean Sea lie to the northwest of it. Andes, the longest mountain range in the world, and the Amazon, the world's largest river are both located in South America.
5. **Europe** is the sixth largest continent. It is bounded in the north by the Arctic Ocean, in the west by the Atlantic Ocean, in the south by the Mediterranean Sea. The Ural mountains separate Europe from Asia. The Danube is the most significant river.
6. **Australia** is known as the 'Island Continent'. It is surrounded on all sides by oceans and seas. It is the smallest continent. The northeast coast has the world's largest coral reef called the Great Barrier Reef. An important mountain range that runs along the east coast is the Great Dividing Range.
7. **Antarctica** is centered around the South Pole. It is permanently covered with a thick sheet of snow and ice. It is thus often called the 'white continent'. Many countries including India have research stations here.

Let's Think

In what different ways do we use the surface of the earth?

Affect of Lithosphere on life

As the essential nutrient for plant growth is found in the thin layer above the surface of the land which a part on lithosphere. We live on the land, grow crops and forests, build factories, roads, rail lines, bridges, canals, etc. We get many metallic and non-metallic minerals from rocks of the earth's crust.

HYDROSPHERE

Hydrosphere is the realm of earth which is made up of water like oceans, seas, lakes, ponds and rivers. It also includes gulfs, bays and ground water which collects under the earth's surface by seepage of surface water and water in the air. Water covers 71% of the earth's surface. Many scientists have described the earth as the blue planet or a watery planet.

OCEANS

Oceans are huge water bodies. They are all interconnected and also separated by large continents. These oceans have 97% of the total water of the earth's surface. 2% is fresh water stored as ice caps and glaciers. Only 1% of fresh water is found in the form

of rivers, lakes and ground water used by man for his various activities. **Lakes** are small water bodies surrounded by land. **Seas** are larger than lakes. The world's largest seas include the South China Sea, the Caribbean Sea, the Mediterranean and the Bering Sea.

Pacific Ocean : The largest and deepest ocean. It fills the gap between Asia and Australia. The Pacific is encircled by a continuous belt of active volcanoes called the 'Ring of Fire'. The deepest point of Pacific Ocean is the Mariana Trench, which is over 10,911 metres below the depth of the sea. A **trench** is an ocean deep where two plates meet and the heavy one sinks into the crust. A new crust is created below.

Atlantic Ocean : It is an 'S' shaped water body. It lies between America on the west and Europe and Africa on the east. It is connected to the Mediterranean Sea through the Gibraltar Strait.

The deepest point (Puerto Rico Trench) of the Atlantic is 8,605 metres below sea level. This ocean is half the size of the Pacific, but it does not have any volcanoes along its edges. A submerged mountain chain stretches from beyond Iceland in the north to Antarctica in the south. It is called the **Mid-Atlantic Ridge**.

Indian Ocean : The world's third largest ocean. It stretches from Kanyakumari at the southern tip of India's mainland to the Antarctic around the South Pole. Its greatest depth (Java Trench) is 7,725 metres. It is the only ocean to be named after a country.

Arctic Ocean : The smallest and shallowest of all the oceans. It surrounds the North Pole and the lands that border it are Eurasia, Greenland and several islands. This is the only ocean that does not have a trench. During winter it freezes completely but in summer ice melts to form floating icebergs which can be very dangerous for passing ships.

Antarctic Ocean : Often referred as the 'Southern Ocean'. It is the fourth largest ocean. It remains frozen for a major part of the year due to which trade and travel across it remains limited.

Let's Think

Find out how water affects the temperature of a place.

Other Forms of Ocean

A small part of ocean water that juts into the land is a gulf. A bay is much wider than a gulf. A very wide gulf is a bight e.g. the Great Australian Bight.

Temperature of Ocean

The temperature of ocean water decreases from the equator where it is 27°C to below zero around the polar regions. Temperature of ocean water also changes with increasing depth. Ocean waters vary in their salt content from place to place. This is known as 'salinity' of ocean water. The most saline open sea is the Red Sea.

Importance of the Hydrosphere

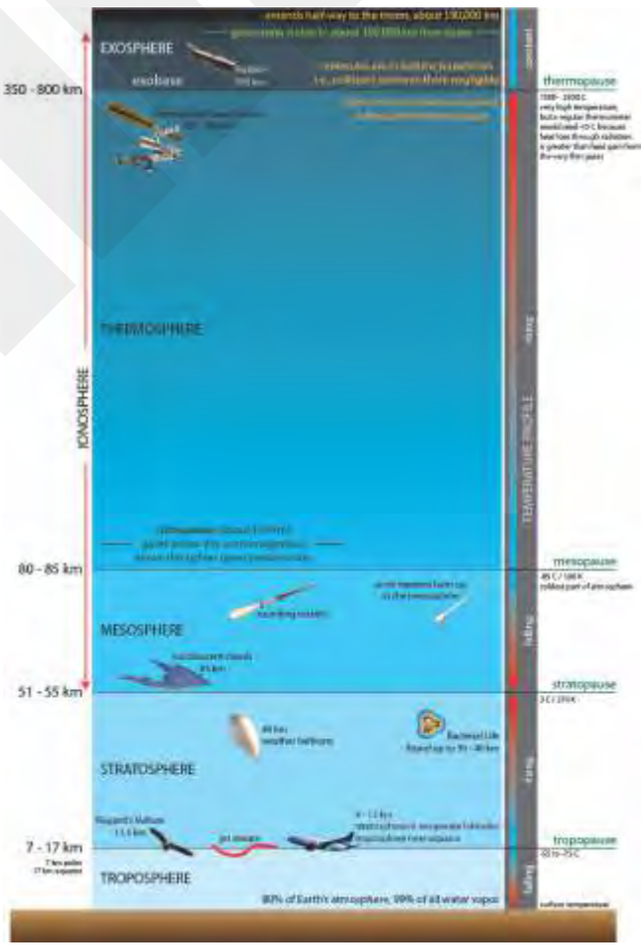
The evaporation consumes the water from the surface and return it back to the plants and animals in form of precipitation. Water in the atmosphere is in the form of clouds and raindrops. It is this water in the air that is responsible for the weather phenomena. Rainwater cools the temperature of the earth. We get food in the form of fish, salt and seaweed from water. Waterways are an inexpensive means of transport. They promote trade. Oceans are the ultimate site for deposition of sediments brought by rivers. They moderate the climate of coastal regions. Cold currents in the ocean lower the temperature of the adjoining land. Warm ocean currents raise the temperature of the adjoining land along which they flow. The hydrosphere is necessary for the existence of life on earth.

ATMOSPHERE

The colourless, odourless and tasteless blanket of gases that has enclosed the earth in itself is called atmosphere. It extends up to 1600 km from the ground. It is held in place due to the earth's gravity.

The atmosphere is a mixture of gases such as nitrogen (78%), oxygen (21%) and others in small quantities such as carbon dioxide, hydrogen, helium and argon. Most of the gases are concentrated in lower layers of the atmosphere.

Different layers of the atmosphere can be identified on the basis of characteristics such as gaseous content and temperature, although there are no distinct boundaries. The layers from ground upwards are **troposphere, stratosphere, mesosphere, ionosphere** or **thermosphere** and **exosphere**.



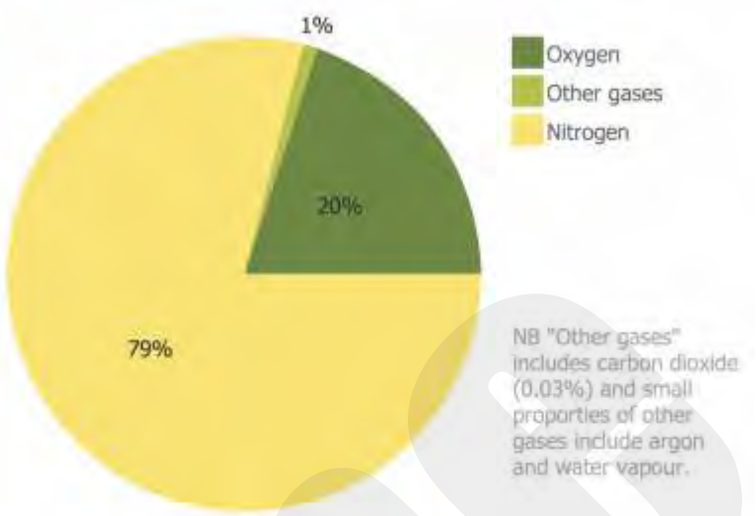
Layers of atmosphere

Affect of Atmosphere on life

It also helps in the process of burning. Atmosphere has some water vapour (3% to 4%) which makes weather phenomenon like rain and snow possible. The atmosphere keeps the earth's atmosphere warm by trapping the increasing solar radiation and not allowing the heat to return to space.

The atmosphere protects us from the harmful solar radiation, especially ultraviolet rays, because it has ozone in the stratosphere. Healing of the atmosphere also causes horizontal movement of air called wind. Last but not the least, atmosphere is the medium for sound waves to travel.

Approximate composition of the air



Composition of air

BIOSPHERE

The word *bios* is an ancient Greek word meaning 'life'. The part of the earth in which all forms of life exist is called **biosphere**. Human beings form an important part of the biosphere. The size of the living organisms in the biosphere ranges from very minute microorganisms we cannot see with our naked eyes to huge trees and animals like the elephants on land and whales in the ocean waters. The biosphere is made up of distinct 'areas', each with its own climate, soil, plant and animal communities and these areas are called ecosystems. Their living components interact with the physical surroundings as also with each other ecosystems. Their living components interact with the physical surroundings as also with each other.

