

Landforms and Life

Class 6 — Geography (India and the World: Land and the People) — Chapter 3

NCERT Comprehensive Notes 2025-26

01 Overview — Landforms and Life

The chapter "Landforms and Life" from the NCERT textbook *Exploring Society: India and Beyond — India and the World: Land and the People* introduces students to the physical features on the surface of our planet Earth. The chapter opens with a beautiful verse from the **Atharva Veda (Bhūmi Sūkta)**, celebrating the Earth as a mother with many heights, slopes and great plains. Students learn that landforms are physical features that take shape over millions of years and have a significant connection with the environment and life.

The chapter focuses on three major categories of landforms — **mountains, plateaus and plains** — and explores how these landforms shape the lives, occupations, and cultures of people living on them. It also introduces the concept of **deserts** as an additional landform. The journey from Chhota Nagpur in Jharkhand through Prayagraj in Uttar Pradesh to Almora in Uttarakhand is used to illustrate how different landscapes change as you move from one region to another.

★ USP Key Points

- ★ Three major landforms: Mountains, Plateaus, and Plains — each with distinct climate, flora, fauna, and human activities
- ★ Mount Everest is the world's highest peak at **8,849 metres**, located between Tibet (China) and Nepal
- ★ The Tibetan Plateau has an average altitude of **4,500 m** and stretches **2,500 km** from east to west
- ★ The Ganga River is nearly **2,500 km** long with numerous tributaries including Yamuna and Ghagara
- ★ About **40 crore people** (more than one-fourth of India's population) live in the Ganga plain
- ★ Plains are generally not more than **300 metres** above sea level
- ★ The Nohkalikai Falls drops down **340 metres** from the Cherrapunji Plateau in Meghalaya

02 Mountains — The Towering Landforms

What are Mountains?

Mountains are landforms that are much higher than the surrounding landscape. They can be recognised by a **broad base, steep slopes and a narrow summit**. Depending on their height, some mountains are covered with snow. At lower altitudes, the snow melts every summer and turns into water that feeds rivers. At high altitudes, the snow may never melt, leaving the mountain **permanently snow-capped**.

Other highlands with a lower height, less steep slopes and rounded tops are called **hills**. Hills are different from mountains primarily in terms of height and the shape of their summits.

Altitude

The height of an object above sea level. Examples include the altitude of a mountain, the altitude of a bird or plane in flight, and the altitude of a satellite.

Mountain Ranges

Most of the world's mountains are grouped in **mountain ranges** — long chains of mountains that stretch for thousands of kilometres. Some of the most famous mountain ranges include the **Himalayas** in Asia, the **Alps** in Europe, and the **Andes** in South America.

Famous Mountains of the World

Mount Everest (8,849 m) — Between Tibet (China) and Nepal, highest peak of the Himalayas and the world. Tibetans call it 'Chomolungma' (Mother Goddess of the World) and Nepalis call it 'Sagarmatha' (Goddess of the Sky).

Mount Kanchenjunga — Between Nepal and Sikkim (India), second highest peak of the Himalayas.

Mount Aconcagua — In South America, highest peak of the Andes range.

Mount Kilimanjaro — In eastern Africa, an isolated mountain not part of any range.

Mont Blanc — In Western Europe, highest mountain of the Alps.

Mount Anamudi (Anai Peak) — In Kerala, highest mountain in south India.

Young and Old Mountains

Mountains with **tall and sharp peaks**, like the Himalayas, are relatively 'young' — meaning they were formed more recently in the Earth's history (but that is still millions of years ago!). **Shorter and more rounded mountains** and hills, like the Aravalli Range, are much older and have been rounded by erosion. The Himalayas are still growing in height as both upliftment and erosion continue to this day.

Key Difference: Young vs Old Mountains

Young Mountains: Tall, sharp peaks, steep slopes (e.g., Himalayas). Formed recently in Earth's history.

Old Mountains: Shorter, rounded tops, gentler slopes (e.g., Aravalli Range). Rounded by millions of years of erosion.

Mountain Environment

Mountain slopes are often covered with a type of forest called **montane forest**, where conifer trees such as **pin**es, **firs**, **spruce** and **deodar** are common. These conifer trees grow tall and cone-shaped, with thin, pointed leaves. At higher altitudes, the trees give way to **grasses, mosses and lichen**.

Montane Forest

A type of forest that grows in mountainous regions, characterised by conifer trees at lower altitudes and grasses, mosses and lichen at higher altitudes.

Moss

A small green plant without flowers or true roots, often spreading in a cushion-like cover.

Lichen

A plant-like organism that generally clings to rocks, walls or trees.

Mountain Fauna

Deep forests, flowing rivers, lakes, grasslands and caves in the mountains are home to diverse fauna. Some notable mountain animals include the **golden eagle, peregrine falcon, Canadian lynx, snow leopard, ibex, Himalayan tahr, mountain hare, yak, grey fox** and **black bear**.

ANIMAL	KEY FEATURE
Golden Eagle	Large bird of prey found in mountain regions
Peregrine Falcon	Fastest bird, found in mountain habitats
Snow Leopard	Endangered big cat of high-altitude mountains
Yak	Long-haired bovid adapted to high altitude, cold regions
Ibex	Wild mountain goat with large curved horns
Himalayan Tahr	Herbivore found on rugged mountain slopes
Canadian Lynx	Medium-sized wild cat adapted to snowy conditions
Mountain Hare	Changes fur colour with seasons for camouflage
Grey Fox	Small canine found across mountain terrains
Black Bear	Large bear species found in mountain forests

Life in the Mountains

The mountain **terrain** is usually rugged or rough, and has steep slopes. This means that regular farming can only be practised in some **valleys**. Cultivation is practised on the slopes by cutting steps into the slope — this is called **terrace farming**. In many mountainous regions of the world, **herding** is the preferred occupation over agriculture.

Tourism is often an important source of income for people living in the mountains. The crisp mountain air and scenic beauty attract many tourists. Some tourists go to the mountains for sports such as **skiing, hiking, mountaineering and paragliding**. For many centuries, people have also travelled to these uplands for **pilgrimages** to holy sites. However, an excessive inflow of visitors can put the fragile mountain environment under pressure.

Terrain

A piece or stretch of land, from the point of view of its physical features.

Valley

A lower area between hills or mountains, often with a river or stream flowing through it.

Challenges of Mountain Life

People living in the mountains face several challenges, both natural and human-made. These include **landslides**, **avalanches**, **flash floods**, **cloudbursts**, **heavy snowfall**, **cold weather** and **uncontrolled tourism**. Despite these challenges, people still choose to live in the mountains due to the pure air, scenic beauty, and cultural significance of these regions.

Avalanche

The sudden fall of snow, ice or rocks from a mountainside; often occurs when the snow starts melting.

Landslide

The sudden collapse of a mass of earth or rock from a mountainside.

Flash Flood

A sudden local flood, often caused by a cloudburst.

Cloudburst

A sudden violent rainstorm.

Inspiring Mountain Achievers

Bachendri Pal — First Indian woman to climb Mount Everest in 1984. Awarded Padma Shri (1984) and Padma Bhushan (2019). Led many women's climbing expeditions.

Arunima Sinha — Lost a leg in an accident at age 22. With Bachendri Pal's encouragement, climbed Mount Everest in 2013 and went on to climb the highest peak of every continent, including Mount Vinson in Antarctica. Awarded Padma Shri in 2015.

Sacred Mountains

Many traditional communities around the world consider mountains to be sacred places and worship them. Mount Everest (8,849 m) has many names — Tibetans call it '**Chomolungma**' (Mother Goddess of the World) and Nepalis call it '**Sagarmatha**' (Goddess of the Sky). **Mount Kailash** in Tibet is held sacred by followers of Hinduism, Buddhism, Jainism and Bon (an ancient Tibetan religion).

03 Plateaus — The Elevated Flatlands

What are Plateaus?

A **plateau** is a landform that rises up from the surrounding land and has a more or less **flat surface**; some of its sides are often **steep slopes**. Like mountains, plateaus can be young or old in terms of the Earth's history. The height of plateaus can vary from a few hundred metres to several thousand metres.

Important Plateaus

Tibetan Plateau — The largest and highest plateau in the world, with an average altitude of 4,500 m. Nicknamed the 'Roof of the World'. It stretches nearly 2,500 km from east to west — equivalent to the distance from Chandigarh to Kanyakumari.

Deccan Plateau — One of the oldest plateaus in the world, located in central and south India. Formed through volcanic activity millions of years ago.