Examples of Interdependence of Realms

Realm	Influencing element	Utility of realms to living organisms	Effect of humans on realms	What we can do
Lithos-phere	Land and soil	1. Plants grow on land in the soil and provide shelter and food. Also provides clothing, fuel; land for houses, roads, railways.	1. Overcrowded cities. Waste dumps ruin land quality. 2. Overuse exhausts soils	1. Plant more trees 2. Reduce wasteful overuse of wood, fuels, minerals and avoid cutting forests

Realm	Influencing element	Utility of realms to living organisms	Effect of humans on realms	What we can do
Lithos-phere	Land and soil	2. Soil is essential for crop cultivation, minerals and fuels. 3. Provides stone and rocks for building materials	3. Soil pollution in waste dumps/ landfills. Solid and liquid wastes, chemicals and other pollutants from sewers, polluted waste from industry. 4. Soil erosion due to overgrazing/cutting forests for wood	3. Proper waste disposal of garbage, sewerage, mine wastes, nuclear waste 4. Check soil erosion, use improved methods of cultivation and land use to prevent soil damage
Hydro-sphere	1. Saltwater-seas and oceans 2. Fresh water-surface water: lakes, ponds, rivers Underground water: wells, springs	1. Clean drinking water for living organisms 2. We use water to drink, wash, clean and cook food. 3. Source of fish	1. Pollution of water by dumping harmful wastes from nuclear plants, factories, municipal waste water bodies 2. Waste of water by over-irrigation 3. Overfishing	1. Check water pollution 2. Treat domestic waste water, sewage from industry before it drains into water bodies and pollutes them with harmful chemicals 3. Avoid wasting water 4. Planned fishing in a controlled manner
Atmo-sphere	Air: Oxygen for breathing; carbon dioxide and nitrogen for plants; ozone to protect us from harmful ultra-violet radiation	Animals including human beings need fresh air to breathe from the atmosphere. It is essential for life.	Air is polluted by harmful chemicals released from industry, vehicles, smoke given out by burning fuels/leaves, etc.	1. Use clean source of energy e.g. unleaded petrol 2. Treat/remove air pollutants before letting smoke into the air 3. Keep vehicle engines in good condition 4. Not to burn leaves, check forest fires 5. Use mass transport system and carpooling

The extent and impact of the biosphere

While most birds can fly from 650m to 1800m in the atmosphere, aquatic animals do not survive below 150m in the hydrosphere because sun rays do not penetrate deeper. Photosynthesis is not possible at greater depths and therefore animal life would not have food for survival. On the lithosphere, the tallest trees grow to about 100m, their roots may go down to 10 or 15 m. However, some exceptional microorganisms are known to survive in deep trenches and at heights of 40 km. Any change in the environmental conditions affects all forms of life. The animals and plants try to adapt to the changes—trees shed their leaves when there is a lack of moisture, and animals migrate from place to place in search of food and water. Forests are cleared to make way for fields, factories, offices and housing. The atmosphere is polluted, soil and water is being poisoned with industrial wastes, chemicals and excessive use of fertilizers. Innumerable health problems in all plant and animal life result from pollution of land, soil, water and air. We should curb the pollution level, to make all the realms of Earth safe for living.

Word Treasure

ecosystem : A specific area in which different animals, plants, microorganisms live and interact with each other. Humans are included in the ecosystem.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Antarctica is also called .....

i) Ice Continent ☐ ii) White Continent ☐

iii) Polar Continent ☐ iv) DryContinent ☐

b. ..... is known as 'Island continent'.

i) South America ☐ ii) Australia ☐

iii) North America ☐ iv) Antarctica ☐

c. The Mid-Atlantic Ridge is a .....

i) mid-oceanic radiowave ☐ ii) mid-oceanic ridge ☐

iii) Mars—attack-radio ☐ iv) none of these ☐

d. Micro organisms are known to survive in deep trenches at a height of ..... km.

i) 40 ☐ ii) 50 ☐

iii) 60 ☐ iv) 20 ☐

e. Africa is separated from Asia by .....

i) English Channel ☐ ii) Black Sea ☐

iii) Caspian Sea ☐ iv) Suez Canal ☐

f. The deepest point of the ..... is the Mariana Trench, which is 10,911 metres deep.

i) Indian Ocean ☐ ii) Arctic Ocean ☐

iii) Atlantic Ocean ☐ iv) Pacific Ocean ☐

g. The Mid-Atlantic Ridge is shaped like the letter ..... under the waters of Atlantic Ocean.

i) Z ☐ ii) A ☐

iii) S ☐ iv) T ☐

2. Write short answer for the following questions.

a. What is the importance of atmosphere?

b. Make a pie chart to explain the composition of air.

c. Why is Australia called an Island Continent?

d. Name the oceans that surround North America.

HOTS

a. Do you agree that any change in the environmental conditions affect all forms of life? Give examples to substantiate your answer.

b. Give two reasons for water-shortage on our planet even though earth is described as the 'Blue Planet'.

3. State whether the following statements are true or false.

a. The ocean waters around the Antarctica are called Pacific Ocean.

b. The realm where life exists is called Lithosphere.

c. Australia is the largest continent.

d. The Pacific is the largest and deepest ocean.

e. The atmosphere protects us from harmful ultraviolet rays.

4. Give the geographical term for each of the following.

a. Air moving in horizontal direction from high pressure area to low pressure area

b. The solid outer layer of the earth

c. Small water bodies surrounded by land

d. A large isolated expanse of water without a link to the open sea

e. The layer of air enveloping the earth

5. Distinguish between the following pairs.

a. Lithosphere and hydrosphere

b. Lakes and seas

c. Atmosphere and biosphere

Value Based Questions

Why is there an urgent need to limit the use of natural resources of the earth and maintain a balance between the different realms of the lithosphere, atmosphere and hydrosphere?

Activity Zone

a. Enrich your photo gallery

Activity

Each continent has some special features. Collect pictures related to various continents and arrange them according to their prominent physical features, cultural aspects as well as associated landmarks.

b. Plan a route

You intend to begin a journey from India around the world and then return. Plan the route you would take. Name the continents and oceans that you would cross over during the journey.

FLOW CHART

REALMS OF EARTH

LITHOSPHERE

- The earth which is made up of land, rock and soil comes under it
- The crust of the earth is the name given to the uppermost layer of the lithosphere
- The large landmasses are called **continents**; the vast water bodies are called **oceans**
- The crust is made up of continental and ocean plates, also called tectonic plates which move
- There are seven continents—Asia, Africa, North America, South America, Europe, Australia and Antarctica
- 71% lithosphere covered by water and 29% forms land surface

ATMOSPHERE

- It is colourless, odourless and tasteless blanket of gases that surround the earth; held in space due to earth's gravity
- It is a mixture of gases like nitrogen (78%), oxygen (21%) and other gases like carbon dioxide, hydrogen, helium and argon. The gases are concentrated in lower layers of the atmosphere
- Atmosphere has different layers on the basis of characteristics like of gaseous content and temperature; no distinct boundaries; the layers from the ground upwards are **troposphere, stratosphere, mesosphere, ionosphere, thermosphere** and **exosphere**
- Acts as a greenhouse and keeps earth warm; **ozone** protects from harmful solar radiation; water vapour in atmosphere makes weather phenomena possible; medium for sound waves to travel
- Horizontal movement of air is called **wind**; vertical movement of air is called **air current**

HYDROSPHERE

- Is the realm of the earth which is made up of water like oceans, seas, rivers, lakes, ponds, etc; also found in air as vapour and underground as ground water
- **Ocean**—97% of the total water on the earth's surface; 2% **fresh water** in the form of ice caps and glaciers; 1% **fresh water** in the form of rivers, lakes and ground water
- There are five main oceans—the Pacific, the Atlantic, the Indian Ocean, the Arctic and the Southern Ocean
- The temperature of ocean water decreases from equator to the polar regions; also changes with increasing depth
- The average salinity is 35 gms of salt to 1,000 gms of water
- Three distinct movements of ocean water are **waves, tides** and **ocean currents**
- Water vapour in the air is responsible for weather phenomena; moderating influence on the climate of coastal regions; cold currents lower the temperature of the adjoining land; warm currents raise the temperature of the adjoining land; waterways are a cheap means of transport

BIOSPHERE

- The part of the earth in which all forms of life exist is called **biosphere**; it is the zone where lithosphere, atmosphere and hydrosphere meet
- It is made up of distinct areas, each with its own climate, soil and living communities of plants and animals called 'ecosystem'
- Living things interact with their surroundings and are interdependent on each other
- Living things have to adapt to changes in environment or they may become extinct
- Population explosion has led to deforestation and exploitation of natural resources
- The environment should be protected and conserved for the coming generations
- Biosphere appears only in the presence of other three realms.

India : Our Motherland

Key Highlights

- Positioning and extension of India
- Political and physical divisions of India
- Importance of each physical division
- Understanding the geographical unity of India

LOCATION, POLITICAL DIVISIONS AND SIZE

India is located in the southern part of Asia. It lies entirely in the northern and eastern hemispheres. India stretches from 8° 04' north latitude in the south to 37° 06' north latitude in the north. In the eastern hemisphere, India stretches from 68° 07' east longitude in the West to 97° 25' east longitude in the east. Tibet, China and Afghanistan lie in the north, Myanmar on the east and Sri Lanka in the south separated by a narrow stretch of water, the Palk Strait and by the Gulf of Mannar. The Arabian Sea lies to the west, the Bay of Bengal to the east and the Indian Ocean to the south so that the southern half of India is a peninsula.

The Tropic of Cancer, 23°30'N latitude passes almost through the middle of India, bisecting it. The east-west extent of the country is about thirty degrees of longitude. This is the reason why there is a difference of almost two hours between the eastern-most part and the western-most part of the country. In India, the

1.	Total area	3.28 million sq.km
2.	Extent: latitudnal	8°4'N — 37°6'N
	longitudnal	68°7'E — 97°25'E
3.	Borders: Land frontier	15,200 km approximately
	Coastline including islands	7,500 km approximately
4.	Extent : East-west	Gujarat to Arunachal Pradesh 2,933 km
	North-south	Kanyakumari to Jammu and Kashmir 3,214 km
5.	Political Units: Number of states	28
	Union Territories	7
	National Capital	New Delhi
6.	Neighbouring countries	Pakistan, China, Afghanisthan, Nepal, Bhutan, Myanmar, Bangladesh

longitude 82°30'E has been selected as the Standard Meridian for the country. It clears all kinds of confusion with time in different part of India. It passes through Allahabad. The local time of this meridian is the Indian Standard Time (IST) for the whole country. As the IST Meridian lies 82°30' east of Greenwich Meridian, its standard time is exactly 5 1/2 hours ahead of Greenwich Mean Time.

PHYSICAL DIVISIONS

India is divided in 3 major; 2 minor physical feature and besides it also have a coral island. The following division given as :

1. The Great Mountain Wall of the North	2. The Northern Plains	3. The Great Peninsular Plateau
4. The Great Indian Desert	5. The Coastal Plains	6. Islands of Arabian Sea and Bay of Bengal

Physical features like climate, soil and natural vegetation influence the way people live. The life of people vary greatly because of the different physical unit of India they live in.

India-states and capitals

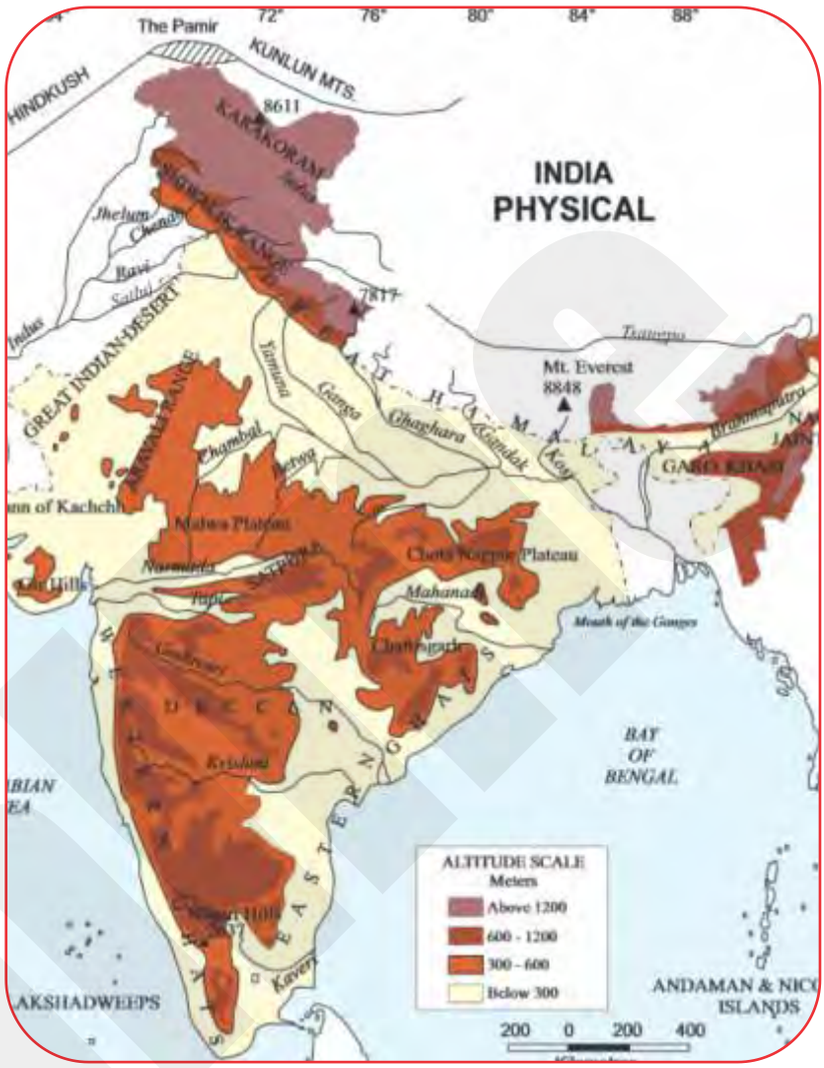
1. The Great Mountain Wall of the North

This consists of the **Karakoram range and Himalayan fold mountain system**. The Karakoram range enters India in Kashmir and moves eastward into Tibet where it is known as the **Kailash range**. It includes the plateau of **Aksaichin.** The **Siachen** and **Baltoro** are important glaciers here. The **Ladakh** and **Zaskar** ranges lie to the south of Karakoram, on either side of river Indus, as it flows from the northeast to the northwest.

Some important passes in the mountains serve as important land routes into China and Tibet, e.g. Shipkila in the Satluj valley in

Himachal, Bomdila in Arunachal Pradesh and Nathula in Sikkim. (The word 'La' means pass in the Chinese language).

The **Himalayas** extend from the river Indus in the west to the Brahmaputra in the east. The three parallel ranges from north to south, in this mountain system—the **Himadri, Himachal** and **Shivalik**—cover a distance of about 2,500 km in the shape of an arc. The mountains are higher in the east where some of the world's very high peaks are located, e.g. **Mt. Everest** in Nepal, the highest peak in the world. **Mt. K2** or **Godwin Austen** (8611m) in POK is the highest peak in India. **Kanchenjunga** in Sikkim at (8586m) is the second highest peak in India.



India-physical divisions

The Himalayas, which means 'abode of snow', are new fold mountains. They were formed by compression or coming together of the earth's surface and they are still rising gradually. They are called new fold mountains because they were formed 'recently' in geological history, i.e., between 50 million years to 2 million years ago!

Himalayas vary in width from 400 km in the west to 100 km in the east. The eastern flanks of these mountains are called **Purvanchal.** They are not as high as the Himalayas and they run in a north-south direction through the states of Arunachal Pradesh, Nagaland and Mizoram. Another extension stretches along the Bangladesh-India border as the **Garo**, **Khasi** and **Jaintia** hills.

From north to south there are three parallel ranges of Himalayas:

(a) **Himadri** or **Greater Himalayas** lie to the extreme north of India. They are snow-covered for most of the year, being approximately 6,000 m above sea level on an average. Melting snow from the peaks provides water for the great rivers

of the Northern plains all the year round.

(b) **Himachal** or **the Lesser Himalayas**, lie to the south of the Himadri. They are covered with forests on their slopes. These mountains are about 4,000 to 5,000 m above sea level in height. Many important hill stations such as Shimla, Nainital, Mussorie, Dalhousie and Darjeeling are located in the Himachal range.

Fact File

The only active volcano of India, called Barren Island, erupted on io April 1991 after lying dormant for over two hundred years.

The river indus flowing through Leh Valley

2. The Northern Plains

The Northern Plains that lie to the south of the Himalayas are built entirely of alluvial deposits. They are extensive, low, flat and fertile. These plains stretch for about 2,400 km from Punjab in the west to Assam in the east. They vary in width from 150 to 400 km. Three main river basins can be identified in the Northern Plains. They are:

Let's Think

- Do you know the southernmost point of the Indian Republic?
- Name the 7 union territories of India?

(a) The **Indus Basin** lies in the states of Jammu and Kashmir, Himachal Pradesh and Punjab. This basin is drained by the river Indus and its tributaries, Jhelum, Chenab, Ravi, Beas and Satluj. The rich doabs support prosperous agriculture and large populations. Indus originates beyond the Himalayas, near Lake Mansarovar and drains into the Arabian Sea. Only a small portion lies in India while the bulk of it lies in Pakistan.

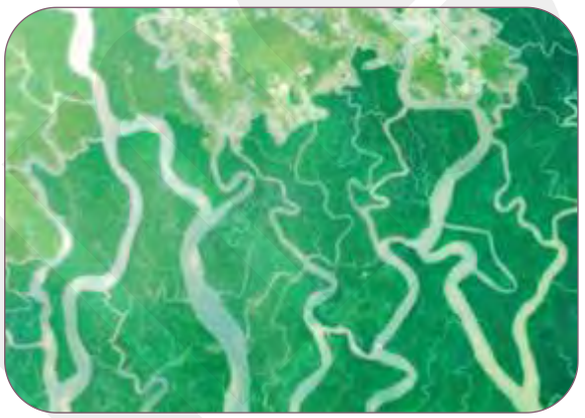
(b) The **Ganga Basin** covers a major portion of the Northern Plains. The Ganga originates from the Gangotri glacier in Himalayas. Yamuna is its main tributary. Other tributaries are Ghagra, Gandak, Gomti, Kosi, on the left bank

and Chambal, Betwa, Son and Damodar are right bank tributaries.

(c) The **Brahmaputra** rises very close to Indus, near Mansarovar and flows eastward parallel to the Himalayas in Tibet and China, as the Tsangpo. It enters India through Arunachal Pradesh and Assam to meet the Ganga; in Bangladesh, as the Meghna and Jamuna. It re-enters India and drains into the Bay of Bengal. The Ganga-Brahmaputra delta (Sundarban) is known as the world's fastest growing and largest one. Delta is a triangle shaped depositional feature at the mouth of a river. It is made up of several islands and distributaries formed because the river chokes its own channel with silt deposits. It is good for cultivation because the soil on these islands is very fertile.

3. The Great Peninsular Plateau

The Peninsular Plateau lies to the south of the Northern Plains and is the oldest landmass of India. It is composed of hard igneous and metamorphic rocks. The peninsular plateau has two distinct parts—the Malwa Plateau and the Deccan Plateau. The two plateaus are separated by the Vindhya and Satpura ranges.



A satellite image of the Sundarbans

The Malwa Plateau and Central Highlands

This plateau is bounded by the Aravallis in the north-west and the old Vindhya mountains in the south. It slopes towards the Ganga basin in the east, where it is called the **Bundelkhand** and **Baghelkhand** in southern Uttar Pradesh and **Chhota Nagpur** in Chhatisgarh and Jharkhand. It is dissected by the right bank tributaries of the Ganga.

The Deccan Plateau

The Deccan Plateau, south of Vindhyas, is triangular in shape, highly dissected volcanic plateau and tilted to the east. As a result, most peninsular rivers flow eastwards. It is bounded in the north by the Satpura Range, the Mahadeo Hills, Maikala Hills and Kaimur Hills. The almost continuous Western Ghats form its western edge. It has four passes of which Palghat (in Kerala) is widest. The discontinuous hills on the eastern edge form the Eastern Ghats. They are very old highly eroded mountains. Both the Eastern Ghats and Western Ghats meet at the Nilgiri hills. **Anaimudi** is the highest peak of the Deccan in India. It is 2,698 m high.

Let's Think

The **Western Ghats** or the **Sahyadri** is a UNESCO World Heritage Site.

Difference between the Western and Eastern Ghats

Western Ghats	Eastern Ghats
1. The hills are continuous and rise abruptly from the western coastal plain and form the western edge of the Deccan Plateau.	1. The hills are discontinuous and with varied rocks of a very old mountain system and form the eastern edge of the Deccan Plateau. They are dissected by many east-flowing rivers.
2. They have an average height of 1200 M.	2. They have an average height of 900 m.
3. They are known as Sahyadris in the north and as the Nilgiris, Anaimalai and Cardamon Hills in the south.	3. They are known as Mahendragiri, Malayagiri, Nallamalai, Kollimalai, Shevroy Hill and Javadi Hills.
4. Rivers Mahanadi, Godavari, Krishna and Kaveri form good deltas.	4. Rivers Narmada and Tapi that flow through rift valleys form estuaries not deltas.

4. The Great Indian Desert

Beyond the Aravalli Range in the west, the Northern Plains give way to the Great Indian Desert or the Thar Desert which extends into Pakistan. This region is dry, sandy and gets very little rainfall. Most of the rivers or streams disappear into the sand or drain into salt water lakes. 'River Luni flows through the southern part of the desert for some part of the year. Godavari, the longest river of peninsular India, is known as 'Ganga of the South'. The northwestern part of the Deccan Plateau is covered by lava flows (also called the **Deccan Trap**) that are spread out and occupy the whole of Maharashtra, parts of Gujarat and Madhya Pradesh.