Plateaus as Storehouses of Minerals

Like mountains, plateaus are rich in mineral deposits. They have been called '**storehouses of minerals**'. As a result, **mining** is a major activity on plateaus, where many of the world's largest mines are found.

★ Key Mineral Facts

- ★ The **East African Plateau** is famous for gold and diamond mining
- ★ The **Chhota Nagpur Plateau** in India has huge reserves of iron, coal and manganese
- ★ Plateaus have been called 'storehouses of minerals' because of their rich mineral deposits
- ★ Mining is one of the major economic activities on plateaus worldwide

Plateau Environment

The plateau environment is very diverse across the world. Many plateaus have a **rocky soil**, which makes them less fertile than plains and therefore less favourable to farming. An important exception is that of **lava plateaus** (formed through volcanic activity), as they often have a rich **black soil** that is excellent for farming.

Waterfalls on Plateaus

Plateaus are also home to many spectacular waterfalls. Rivers flowing over the edge of a plateau create breathtaking waterfalls.

WATERFALL	RIVER	LOCATION
Victoria Falls	Zambezi River	Southern Africa
Hundru Falls	Subarnarekha River	Chhota Nagpur Plateau, India
Jog Falls	Sharavati River	Western Ghats, India
Nohkalikai Falls (340 m drop)	—	Cherrapunji Plateau, Meghalaya, India

04 Plains — The Fertile Flatlands

What are Plains?

Plains are landforms that have an extensive flat or gently undulating surface. They do not have any large hills or deep valleys. They are generally not more than **300 metres above sea level**.

Sea Level

The average level of the surface of the oceans, also called 'mean sea level'. It is used as a reference point for measuring the altitude of landforms.

Floodplains – How Plains are Formed

Floodplains are one type of plains formed by rivers originating in mountain ranges. These rivers collect particles of rock, sand and silt called '**sediments**'. These sediments are carried all the way to the plains, where the rivers deposit them, making the soil **very fertile**. As a result, these plains are ideal for growing crops of all kinds, and **agriculture** is a major economic occupation in this landform.

Why Plains are So Important

Plains are the most densely populated landform on Earth. The flat terrain, fertile soil from river sediments, and availability of water make them ideal for agriculture, construction of roads and railways, and setting up of industries and cities. Thousands of years ago, the first civilisations developed around rivers in fertile plains.

Life in the Plains – The Ganga Plain

About **40 crore people**, more than one-fourth of the total Indian population, live in India's Ganga plain (often called the 'Gangetic plain'). The major occupations of people in this region include **river fishing and agriculture**.

Crops Grown in the Gangetic Plain

CATEGORY	CROPS
Food Crops	Rice, Wheat, Maize, Barley, Millets
Fibre Crops	Cotton, Jute, Hemp

Irrigation and Challenges

Traditional agriculture in the Ganga plain has been mostly **rainfed** (watered through rainfall). In recent decades, however, agriculture has turned to **irrigation**, with water brought to the fields through networks of canals or pumped from groundwater. While irrigation has increased agricultural production, it has also contributed to the **depletion (decrease) of groundwater**. Other problems affecting the Ganga plains include **high population and pollution**.

Cultural Significance of Rivers

Whether in mountain ranges or plains, rivers around the world have carried immense cultural value. Many communities have considered a river's source and its **confluence** with one or two other rivers to be sacred. In India, numerous festivals, ceremonies and rituals are conducted at such locations.

Confluence

The meeting point of two or more rivers. Many confluences in India are considered sacred, like Prayagraj (confluence of Ganga, Yamuna, and Saraswati).

River Transportation

Because plains have a gentle slope, **river navigation** is easy and supports a lot of economic activities. In earlier days, people used rivers extensively to travel from one place to another. Even today, there are stretches along the Ganga where people prefer to use boats to move around.

About the River Ganga

'Ganga' is the Indian name of the largest river originating in the Himalayas (also called 'Ganges' in English). Nearly **2,500 km long**, this river has numerous tributaries (other rivers joining it). Some of them, like the **Yamuna** and the **Ghagara**, also originate in the Himalayas. Others, like the **Son (Sone)**, originate from the Vindhya Range to the south of the Ganga plain.

05 Deserts & Other Landforms

What are Deserts?

While the chapter focuses on three main landforms, it also introduces **deserts** as an additional landform. Deserts are considered to be **large and dry expanses with very little precipitation**. Their flora and fauna are also unique and specially adapted to survive in harsh conditions.

Types of Deserts

TYPE	EXAMPLE	LOCATION
Hot Desert	Sahara Desert	Africa (largest hot desert in the world)
Hot Desert	Thar Desert	Northwest of the Indian Subcontinent (Rajasthan)
Cold Desert	Gobi Desert	Asia (Mongolia and China)
Cold Desert	Antarctica	South Pole (some experts describe it as a desert)

Life in the Desert

Despite harsh living conditions, humans have adapted to most of the deserts. In India, communities living in the **Thar Desert**, or migrating through it, hold rich cultural traditions, such as **folk songs and legends**, related to the desert. The diverse ways in which humans have made all landforms their home is a testimony to our **adaptability and resilience**.

Resilience

The capacity to meet challenges and difficulties, adapt to them or overcome them.

Precipitation

Water from the atmosphere reaching the ground in any form — rain, snow and hail are the most common forms of precipitation.

06 Cultural Connections with Landforms

Kālidāsa's Invocation to the Himalayas

The chapter mentions two verses from **Kumārasambhava**, a famous poem by **Kālidāsa**, who lived at least 1,500 years ago and is often considered the greatest poet of ancient India. The poem begins with an invocation to the Himalayas, describing the mountain as the 'Lord of mountains' who stretches from the western to the eastern oceans. The verses beautifully describe the wind coming down from the Himalayas, carrying spray from the descending Gangā, shaking the deodar trees, and cooling the mountain people.

The Five Tīṇais of Tamil Sangam Poetry

Ancient Tamil Sangam poetry describes **five tīṇais** — five landscapes associated with specific deities, lifestyles, moods or emotions. This is a different classification of landforms that reflects a keen awareness of diverse regions and their characteristics. It illustrates the deep connection between humanity and the natural environment.

TĪṆAI	LANDSCAPE	MAIN OCCUPATION
Kuriñji	Mountainous regions	Hunting and gathering
Mullai	Grassland and forests	Cattle rearing
Marudam	Fertile agricultural plains	Farming
Neydal	Coastal regions	Fishing and seafaring
Pālai	Arid, desert-like regions	Journeying and fighting

Cultural Significance of Landforms in India

Throughout history, people's lives and activities have been deeply shaped by the landforms they inhabit. Indian culture, in particular, has celebrated landforms in diverse ways — from the sacred mountains of the Himalayas to the holy rivers of the plains. Mountains are worshipped as deities, rivers are celebrated in festivals and rituals, and plains sustain civilisations. Each landform is woven into the cultural fabric of the communities that call it home.

The Atharva Veda — Bhūmi Sūkta

The chapter opens with a verse from the **Atharva Veda's Bhūmi Sūkta ('Hymn to the Earth')**, which celebrates the Earth with its many heights, slopes and great plains, bearing plants with varied powers. The verse declares: "The Earth is my mother and I am her child." This reflects the deep spiritual connection that ancient Indian civilisation had with the land and its varied forms.

Mountains vs Plateaus vs Plains

FEATURE	MOUNTAINS	PLATEAUS	PLAINS
Shape	Broad base, steep slopes, narrow summit	Flat top surface with steep sides	Extensive flat or gently undulating surface
Height	Very high (thousands of metres)	Few hundred to several thousand metres	Generally below 300 m above sea level
Soil Type	Rocky, thin soil on slopes	Rocky soil; lava plateaus have rich black soil	Very fertile soil (from river sediments)
Main Occupation	Herding, terrace farming, tourism	Mining, some farming	Agriculture, fishing, industry
Population	Sparse	Moderate	Very dense — most populated landform
Flora	Montane forests, conifers, mosses, lichen	Varied; scrubland on rocky plateaus	Rich variety of crops and vegetation
Fauna	Snow leopard, yak, ibex, eagles	Varied wildlife	Diverse flora and fauna
Examples	Himalayas, Alps, Andes	Tibetan Plateau, Deccan Plateau	Ganga Plain, Indus Plain
Challenges	Landslides, avalanches, cold weather	Rocky soil, water scarcity in some areas	Floods, pollution, groundwater depletion
Cultural Value	Sacred mountains, pilgrimages	Mineral wealth, waterfalls	River festivals, first civilisations

Journey from Chhota Nagpur to Almora

The chapter describes a journey from **Chhota Nagpur in Jharkhand** (a plateau region rich in minerals like iron, coal and manganese), through **Prayagraj in Uttar Pradesh** (a river plain at the confluence of Ganga, Yamuna and Saraswati — a sacred location), to **Almora in Uttarakhand** (a mountain region in the Himalayas). This journey illustrates how the three major landforms exist in proximity and how landscapes change dramatically from one region to another.