Backwaters of Kerala

5. The Coastal Plains

The Coastal Plains border the Deccan plateau on the east and west. The western

coastal plain lies between the Western Ghats and the Arabian Sea. Its northern part is called the **Konkan** and the southern part is called **Malabar**. It has **estuaries, lagoons,** (enclosed salt lakes) and **backwaters** of the sea along coastal **Kerala.** Two big backwater lakes of east coast are the Chilka and Pulicat.

The eastern coastal plain is wider because of the deltas formed by east flowing peninsular rivers. The sea along the coast is shallow and unsuitable for harbours.

Difference between the Western Coastal Plains and Eastern Coastal Plains

Western Coastal Plains	Eastern Coastal Plains
1. It is a narrow plain which lies between the Western Ghats and the Arabian Sea.	1. It is a wide plain bordered by the Eastern Ghats and the Bay of Bengal.
2. It is called Konkan upto Goa and Malabar along Kerala.	2. It is called Coromandel along Tamil Nadu and Northern Circars north of Godavari delta.
3. There are estuaries, lagoons and backwaters.	3. There are extensive deltas.

6. Islands of Arabian Sea and Bay of Bengal

The **Lakshadweep Islands** (meaning 'a hundred thousand islands') is a group of 36 coral islands. They are located in the Arabian Sea, 300 km to the west of the Kerala coast. Most islands are uninhabited due to absence of drinking water.

Coral Reef — Lakshadweep Islands

The **Andaman** and **Nicobar Islands** located in the Bay of Bengal are larger and more numerous. There are around 572 islands of which less than 40 are inhabited and some of the primitive tribes live in the wild with little or no contact with the world other than their forest. They are the remnants of a submerged volcanic mountain range through the islands of Java and Sumatra in Indonesia. The Barren Island, the only active volcano in India, is located Here. A wide channel separates Andaman and Nicobar Islands. This is known as the Ten Degree Channel.

Fact File

Have you heard of the 'Great Barrier Reef' in Australia? The reef is located in the Coral Sea, off the coast of Queensland in Australia. It is considered to be the biggest structure in the world made by living organisms, i.e. coral polyps. The Lakshadweep and parts of the Andamans have similar reef's.

GEOGRAPHICAL UNITY OF INDIA

Inspite of geographical and regional differences. India is an integrated entity The physical and cultural differences enrich the country's heritage. All the states and union territories are interdependent for crops, minerals, fuels and forest resources. The Himalayas give rise to perennial rivers that flow through India. They provide us with water for hydro-electric power. Water of Himalayan rivers benefits agriculture and industry and is provided for domestic purposes. The Northern Plains are well suited for agriculture. The Himalayas have immense forest wealth and have many hill stations and sacred shrines where many people travel round the year on pilgrimage. The high peaks are a challenge to mountain climbers and these mountains are important from defence point of view. Himalayas trap the monsoon winds to give us rain, cut off the very cold winds of Central Asia from entering India. The Peninsular plateau is a storehouse of a variety of minerals like iron ore, coal and manganese that provide the basis for modern industry. The coastal areas and deltas are important for agriculture and fishing. The ports open gates for international trade. India is growing because of the exchange of raw materials and finished goods, and expertise within the nation and neighbouring countries.

Word Treasure

glacier	:	an extremely slow-moving river of ice and snow
river basin	:	an area of land through which a river and its tributaries flow
doab	:	term in north India for land between two rivers, known for its fertility as agricultural land
coral	:	tiny sea animals, red, pink or white, found on the shallow ocean floor. When they die their skeletons form hard coral rocks.
perennial rivers	:	rivers that have water throughout the year

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Andaman and Nicobar Islands has 572 islands and is located in ..... .

i) Bay of Bengal ☐ ii) Arabian Sea ☐

iii) Indian Ocean ☐ iv) Gulf of Mannar ☐

b. ..... is separated from India by the Palk Strait and Gulf of Mannar.

i) Myanmar ☐ ii) Sri Lanka ☐

iii) Bangladesh ☐ iv) Nepal ☐

c. The highest peak of the Deccan is ..... .

i) Anaimudi ☐ ii) Vindhya ☐

iii) Nilgiri ☐ iv) Jaintia ☐

d. The famous hill stations such as Shimla, Nainital, Dalhousie, etc., lie in ..... .

i) Purvanchal ☐ ii) Himadri ☐

iii) Himachal ☐ iv) Shivalik ☐

e. Which of the following is not a tributary of Indus river?

i) Ravi ☐ ii) Chenab ☐

iii) Damodar ☐ iv) Jhelum ☐

2. Short answer questions.

a. Discuss the location of India. Do you think this is advantageous? If so, explain how.

b. Name the three parallel ranges of the Himalayas and discuss their features.

c. State the importance of Himalaya?

d. How do the Ganga basin influence the life of Indian people?

e. Into how many parts is the peninsular plateau divided? Give its boundaries.

3. Give reasons for the following statements.

a. Eastern Coastal Plain is wider.

b. The Northern Plains are the most fertile and densely populated.

c. The sea along the eastern coast is unsuitable for harbours.

d. There is a difference of two hours between the western and eastern parts of India.

e. Life of the people differs in each physical division of India.

4. Distinguish between the following pairs.

a. Delta and estuary

b. Himadri and Himachal
c. Western and Eastern Coastal Plains
d. Western Ghats and Eastern Ghats
e. Mountains and hills

5. Give the geographical term for each of the following.

a. An area where the river does not reach the sea. .....
b. A triangle-shaped depositional feature at the mouth of the river .....
c. Northwestern part of the Deccan Plateau that is covered by lava flows .....
d. Salt lakes .....
e. A wide channel that separates Andaman and Nicobar Islands .....

6. Name the following.

a. Ganga of the South .....
b. Southern part of Eastern Coastal Plain .....
c. A scenic longitudinal valley in the Shivalik Valley .....
d. The eastern flank of the Himalaya .....
e. The other name of Ganga-Brahmaputra delta .....

Value Based Questions

Make different groups in class. Think of the different physical divisions of India and imagine if they were not there, how would it impact our climate, agriculture, culture, tourism. Each group can outline the imaginary conditions after a group discussion. It will help you to know how the physical features facilitated the growth of our country in terms of agriculture.

Activity Zone

On a map of India mark the following:

a) An ocean to the south of India
b) Highest mountain peak in South India
c) Tributaries of river Indus in India
d) States bordering the coast along the Bayof Bengal
e) States that share the international border with China
f) States that share the international border with Pakistan

FLOW CHART

India - As a Geographical Unit → India

Position & Extension

- Stretches from 8°4' N to 37°6' N latitude and from 68°7' E to 97°25' E longitude
- The Tropic of Cancer, 23°30' N passes almost through the middle of India
- Sri Lanka is separated from India by the Palk Strait; stretches from 3,200 km from north to south and 2,900 km from west to east
- India's Standard Meridian is 82°30' east of Greenwich Meridian; 5% hrs ahead of Greenwich Mean Time
- The southern part of India is a peninsula; the Arabian Sea lies to the west, the Bay of Bengal to the east and Indian Ocean to the south

Administrative & Political Divisions

- India is a republic; union of 28 states and 7 union territories including the National Capital Territory of Delhi
- States have different languages, cultures and geographical features

Physical Divisions

- There is the Great Mountain Wall of the North; the Northern Plains; the Great Peninsular Plateau and Western Desert; the Coastal Plains of the West and East; island of the Arabian Sea and Bay of Bengal
- The Great Mountain Wall of the North consists of the Karakoram and the Himalayan ranges; K2 (8611 m) in POK is the highest peak in India.
- Kanchenjunga in Sikkim at 8586 m is the second highest peak in India

  From north to south, the Himalayas consists of three parallel ranges—the Himadri (average 6,000 m); Himachal or the Lesser Himalayas (average 4,000-5,000 m) with important hill stations like Shimla, Nainital, Mussoorie, Dalhousie and Darjeeling); and Shivalik or Outer Himalayas (900-1,000 m); Purvanchal is a northeastern extension of the Himalayas and are marked by Garo, Khasi and Jaintia Hills
- **The Northern Plains** are extensive, low and flat plains made of fine soil called 'alluvium' brought down and deposited by rivers; consists of three basins

  The Indus Basin located mainly in the states ofJammu & Kashmir, Himachal Pradesh and Punjab; drained by river Indus and its tributaries

  The Ganga Basin covers a major portion of the Northern Plains, drained by Ganga and its tributaries

  The Brahmaputra Basin which covers Arunachal Pradesh, Assam, Bangladesh and drains into Bay of Bengal; Ganga-Brahmaputra forms the world's largest delta
- **The Great Peninsular Plateau** lies to the south of the Northern Plains; oldest landmass of India; composed of hard igneous and metamorphic rocks; has two distinct parts—the Malwa Plateau, Central Highlands and the Deccan Plateau

  Malwa Plateau bounded by the Aravallis in the north-west and the Vindhyas in the south; slopes towards the Ganga basin in the east, where it is called Bundelkhand and Baghelkhand in southern Uttar Pradesh and Chhotanagpur in Jharkhand

  The Deccan Plateau is triangular in shape; tilted to the east; most peninsular rivers flow eastwards; northwestern portion made of lava deposits; occupy the whole of Maharashtra, parts of Gujarat and Madhya Pradesh; flanked by Western and Eastern Ghats
- **The Great Indian Desert** the Thar Desert lies beyond the Aravalli Range and extends into Pakistan

  Dry, sandy and gets very little rainfall; region of inland drainage

  Luni River flows through the southern part of the desert for some part of the year
- **The Coastal Plains** border the Deccan Plateau on the east and west

  The western coastal plain has estuaries, lagoons and backwaters; the northern part is called the Konkan and the southern part is called the Malabar

  The eastern coastal plain is wider; rivers form deltas; northern part is known as Northern Circars and the southern part is known as the Coromandel Coast
- **Islands of Arabian Sea and Bay of Bengal**

  The **Lakshadweep Islands** are located in the Arabian Sea, 300 km to the west of the Kerala coast; formed of coral polyps; group of 36 coral islands

  The Andaman and Nicobar Islands are located in the Bay of Bengal; remnants of submerged volcanic mountain range; extends from the Arakan Mountains of Myanmar and continues through the islands of Java and Sumatra in Indonesia; Barren Island, the only active volcano in India, is found here

15 Understanding Diversity

Key Highlights

- Defining diversity
- Importance of diversity
- Major features of social and cultural diversity in India

Let's Start With

At the Annual Day function kids wore traditional dresses of the state they belonged to and greeted their teacher in native language. Though they were studying in the same class, kids were surprised to know about the diversity present in our country.