★ Key Takeaways from the Chapter

- ★ Landforms are classified into three main types — mountains, plateaus and plains, each with very different physical characteristics
- ★ Throughout history, people's lives and activities have been deeply impacted by the type of landform they live in
- ★ Indian culture has celebrated landforms in diverse ways — from sacred mountains to holy river confluences
- ★ Each landform offers different challenges as well as opportunities for human settlement

- ★ Deserts are an additional landform with unique flora, fauna and cultural traditions
- ★ Human adaptability and resilience allow us to make all landforms our home

08 Glossary — Key Terms

Landform

A physical feature on the surface of planet Earth. Landforms take shape over millions of years and include mountains, plateaus and plains.

Mountain Range

A long chain of mountains grouped together, such as the Himalayas, Alps, or Andes. Some stretch for thousands of kilometres.

Terrain

A piece or stretch of land, from the point of view of its physical features — rugged, flat, hilly, etc.

Avalanche

The sudden fall of snow, ice or rocks from a mountainside; often occurs when the snow starts melting.

Flash Flood

A sudden local flood, often caused by a cloudburst (a sudden violent rainstorm).

Precipitation

Water from the atmosphere reaching the ground in any form — rain, snow and hail are the most common forms.

Confluence

The meeting point of two or more rivers. Many confluences are considered sacred in India.

Resilience

The capacity to meet challenges and difficulties, adapt to them or overcome them.

Lichen

A plant-like organism that generally clings to rocks, walls or trees. Found at high altitudes in mountains.

Tributary

Altitude

The height of an object above sea level. Used for mountains, aircraft, satellites, etc.

Montane Forest

A type of forest that grows in mountainous regions, featuring conifer trees like pines, firs, spruce and deodar.

Valley

A lower area between hills or mountains, often with a river or stream flowing through it.

Landslide

The sudden collapse of a mass of earth or rock from a mountainside.

Cloudburst

A sudden violent rainstorm that can cause flash floods in mountain regions.

Sea Level

The average level of the surface of the oceans, also called 'mean sea level'. Used as a baseline for measuring altitude.

Floodplain

A type of plain formed by rivers depositing sediments (rock, sand, silt), making the soil very fertile.

Moss

A small green plant without flowers or true roots, often spreading in a cushion-like cover on rocks and trees.

Terrace Farming

A method of farming on mountain slopes by cutting steps (terraces) into the slope to create flat areas for cultivation.

Sediments

A river or stream that flows into a larger river. For example, Yamuna is a tributary of the Ganga.

Particles of rock, sand and silt collected by rivers from mountains and deposited in plains, making the soil fertile.

09 Questions & Answers / MCQs

NCERT Exercise Questions with Detailed Answers

Q1. In what type of landform is your town/village/city located? Which features mentioned in this chapter do you see around you?

Answer: This is a location-based question. Students should identify whether their town/village/city is located on a mountain, plateau, or plain. For example, if a student lives in Indore (Madhya Pradesh), they would say: "My city is located on the Malwa Plateau, which is part of the larger Deccan Plateau. The land around me is relatively flat with gentle slopes. I can see features like rocky soil in some areas, and the Narmada River flows nearby. Agriculture is practised in the fertile areas, and the terrain does not have very high mountains." Students living in the Ganga plain would mention flat land, fertile soil, rivers, and agriculture. Students in Himalayan regions would mention steep slopes, forests, snowfall, and terrace farming.

Q2. Let us go back to our initial trip from Chhota Nagpur to Prayagraj and Almora. Describe the three landforms you came across on the way.

Answer: On this journey, we encounter all three major landforms. **(i) Chhota Nagpur (Plateau):** Starting from Chhota Nagpur in Jharkhand, we see a plateau landscape — elevated land with a relatively flat top and steep sides. This region is rich in minerals like iron, coal and manganese. The soil is rocky in many places. Mining is a major economic activity here. **(ii) Prayagraj (Plain):** Moving to Prayagraj in Uttar Pradesh, we enter the vast Ganga plain. The land is flat, the soil is very fertile because of river sediments deposited by the Ganga and Yamuna rivers. Agriculture is the main occupation. Prayagraj is located at the sacred confluence of the rivers Ganga, Yamuna and the mythical Saraswati. **(iii) Almora (Mountain):** Continuing to Almora in Uttarakhand, we enter the Himalayan mountain region. The landscape changes dramatically with steep slopes, deep valleys, and snow-capped peaks visible in the distance. Montane forests with conifer trees are common. Terrace farming is practised on the slopes, and tourism is an important source of income.

Q3. List a few famous pilgrimage spots in India along with the landforms in which they are found.

Answer: Several famous pilgrimage spots in India are located across different landforms: **Mountains:** Badrinath and Kedarnath (Uttarakhand, Himalayas), Amarnath Cave (Jammu & Kashmir, Himalayas), Vaishno Devi (Jammu, Trikuta Hills). **Plains:** Prayagraj (confluence of Ganga, Yamuna, and Saraswati in the Ganga plain), Varanasi (on the banks of Ganga in the plain), Bodh Gaya (Bihar, Ganga plain — where Buddha attained enlightenment). **Plateaus:** Tirupati (Andhra Pradesh, on the hills of the Eastern Ghats near the Deccan Plateau), Shirdi (Maharashtra, Deccan Plateau). **Coastal:** Puri (Odisha, on the coast), Rameswaram (Tamil Nadu, coastal region).

Q4. State whether True or False (with explanations).

(a) The Himalayas are young mountains with rounded tops. — FALSE. The Himalayas are indeed young mountains, but they have tall and sharp peaks (not rounded tops). Old mountains like the Aravalli Range have rounded tops due to millions of years of erosion.

(b) Plateaus usually rise sharply at least on one side. — TRUE. A plateau rises up from the surrounding land and has a more or less flat surface, with some of its sides being steep slopes.

(c) Mountains and hills belong to the same type of landform. — TRUE. Hills are highlands with a lower height, less steep slopes and rounded tops. They belong to the same general category as mountains but are shorter.

(d) Mountains, plateaus and rivers in India have the same types of flora and fauna. — FALSE. Different landforms have different climates and are home to a variety of different flora and fauna. For example, mountains have montane forests with conifers and animals like yak and snow leopard, while plains have different crops and animal species.

(e) Ganga is a tributary to the Yamuna. — FALSE. It is the other way around — Yamuna is a tributary of the Ganga (Yamuna joins the Ganga at Prayagraj).

(f) Deserts have unique flora and fauna. — TRUE. Deserts have their own unique flora and fauna that are specially adapted to survive in dry conditions with very little precipitation.

(g) Melting snow feeds rivers. — TRUE. At lower altitudes, snow melts every summer and turns into water that feeds rivers. Many major rivers, including the Ganga, originate from melting snow in the Himalayas.

(h) Sediments from rivers deposited in the plains makes the land fertile. — TRUE. Rivers collect particles of rock, sand and silt (sediments) from mountains and deposit them in the plains, making the soil very fertile for agriculture.

(i) All deserts are hot. — FALSE. Not all deserts are hot. Some deserts are cold, like the Gobi Desert in Asia. Some experts also describe Antarctica as a desert. The key feature of all deserts is very little precipitation, not necessarily high temperature.

Q5. Match words in pairs.

Mount Everest → **climbing** (Mount Everest is famous for mountaineering/climbing expeditions)

rafting → **river** (Rafting is a water sport done on rivers)

camels → **desert** (Camels are known as 'ships of the desert' and are adapted to desert life)

plateau → **roof of the world** (The Tibetan Plateau is nicknamed the 'Roof of the World')

Gangetic plains → **rice fields** (The Gangetic plains are famous for growing rice and other food crops)

waterway → **Ganga** (The Ganga river serves as a waterway for transportation)

Mount Kilimanjaro → **Africa** (Mount Kilimanjaro is located in eastern Africa)

Yamuna → **tributary** (Yamuna is a tributary of the Ganga river)

Additional Short Answer Questions

Q6. What is the difference between a mountain and a hill?