MEANING OF DIVERSITY

Diversity could be interpreted as the variation one find around itself in language, food, dances and many other things. People when work or study may follow same type of dressing and manners but in their homes and native place they speak their language and dress according to the taste they prefer. There is diversity in the environment as well as in human beings. It is this variety that makes our world such an interesting place.

Diversity and Various form of Inequalities

Apart from differences in physical appearance, mother tongue and religion, there are other kinds of differences as well. There are many kinds of inequalities—economic, social and even political. Difference in income levels leads to economic inequality. Some people are poorer than others and do not have the resources and opportunities that others enjoy. A prime example of social inequality in India is the caste system, which, for a long time, was the basis of the social structure in many parts of India.

How Diversity Enriches Us...

Variety is the spice of life. Leading same type of life would have made our world boring and no new invention, discovery or art form could have taken place in absence of diversity.

For example two close neighbours and friends John and Sourabh work together in a nationalized bank. They travel in the same bus from home to work place. During tea break they share different snacks with each-other. Sourabh has home-made Kachori and John has fruit-cheese cake.

In lunch Sourabh do not have the non-veg meal that John loves to have. John respects Sourabh's customs and understands his vegetarian taste. John is Christian and celebrate X-mas and Sourabh happily invite John on Diwali and Holi.

Thus, we see that India is a land of diversities. Many different social groups can be found in India. They speak different languages, eat various kinds of food, have different habits and believe in different faiths. Yet they are all proud to be Indian.

Let's Think

How many students in your class can speak different languages?

INDIA: A LAND OF DIVERSITIES

From early times, people travelled to different regions for several reasons. It could have been in search of food and livelihood. Wars, drought or floods are the reason for large scale migration. When they settled down in new places they began to learn new ways of doing things. They also teach people some of the things they knew. This teaching and learning between groups of people brought about many new languages, dance forms, music, cuisines and religions.

People who wanted to settle in new land had to change their old lifestyles in order to adapt to new places. Thus, they formed new habits and customs. As a result, their language, food, religion and customs became a mixture of the old and the new. A series of development also get started by this.

People began to trade with other groups in different places and thus, many of them

Fact File

Urdu is an Indo-European language. It developed under Persian and Arabic rule and to some lesser degree also under Turkish influence in South Asia during the Delhi Sultanate and Mughal Empire. It is the national language of Pakistan as well as one of the 23 official languages of India.

were influenced by the lifestyle of that place. Different religions developed diverse cultures. Many historical events like the coming of the Aryans, Mughals, and British have added diversity to our culture. Historical developments shaped and influenced different social groups. These differences can be divided into economic, social and political.

Economic Diversity

Physical and climatic conditions determine the economic activities of a region. For instance, people living near the coast would be engaged in fishing, whereas those in the plains would be growing crops. People living in the hills or deserts will be engaged in other occupations. Thus, the dress, food and habits would be different depending on the regions they live in.

India is land of vast physical feature that in turn give a variety of cultures. Always adapting to change caused by internal factors or contact with external cultures and adopting new elements from other countries has made India culture rich. In the present age of airplanes and e-mails, travelling for work or leisure has become more common, faster and easier. As such, we carry our traditions to new places and also adapt to the ways of life of that place.

Social Diversity

The smallest unit of society is family. The family that consists of parents and only their children is called **nuclear family**. However, there are families where the grandparents as well as uncles, aunts and cousins live together. Such families are called **joint families**. They are more common in villages.

A group of families living in the same area or village having common interests is called a **community**. Communities living in a region with a common government is a **nation**. In India, we have many different communities. We have 23 major languages—they can be broadly divided into two groups. In the North, the source of most languages is Sanskrit whereas in the South of India, it is Dravidian.

There are different religious communities also. They have different beliefs and ways of worship. Some of these are Hindus, Muslims, Christians, Jews, Parsis, etc. Each religion has its own customs, festivals and places of **worship**. Our country beign a secular state does not favour any one religion.

Fact File

Our National Anthem, composed by Rabindranath Tagore, talks about the diversity of our country.

Similarly, Indians have diverse food habits also. These habits are dependent largely on where they live. For example, people who live on the coast eat fish and rice whereas, in cold places like Kashmir, they eat more meat and dairy products to keep themselves warm.

The environment, history and beliefs of a community also influence the way people celebrate festivals and their arts and crafts. Every region in India celebrates the harvest festival in its own style. It is known as **Baisakhi** in Punjab, **Onam** in Kerala, **Bihu** in Assam and **Makar Sankranti** in UP and Bihar.

UNITY IN DIVERSITY

The diversity of religion, language and food all that is found in our country gives our nation a very rich cultural heritage. In spite of different languages, religions and food habits, we have an underlying unity. There is also an element of interdependence among different communities which binds them together.

The village community supplies food to other towns and it depends on the urban communities to supply it with clothes, electricity, machines for agriculture, etc. Thus, they depend on each other for various needs. This interdependence is what forges a link and bond of unity.

In his book, *The Discovery of India*, Jawaharlal Nehru wrote about the variety and unity of India. He coined the phrase, **'Unity in Diversity'**. He said: '... the diversity of India is tremendous ... yet, with all the differences, people have retained their peculiar characteristics for hundreds of years...'

Word Treasure

heritage : handed down from the past by tradition

Unity in Diversity : co-existence of diverse cultures as a single integrated unit.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Which of the following factors has contributed to diversity of our country?

i) geographical ☐ ii) festivals ☐

iii) food ☐ iv) none of the above ☐

b. Differences in race, religion, caste, etc., is termed as .....

i) diversity ☐ ii) unity in diversity ☐

iii) heritage ☐ iv) culture ☐

c. In south of India, the origin of most languages is from

i) Sanskrit ☐ ii) Dravidian ☐

iii) Tamil ☐ iv) Hindi ☐

d. Economic activities of a region is determined by ..... and climatic condition.

i) Physical ☐ ii) Mental ☐

iii) Cultural ☐ iv) None of these ☐

Is India's culture ever-changing, even today?

2. Answer the following questions in about 60-80 words.

a. What does diversity mean?

b. What does unity in diversity teach us?

c. What are the differences and inequalities among people we see outside the school?

d. Why did people travel to different regions in the early times?

e. What was the result of people settling down in new places?

3. Fill up the following table.

States of India	Language	Capital City	Important Festivals
Jammu & Kashmir			
Odisha			
Nagaland			
Madhya Pradesh			
Andhra Pradesh			

4. Fill in the blanks.

a. Every region in India celebrates the ..... festival in its own style.

b. ..... coined the phrase, Unity in Diversity.

c. The different means of ..... and ..... has made cultural exchanges easier.

5. Identify the states from the following clues.

a. Tamali was wearing a beautiful *mekhla*.

b. A temple dedicated to Lord Brahma.

c. The snake boat races here are very famous.

d. Makar Sankranti is celebrated here.

e. Mani enjoys the dosa and rice *idlis* that his mother prepares.

Value Based Questions

Do you think India is a better place because of its diversity? Do you think we must show respect to people who are not like us? Discuss.

Activity Zone

a) Be a Newspaper Reporter

Collect ten news items from newspaper or magazines that show that diversity is enriching. Share these with the rest of the class.

b) Diversity in the classroom

Talk to your classmates and find out about the various aspects mentioned below:

- the language spoken at their home
- festivals celebrated by them
- staple food and delicacies prepared on special occasions
- any particular way of greeting people, especially elders
- places of their origin
- the dresses they wear
- their customs

To conclude, make a report highlighting the comparative analysis of the common customs or food, etc., and also bring out the differences between them.

FLOW CHART

DIVERSITY

What Diversity Means

- There is diversity in the environment as well as in human beings
- We speak different languages at home, celebrate different festivals; sometimes we celebrate some festivals differently

Differences and Inequalities

- Inequalities or differences may be **economic, social** or **political**
- Some people are poorer than others and may not have access to all the resources and opportunities available
- A prime example of social inequality is the caste system

Unity in Diversity

- Diversity gives our nation a very rich cultural heritage
- Interdependence among different communities bind them together; for example, village community supplies food to the urban communities while the urban communities supply clothes and machines to the villages
- Jawaharlal Nehru, in his book, The *Discovery of India* coined the phrase **Unity in Diversity**

India—A Land of Diversities

- Different social groups are found; eat various kinds of food; believe in different ways of praying
- Different religions developed diverse **cultures**; new cultures developed due to the mixture of the old and the new
- **Economic Diversity**
  - Physical and climatic conditions determine the economic activities of a region
  - Ever-changing Indian culture due to internal forces and external elements from other countries
- **Social Diversity**
  - Smallest social group is the **family**; a family consisting of only parents and children is called **nuclear family**; a family consisting of grandparents, uncles, aunts and cousins is called **joint family**
  - Group of families living in the same area with common interests is called a **community**
  - There are different religious communities like Hindus, Muslims, Christians, Jews, Parsis, etc., with different beliefs and ways of worship
  - Food habits depend largely on the area in which people live

16 Diversity, Discrimination and Equality

Key Highlights

- Diversity leads to discrimination and prejudice
- The right to equality and ensuring equal treatment to all citizens of India
- Understanding prejudice and stereotypes

Let's Start With

We all know that elements of difference and diversity exist in Indian society. However, we should not ridicule or treat anyone badly on the basis of their colour or region to which they belong.

People in India follow all the eight major religions of the world, they speak 22 major languages and more than 1,650 dialects. You must be surprised to know that our country has many racial and ethnic groups and more than a hundred dance forms and styles of music—each different and distinct from one another.

We feel more secure with people who are like us rather than those who are different. We appreciate similarity more than diversity. We usually make friends with children who think like us and like the same things that we do. We are more comfortable with people who talk in a different language or belong to another region or religion. Sometimes, we may even form certain opinions about those who are not like us.

Prejudice—Why and How?

Ram Yadav, who has lived in a village all his life, believes that all people who live in cities are cunning, proud and dishonest. On the other hand, Subhash Seth, who lives in a crowded city and makes short visits to his ancestral village, feels that all villagers are very simple, but superstitious and conservative in their outlook. Both are prejudiced. **Prejudice** means to have a bad state of mind or opinion about a person or

a thing without knowing much about them. We often fail to respect or celebrate the differences that exist and end up having prejudices about many things.

Let's Think

Do you have a prejudice about anyone or anything?

We can have prejudices about the region that people come from, their religious beliefs and customs, their lifestyle, the type of food they eat, etc. These prejudices affect our relationship with others and may hurt sentiments of other people and even add to tensions.

Ambedkar and his struggle against discrimination

The Father of the Indian Constitution, Dr Bhimrao Ramji Ambedkar, born in the *Mahar* community of Maharashtra, dedicated his life to the welfare and uplift of the **Dalits**. Mahatma Gandhi called them **Harijans** or the **'children of God'**. Our government refers to this group of people as **Scheduled Castes** (SC).

Dr B.R. Ambedkar

In spite of the caste-based discrimination, Ambedkar pursued higher studies. He and his elder brother studied in a school at Satara.They had to sit outside the classroom so that other boys did not get 'polluted'. They could not drink water from the school well and often had to remain thirsty the whole day.

In school, and later in college as well, the orthodox teachers did not allow Ambedkar to opt for Sanskrit as an elective subject, and he was compelled to study Persian.

Read this extract:

In accordance with the terms of the agreement, I came to serve under the Baroda Durbar. I could not get a house to live in at Baroda. Neither a Hindu nor any Muslim was prepared to rent out a house to me in the city of Baroda. Failing to get a house in any locality, I decided to get accommodation in a Parsi dharamsala. Giving myself a Parsi name, Adalji Sarabji, I began to live there. But soon, the people came to know that His Highness, the Maharaja Gaekwad of Baroda had appointed a Mahar (a caste considered to be untouchable by the society then) boy as an officer in his Durbar. On the second day of my stay, when I was just leaving for my office after breakfast, a mob of some fifteen or twenty Parsis, armed with weapons, accosted me, threatening to kill me, and demanded to know who I was. I

replied that I am a Hindu. But they were not to be satisfied with this answer.
(**Source:** B. R. Ambedkar: A Crusader for Equality)

Dr Bhimrao Ramji Ambedkar (1891-1956) led a ceaseless struggle for equality, justice and for the rights of the *Dalit* community. He was the first person from the untouchable *Mahar* community to complete his graduation. He went to New York and later London, and became a barrister.

Ambedkar started some newspapers and journals to preach social equality. He fought to get justice for the untouchables. He played an important role in the framing of the Indian Constitution.

THE CONSTITUTION AND RESPECT FOR DIVERSITY

In 1947, when India became free from British rule, the leaders and makers of the Constitution of India were aware of the inequalities that existed in our society.

The Indian Constitution grants the right to equality to all the citizens of India. Every citizen is considered equal, and has equal rights and opportunities. Everyone is treated equally before the law and the government cannot discriminate against anyone while appointing someone for a government job. In fact, special benefits have been made for women and persons belonging to certain castes or tribes reserving seats for them in state-aided educational institutions.

Fact File

- Ambedkar was the Law Minister in Prime Minister Nehru's first Cabinet which was formed after Independence. He was the Chairman of the Drafting Committee of the Constituent Assembly.

Fundamental Rights

The makers of our Constitution showed their respect for diversity in our society by ensuring that the people have the freedom to follow any religion of their choice. The **Fundamental Rights** uphold the principles of freedom and equality. Every citizen of India, irrespective of caste, creed, race and religion, has the right to enjoy these rights. They are:

1. Right to Equality	2. Right to Freedom
3. Right against Exploitation	4. Right to Freedom of Religion
5. Right to Constitutional Remedies	6. Cultural and Educational Rights

Hence, as per the provisions of the Constitution, the government must treat every individual equally. In spite of certain inequalities that exist in our society, the government and the people are striving to realize the ideals of equality and justice for all, as enshrined in our Constitution.

Word Treasure

Dialects : different forms of a language spoken by people from a particular geographical area

Constitution : a written document which contains principles and norms for governing the country

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Dr B.R. Ambedkar became the ..... in Prime Minister's Nehru's first Cabinet formed after Independence.

i) Parliamentary Affairs Minister ☐ ii) Law Minister ☐

iii) Commerce Minister ☐ iv) Iron & Steel Minister ☐

b. Which of the following is not a fundamental right?

i) Right to equality ☐ ii) Right to freedom ☐

iii) Right to freedom of religion ☐ iv) Right to property ☐

c. A pre-conceived notion or opinion formed without knowledge or examination of the facts is termed as .....

i) discrimination ☐ ii) injustice ☐

iii) prejudice ☐ iv) exploitation ☐

d. Who was the Chairman of the Drafting Committee of the Constituent Assembly?

i) Mahatma Gandhi ☐ ii) Jawahar Lal Nehru ☐

iii) Dr B.R. Ambedkar ☐ iv) Swami Vivekananda ☐

e. Harijans was the name given to *Dalit* by .....

i) Mahatma Gandhi ☐ ii) Ambedkar ☐

iii) Nehru ☐ iv) Dr. Rajendra Prasad ☐

2. Short answer questions.

a. Name the fundamental rights given by the constitution.

b. Mention two factors that lead to discrimination.

c. Distinguish between inequality and prejudice.

d. Explain briefly how poverty can lead to inequality.

HOTS

a. Discuss at least two measures that can be taken to abolish discrimination.

b. Explain what is a stereotype. Why is it unfair to have stereotypes? Give two reasons to justify your answer.

c. What role does the 'right to equality' play in eliminating stereotype and discrimination in India?

3. Write short answer for the following question.

a. What is a 'prejudice'? Whom are we prejudiced against?

b. Define discrimination. What are the types of discrimination that exist in our society?

c. Who is the Father of the Indian Constitution? What were his contributions?

d. How does the government ensure equality for all citizens?

4. Give one word answers for the following.

a. Different languages spoken by people from a particular geographical area .....

b. A preconceived notion formed without knowledge or examination of the facts .....

c. They are called the Children of God .....

d. The basic rights that uphold the principles of freedom and equality .....

e. Treatment based on class or category .....

5. How would you distinguish between stereotypes and prejudice? The following statements are either stereotypes or prejudice. Mark S for stereotypes and P for prejudice.

a. Girls speak softly. .....

b. Boys are good sportsmen. .....

c. City people are corrupted. .....

d. Girls are always emotional. .....

e. People in villages are unaware of modern methods of farming. .....

6. Study the Preamble to the Indian Constitution and find out the meanings of the following words:

a. Sovereign b. Democratic c. Republic

d. Fraternity e. Secular

7. **Do you agree with the following statements? If not, rewrite them in a manner that is more acceptable to you or give reasons to support your view.**

a. Boys are better cooks than girls. .....

.....

b. People living in the countryside cannot speak English. .....

.....

c. Girls study more sincerely than the boys of our class. .....

.....

d. Boys do not cry. .....

.....

Value Based Questions

Work in pairs and note down instances where you discriminate against others on any given day. For examples, do you avoid any classmates or neighbours? Be honest, and think why you do so. Does it make you prejudiced? Share your thoughts with each other, without naming anyone. How can you overcome it?

Activity Zone

a. Design a poster which promotes equality among people.

b. Discrimination — Why and How?

- Make a list of all forms of discrimination that you have read about in this chapter.
- Try to find out how many forms of such discrimination you witness at your home, school, among friends, markets and other places.
- What could be the possible reasons for such discrimination? Could it be because of the caste system, poverty or other reasons? Make a list of all the possible reasons.
- Find out what the negatives of such discrimination are.
- Have a discussion in your class and make a list of all the possible solutions given by you and your class friends.

FLOW CHART

PREJUDICE AND DISCRIMINATION

- **Prejudice** means to have a negative opinion about a person or a thing without knowing much about them
- When people develop a negative or positive opinion about someone or something, they end up creating a **stereotype**; stereotypes are used to designate jobs or functions to be performed by individuals

THE CONSTITUTION AND RESPECT FOR DIVERSITY

- The Indian Constitution grants equal rights and opportunities to the citizens of India; all are considered equal
- Special provisions are provided for women and persons belonging to certain castes or tribes by way of reservation of seats in state-aided educational institutions
- Fundamental rights uphold the principles of freedom and equality; every citizen of India enjoys the rights irrespective of caste, creed, race and religion
- The government and people are striving to realize the ideals of equality and justice as enshrined in our Constitution, inspite of certain inequalities

INEQUALITY AND DISCRIMINATION

- **Discrimination** arises due to prejudice against somebody or a group of people; for example, preventing people of a particular caste from entering religious places, drawing water from the community well or eating food from the same utensils as others
- There may be prejudices against people belonging to another region or those of different caste, class or religion
- **Poverty** is one of the major cause of both inequality and discrimination
- Previously in India, people carrying out certain activities such as cleaning garbage, cutting hair, etc., were considered to be **untouchables**
- The Father of the Indian Constitution, **Dr B.R. Ambedkar** dedicated his life to the welfare and uplift of the Dalits and fought against caste discrimination

17

Government

Key Highlights

- Government - A need of Country
- Role of the government in a democratic system
- Different levels of government
- Universal adult franchise

CIVICS

Let's Start With

The government is not only responsible for providing healthcare facilities to its citizens but it also ensures that law and order is maintained

GOVERNMENT — A NEED OF COUNTRY

The term **government** refers to a group of people in the political system that looks after the needs of the people who elect them. Every country requires a government to make rules, enforce them, and ensure the welfare of the people.

Functions carried by a government

The government of a country performs a number of functions:

- It builds the infrastructure of the country by constructing roads, producing and providing electricity, clean drinking water, parks and public libraries.
- It also looks after the welfare of the people by taking up projects for eradicating diseases, providing health services and education.

Distribution of flood relief

- It frames laws for the benefit of the people and governs the country according to the laws of the land.
- It provides relief and aid to people affected by natural disasters such as floods, earthquakes, droughts and tsunamis.
- It maintains law and order and punishes those who do not abide by the law.
- It protects the boundaries of the country and maintains peaceful relations with other countries.

Let's Think

a. Find out at least two kinds of decisions taken at each level of the government and list them.
b. Why is it necessary to have government at three levels?

Levels of the Government

The government in our country works at three different levels:

- The lowest level is the **local government** in a village or a town which deals with local problems faced by people.
- The government at the state level is called the **state government**. At state level, the government deals with matters which are of importance to the entire state, like education.
- At the national level is the **central government**. The central government generally deals with issues of national importance such as national security.

The Government, at these three levels, perform different role for people and takes different kinds of decisions.

The most important function of the government is to make laws. It also ensure that the laws of the land are obeyed by the citizens.

- When laws are violated, or conflicts among different groups of people erupt, the government exercises its power to punish the culprits and resolve conflicts.
- The people, on their part, can take various measures in case they feel that some injustice has been done to them or a particular law is not followed by the

Fact File

Monarchy was the main form of government in India till we gained independence from the British. Ashoka, Akbar, Shah Jahan were some of the famous monarchs. Even under the British, India was ruled by the Queen of England.

government. They can go to the court and claim that the law has not been followed and the court will take necessary action to ensure justice has been done.

To perform all its functions, the government needs money which is collected from the people through various taxes on facilities provided by the government, e.g., electricity tax, sales tax on goods sold and entertainment tax. This money is used to provide roads, trains, electricity, parks and post offices for the people.

TYPES OF GOVERNMENT

You have seen that the government is responsible for making laws, resolving conflicts and enforcing order in society. There are different types of government—democratic, monarchical and dictatorial.

Absolute monarchy

Absolute monarchy is a form of government in which the monarch exercises ultimate governing authority. He/ she has unrestricted political power over the state and its people. When a monarch dies, the power automatically passes to the heir of the monarch.

The seat of monarchy in England—the Buckingham Palace

Constitutional monarchy

Constitutional monarchy or limited monarchy is a form of government in which a monarch acts as head of state within the parameters of a constitution. This form of government differs from absolute monarchy in which an absolute monarch serves as the source of power in the state and is not bound by any constitution and has the powers to regulate the government. United Kingdom is an example where constitutional monarchy is practised.

Fact File

The Universal Declaration of Human Rights, adopted by the United Nations in 1948, recognizes franchise as a human right. Recently, Universal Adult Franchise has become a part of the electoral process in most of the democratic countries.

Dictatorship

When a country is ruled by one person who does what he feels like, without paying any attention to the wishes of the people, it is called a **dictatorship**. In this kind of government people feel oppressed because the dictator does not follow any laws. Adolf Hitler of Germany was one of the most famous dictators in history.

Democracy

In a **democracy**, the government is run by representatives of the people. Citizens have the right to vote and thereby choose their representatives. They also have the right to contest the elections. Moreover, the government is answerable to the people for its actions. If it does not fulfil the expectations of the people, it can be voted out of power the next time elections are held.

Democracy in India and in World

The Constitution provides for a democratic government in India. The two main principles of democracy are:

- Political equality of the people.
- Freedom to express their opinion regarding the policies of the government.

Adolf Hitler

It is because of these reasons that more than half of the independent countries in the world prefer to have a democratic form of government.

In many countries, people have struggled for a long time and made enormous sacrifices in order to have a democratically elected government. Many more countries are still carrying on this struggle so that they may achieve democracy.

We in India do not have **direct democracy** where all the people participate in voting for their leaders. The size of the countries and the population is so large that it is not possible to involve all the people directly in decision-making. So, we have **representative democracies** where people choose their representatives through elections and are involved in making laws.

UNIVERSAL ADULT FRANCHISE

'Franchise' means right to vote. Thus, the right of the people to vote and elect their representatives is called **franchise**. In a democracy, every person is equal and voting should be equally available to all without any discrimination. If anybody is denied this right, it is violating their right to equality. The right to vote increases a person's self-respect, dignity and sense of responsibility.

Let's Think

Think of any country which has a dictatorial or a monarchical form of government. Do the people of this country have a say in the government? Are they satisfied with this form of government, or are they asking for a change?

A democracy gives its people the right to vote a government into power, or to vote a government out of power.

Till the twentieth century, not all countries practised universal adult franchise. In the first modern democracies, only those people who had property and wealth could vote. Since women were not allowed to own property, voting was allowed only for a minority of the male population.

Most of the western countries introduced adult franchise only after the First World War (1914 — 18):

- India adopted the principle of universal adult franchise when the present Constitution was adopted on January 26, 1952. All the adult citizens of our country, who are above 18 years of age, have the right to vote.
- France, the land of Liberty, Equality and Fraternity, introduced universal adult franchise only after the end of the Second World War in1945.
- Switzerland, which practised direct democracy, denied women the right to vote till 1973.
- In 1918, Britain granted franchise to a limited number of women, that is, to those above 30 years. This discrimination was removed only in 1928.

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. The government in India works at ..... levels.

i) two ☐ ii) three ☐

iii) four ☐ iv) five ☐

b. Since women were not allowed to own ....., voting was allowed only for a minority of the male population.

i) property ☐ ii) children ☐

iii) husband ☐ iv) family ☐

c. In an absolute monarchy, all the powers lie with the .....

i) King/Queen ☐ ii) President ☐

iii) Prime Minister ☐ iv) Chancellor ☐

d. The Constitution of free India grants the principle of Universal Adult Franchise to all citizens who are above the age of .....

i) 18 ☐ ii) 19 ☐

iii) 20 ☐ iv) 21 ☐

e. Elections in India are held on the basis of .....

i) Universal Education Franchise ☐

ii) Universal Adult Franchise ☐

iii) Union Educational Forum ☐

iv) Union Adult Forum ☐

2. Short answer questions.

a. Which country, denied women the right to vote till 1973?

b. Why do we need a government in a country?

c. Mention two features of a democracy.

d. What do you mean by universal adult franchise?

e. Name the various types or forms of government that exist in the world.

3. Write short answers for the following questions.

a. What is a government and why do we need one?

b. Why is it necessary to have a government at three levels?

c. What are the sources of income for the government? What does the government do with the income?

d. Why are countries in favour of a democratic form of government?

HOTS

a. Distinguish between constitutional monarchy and dictatorial form of government.

b. Why is the concept of direct democracy not practised in all countries?

4. Fill in the blanks.

a. The local level of the government means government at the ..... or ..... level.

b. Every country requires a .....

c. All the citizens have the right to ..... in a system of Universal Adult Franchise.

d. In a ..... the government is run by the representatives of the people.

e. Adult citizen of a country having attained the age of ..... years have a right to vote.

5. Match the following.

a. Central government	i) rule by the people
b. Hitler	ii) monarch
c. Democracy	iii) dictator
d. Franchise	iv) national security
e. Shah Jahan	v) right to vote

6. Who, according to you, should perform the following? Mark C for centre, S for state and L for local government.

a. Security of people	b. Opening of a shopping mall
c. To open new schools	d. Set up public toilets

e. To maintain good relations with a neighbouring country

7. Write 'T' for true and 'F' for false statement.

a. UN recognizes franchise as a fundamental right.
b. Many countries are without a government at present.
c. Local government is at the state level.
d. In a direct democracy, people choose their representatives through election.
e. Dictatorship is a desirable form of government.

Value Based Questions

What does the government do to promote justice among the girls? How does our society view boys and girls?

Activity Zone

a. Different Forms of Government

Given are the names of some neighbouring countries of India. Find out the type of government in each country. Write down the names of the heads of the states of these countries.

Neighbouring Countries	Type of Government	Head of the State
Nepal		
Pakistan		
Bangladesh		
Sri Lanka		
Bhutan		

b. Political Heads

Here are some pictures of prominent political figures of some of the countries of the world. Find out their names and the posts they are holding or had held in their countries. (President, King, Prime Minister, etc.). Also, write the name of the country they belong to.

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FLOW CHART

The Need for Government

- Government refers to the political system by which a group of people is administered; makes rules, enforces them and ensures welfare of the people
- The government performs various functions like improving the infrastructure, looking after the welfare of the people, framing laws, maintaining law and order, protecting the boundaries of the country and maintaining peaceful relations with other countries and providing relief and aid to the people affected by natural disasters
- There are three levels of government, i.e., the **local**, the **state** and the **central governments**

Forms of Government

- Various types of government—democratic, monarchial and dictatorial
  - **Absolute Monarchy:** all the powers rest with the king or queen; all important decisions are taken by the monarch
  - **Constitutional Monarchy:** A monarch acts as head of state within the parameters of a constitution
  - **Dictatorship or authoritarian:** a person heads the government and rules on the basis of his own wish, without paying any attention to the wishes of the people
  - **Democracy:** government run by representatives of the people; citizens have the right to vote; government is answerable to the people for its actions
- India is a democratic country; two principles of democracy are **political equality** and the **freedom of the people to express their opinions** regarding the policies of the government
- **Direct democracy** is not possible as the size of the countries and the population do not make it feasible to involve all the people directly in decision-making
- In **representative democracies** people choose their representatives through **elections** to formulate policies and make laws

Universal Adult Franchise

- All Indian citizens above the age of 18 years have the right to vote (Universal Adult Franchise)
- Universal Declaration of Human Rights adopted by UN in 1948 recognizes franchise as a human right
- In most democratic countries, Universal Adult Franchise has become a part of the electoral process

18 Urban Local Self-Government

Key Highlights

- Difference in Municipal Committees and Corporation
- Need of Municipality in Urban Areas
- Duties carried by such authorities
- Composition and source of Income of Municipal Authority.

Let's Start With

Ma'am who has made our school that we study in?

Children this school that you study in made by municipal corporations. Municipality also make roads, parks and libraries for us to use.

Municipal Committees and Municipal Corporations function exactly the same in towns and cities as do the Panchayati Raj institutions in rural areas. But city life is very different from village life. So urban problems are quite different from those of rural areas.

Cities and towns are densely populated. Millions of people live in big cities like Mumbai, Kolkata, Delhi, Chennai, and Bengaluru. They pay taxes, and in turn they demand good transport and communication facilities, drinking water, sanitation, regular supply of electricity, big hospitals and so on. Municipal Committees and Municipal Corporations provide these essential services.

MUNICIPAL COMMITTEE AND MUNICIPAL CORPORATION

There are two main types of Local Self-Government units in urban areas :

A. **Municipal Committees / Councils**

B. **Municipal Corporations**

There are some differences between the two :

1. Municipal Committees are set up in smaller cities and towns, whereas Municipal Corporations are established in big cities with large population.
2. Municipal Corporations enjoy more powers and higher status than those of Municipal Committees.
3. Municipal Corporations are more independent of Government interference in terms of administration.
4. Municipal Corporations have better income and have more financial powers than the Municipal Committees/Councils.
5. Municipal Corporations generally deal with the State Government directly. Municipal Committees, on the other hand, have to deal with the Government through the District Administration. In our country, only big cities like Kolkata, Mumbai, Chennai, Delhi, Ahmedabad, Bengaluru, Kanpur, Nagpur, Chandigarh, Lucknow, Patna, etc. have Municipal Corporations.

COMPOSITION OF A CORPORATION

The residents of the city elect members of a Corporation. Any person who has completed the age of 18 years and is a registered voter, can vote in the Corporation election. Any person who wants to contest election for membership should not be less than 25 years of age.

The government fixes the number of members (seats) a Corporation/Council should have. The Corporation area is divided into several wards for the purpose of elections. Each ward elects one member. Seats are reserved for Scheduled Castes and Scheduled Tribes. Only the members of these categories can contest for these seats. The members elected by the voters of the city are called **Councillors**. In some cities, the Councillors elect some more members who are known for their experience and integrity. These members are known as **Aldermen.**

Mumbai Municipal Corporation Building

Office Bearers of the Corporation

The members of the Municipal Corporation elect a Mayor as their head. He/she

presides over all the meetings of the Corporation and looks after the work of the Corporation with the help of Municipal Commissioner, Chief Engineer, Chief Medical Officer, etc. In the absence of the Mayor, his/her duties are performed by the Deputy Mayor.

Permanent Staffs

There are many staffs to assist the above office bearers. These include Executive Officer, the Secretary, Health Officer, Sanitary Inspectors, Municipal Engineer, Overseers, Octroi Superintendent, Octroi Inspectors, etc.

The Chief Executive Officer (CEO) of the Corporation is called the Municipal Commissioner. He supervised and coordinates the work of all the departments of the Corporation. The Health Officer and his team of Sanitary Inspectors are responsible for the cleanliness and the prevention of diseases in the Corporation area. The responsibility for the construction, maintenance and the repair of roads, buildings, parks, bridges, etc., falls on the Chief Engineer and his team of overseers. The Superintendent of Water looks after the supply of drinking water in the residential area of the city.

The office bearers of the Corporation advise the members on the day-to-day problems of the Corporation. The officers of the Corporation do not belong to any political party. They are expected to be impartial in the performance of their duties.

Fact File

The Corporation of Chennai formed in 1688, is the oldest municipal body of the Commonwealth of Nations outside the United Kingdom.

COMPOSITION OF A MUNICIPAL COMMITTEE

Small cities and district towns which have a population of more than 20,000 have Municipal Committees or Councils. The members are elected by residents. The number of members is fixed by the Government. Generally, 15 to 60 members are elected in Municipal Committee in the same way as members are elected in a Corporation. A city is divided into different wards and Ward Councillors are elected. Apart from the elected members, there are official advisors who are allowed to take part in discussions and deliberations but do not have the right to vote. The Committee members elect a President and a Vice-President. Their election has to be confirmed by the Government. The President calls and presides over the meetings of the Committee.

The Committee has a permanent staff to see the day-to-day administration. The important officials of the Committee include the Commissioner (Chief Executive Officer), Secretary and Assistant Secretary. Other officers, such as Chief Engineer, Health Officer, Chief Sanitary Inspector, etc., are in charge of their own departments. The Superintendent of Water looks after the supply of water, while the Octroi Superintendent and Octroi Inspectors are responsible for the collection of Octroi tax levied on goods brought into the city. Important towns like Ferozpur, Bhatinda, Saharanpur, Rohtak, Karnal, Aligarh, Ajmer, Alwar, etc. have Municipal Committees.

FUNCTIONS OF LOCAL BODIES IN TOWNS AND CITIES

Health Services

Health is essential if we are to live long and happy lives. That's why it is said that 'health is wealth'. Only healthy citizens can take active part in affairs of state. It is the essential duty of a local government body to take all necessary steps to preserve the good health of its residents. In order to do so, the following functions need to be performed :

1. Ensuring the supply of clean drinking water.
2. Providing proper drainage.
3. Providing hospitals, dispensaries, child and maternity welfare centres.
4. Removing carcasses of dead animals and disposing of fallen trees.
5. Keep the streets clean by removing garbage.
6. Ensuring proper sanitation in the city.
7. Making arrangement for public vaccination.
8. Preventing the outbreak of epidemics.
9. Taking measures for keeping the stray dog population in check.
10. Preventing the sale of adulterated food.

Public Vaccination

Public Utility Services

1. Construction and maintenance of roads, streets, latrines and drains.
2. Installing, maintaining and repairing street lights.
3. Planting trees along roadsides.
4. Maintaining public gardens, parks, recreation centres, etc.

Public Library

5. Providing efficient and adequate fire fighting services.
6. Controlling the number of beggars by rehabilitating the able- bodied ones.
7. Assigning suitable places for burying or cremating the dead.
8. Ensuring regular supply of electricity and water.
9. Maintaining libraries and reading rooms.
10. Registering all human births and deaths.

Other Functions:

Other compulsory function of local bodies is to open primary schools and high schools. Adult education centres with well-equipped reading rooms, libraries as well as museums are opened to spread literacy. Municipal Corporations and Committees often conduct public vaccination schemes, including drives to administer free anti-polio drops to infants. They demolish old and unsafe buildings. They also check food adulteration and sale of spurious medicines.

Voluntary Functions :

Apart from these compulsory functions, the local bodies also perform some other voluntary functions, provided they have enough financial resources. Some of them are :

1. Construction of more parks and gardens, and planting more trees.
2. Establishing zoos, aquariums, aviaries and museums.
3. Maintaining Old Age Homes, orphanages, rehabilitation centres for drug addicts, night shelters for the destitute, traffic control volunteers, blood bank, etc.
4. Cheap and efficient local transport facilities such as mini buses.
5. Constructing public toilets and bathrooms, such as Sulabh Shauchalayas.

Street Lighting

SOURCES OF INCOME

Municipal Corporations and Committees require a large amount of money to discharge their duties. Their chief sources of income are :

1. Taxes on property and houses.
2. Taxes on roads, flyovers, bridges and ferries.
3. Terminal tax or octroi duty levied on goods entering municipal limits.

Toll Tax

4. Auction of vehicle parking lots at designated places.
5. Taxes on vehicles.
6. Rent from municipal properties, land, markets and rest houses.
7. Taxes on water, lighting, drainage and sewerage.
8. Fines and penalties levied on violators of traffic and city rules.
9. Raise loans from the public with the consent of the State Government.
10. Grants-in-aid from the State Government.

CONTROL OF STATE GOVERNMENT OVER LOCAL BODIES

1. The State Government keeps control over the local bodies. The minister of local self-government supervises the work of local bodies. The State Government gives them financial aid. And the local bodies use this fund in development work. The Audit Department of the Government checks the accounts of all the local bodies. Municipalities cannot levy any new tax or raise any loan without the permission of the State Government.
2. The State Government has the power to dissolve any Corporation or Municipality if it does not perform its duties properly and/or misuses its funds. The life of a local body depends on the goodwill of the State Government.
3. Though the State Government keeps a close watch over local bodies, it is sometimes an obstacle in their progress. Both the State Government and the local bodies aim to promote the welfare of the people. The State Government can interfere in the work of local bodies if it feels that the local bodies are not working efficiently and not implementing the government order properly.

   The local bodies help inculcate civic virtues among the people. They encourage citizens to cooperate with one another in solving their neighbourhood-related problems.

Word Treasure

Councillors	:	the members elected by the voters of the city
Garbage	:	refuse, filth
Pedestrian	:	people walking on foot
Municipal Council	:	local government in a small city

Exercises

1. Answer the questions by choosing the most appropriate alternative from those given below.

a. Who looks after the Health Department?

i) Chief secretary ☐ ii) Chief executive officer ☐

iii) Chief engineer ☐ iv) Chief medical officer ☐

b. Delhi, Mumbai, Kolkata and Chennai have ..... .

i) Gram Panchayats ☐ ii) Municipal Corporations ☐

iii) Municipal Committees ☐ iv) Panchayat Samitis ☐

c. Who has the power to dissolve any Municipality or Corporation?

i) Central Government ☐ ii) Prime Minister ☐

iii) President ☐ iv) State Government ☐

d. Which of these cities has Municipal Corporation?

i) Bhatinda ☐ ii) Kolkata ☐

iii) Ajmer ☐ iv) Alwar ☐

e. Taxes are sums of money people ..... .

i) Pay to the government ☐ ii) Pay to neighbours ☐

iii) Pay to other people ☐ iv) Spend on purchasing ☐

f. In the absence of the Mayer, higher duties are performed by a ..... .

i) Municipal commissioner ☐ ii) CEO ☐

iii) Local body ☐ iv) Deputy mayor ☐

g. ..... are the main source of name for the local bodies.

i) Municipal committee ☐ ii) Health departments ☐

iii) Rents ☐ iv) Taxes ☐

h. Cities and towns which have a population of more than ..... have municipal committees.

i) 15,000 ☐ ii) 10,000 ☐

iii) 20,000 ☐ iv) 30,000 ☐

2. Short answer questions.

a. Where are Municipal Corporations set up?

b. Who are the office-bearers of Municipal Corporation and who assists them?

c. Who are Aldermen?

d. What is octroi tax?

e. Who keeps control over the local bodies?

f. Which department checks the accent of all the local bodies?

3. Answer the following questions in detail.

a. Write about the composition of a Municipal Corporation.

b. What is the difference between Municipal Committee and Municipal Corporation?

c. What are the public services done by the local bodies?

d. What are the sources of income of Municipal Corporation?

e. What are the cities of a Mayor?

f. Who are the permanent staff members of the Municipal corporation?

4. Fill in the blanks.

a. The Corporation area is divided to several ..... for the purpose of election.

b. The CEO of the ..... is called the Municipal Commissioner.

c. Small cities and district towns which have a population of more than 20,000 have Municipal ..... .

d. ..... is essential if we are to live long and happy lives.

e. ..... are elected by the voters of the city.

5. Write 'T' for true and 'F' for false statements.

a. The government gives financial help to local bodies. ☐

b. The member of Corporation is called Mayor. ☐

c. Local bodies can raise loans without permission of the State Government. ☐

d. Municipal Committees also perform some voluntary functions. ☐

e. Municipal Corporations and Municipal Committees have the same kind of functions. ☐

6. Define.

a. Municipal Committee

b. Municipal Corporation

c. Mayor

d. Ward

Are local bodies really important for the towns and cities?

Value Based Questions

1. Who is the Municipal Commission?
2. Who are councillors?
3. What are the respossibilitres of octroi superintendent and octroi inspectors?
4. How the local bodies functions in towns and cities?

Activity Zone

Visit a Municipal office in your town or city and try to know different functions of Municipal Committee or Corporation.

FLOW CHART

STATE GOVERNMENT

- Smaller Urban areas Municipal Committee
- Large Urban Areas Municipal Corporation

FUNCTION AND SOURCES OF INCOME

- Clean drinking water
- Drainage
- Welfare Centres and Hospitals
- Garbage and dead animal disposal along trees etc.
- Sanitation and prevention of epidemic.
- Stoping food adulteration and run vaccination for public.

PUBLIC UTILITY

- Infrastructure of road, street light, garden, cremation grounds and burial sites.
- Electricity and water supply.
- Registration of birth and death.
- Maintaining libraries and reading facilities.
- Free fighting services.
- Maintaining greenery in and out of city basically the green belt.