Answer: Mountains are landforms that are much higher than the surrounding landscape, with a broad base, steep slopes and a narrow summit. Many mountains have snow-capped peaks. Hills, on the other hand, are highlands with a lower height compared to mountains, less steep slopes and rounded tops. Both mountains and hills belong to the same general category of elevated landforms, but they differ in height and the shape of their summits. For example, the Himalayas are mountains with sharp peaks, while the Aravalli Range has been eroded into rounded hills over millions of years.

Q7. Why are plateaus called 'storehouses of minerals'?

Answer: Plateaus are called 'storehouses of minerals' because they are rich in mineral deposits. Geological processes over millions of years have concentrated valuable minerals in plateau regions. As a result, mining is a major activity on plateaus, where many of the world's largest mines are found. For example, the East African Plateau is famous for gold and diamond mining, while the Chhota Nagpur Plateau in India has huge reserves of iron, coal and manganese. This mineral wealth makes plateaus economically very important.

Q8. Explain the concept of terrace farming and why it is practised in mountains.

Answer: Terrace farming is a method of farming on mountain slopes by cutting steps (terraces) into the slope to create flat areas for cultivation. It is practised in mountains because the mountain terrain is usually rugged or rough, with steep slopes. Regular farming on such steep slopes is not possible because water would run off quickly and soil would be washed away (erosion). By cutting steps into the slope, farmers create flat platforms where water can be retained and crops can be grown. This technique allows agriculture on otherwise unfarmable mountainous land. Terrace farming is commonly seen in the Himalayan regions of India, particularly in states like Uttarakhand and Himachal Pradesh.

Q9. How have plains been important for the development of human civilisations?

Answer: Plains have been extremely important for the development of human civilisations for several reasons. First, plains have very fertile soil due to river sediments, which makes them ideal for agriculture — the foundation of early civilisations. Second, the flat terrain makes it easy to build roads, railways, and settle large populations. Third, rivers flowing through plains provide water for drinking, irrigation, and transportation. Thousands of years ago, the first civilisations developed around rivers in fertile plains — for example, the Indus Valley Civilisation along the Indus River and ancient civilisations along the Ganga. Today, plains remain the most densely populated landforms, with about 40 crore people living in India's Ganga plain alone (more than one-fourth of the total Indian population).

Q10. What are the challenges faced by people living in the Ganga plains?

Answer: People living in the Ganga plains face several challenges. (i) **Groundwater depletion:** The shift from rainfed agriculture to irrigation using canals and groundwater pumping has led to a significant decrease in groundwater levels. (ii) **High population:** The Ganga plain is one of the most densely populated regions in the world, with about 40 crore people, leading to pressure on resources. (iii) **Pollution:** Rapid urbanisation and industrialisation have caused severe pollution of the Ganga river and surrounding areas. (iv) **Flooding:** Being a flat region near rivers, the Ganga plains are vulnerable to flooding during heavy monsoons. These challenges affect the future of agriculture, water availability, and quality of life in the region.

Multiple Choice Questions (MCQs)

1. What are the three main types of landforms?

- (a) Mountains, rivers, and deserts
- (b) Mountains, plateaus, and plains
- (c) Hills, valleys, and oceans
- (d) Forests, grasslands, and wetlands

Answer: (b) Mountains, plateaus, and plains

2. What is the height of Mount Everest?

- (a) 7,849 m
- (b) 8,611 m
- (c) 8,849 m
- (d) 9,000 m

Answer: (c) 8,849 m

3. Which plateau is known as the 'Roof of the World'?

- (a) Deccan Plateau
- (b) Chhota Nagpur Plateau
- (c) East African Plateau
- (d) Tibetan Plateau

Answer: (d) Tibetan Plateau

4. What is terrace farming?

- (a) Farming done on the terrace of a building
- (b) Farming on flat plains near rivers
- (c) Farming by cutting steps into mountain slopes
- (d) Farming done using irrigation canals

Answer: (c) Farming by cutting steps into mountain slopes

5. Which of the following is a cold desert?

- (a) Sahara Desert
- (b) Thar Desert
- (c) Gobi Desert
- (d) Kalahari Desert

Answer: (c) Gobi Desert

6. Who was the first Indian woman to climb Mount Everest?

- (a) Arunima Sinha
- (b) Bachendri Pal
- (c) Kalpana Chawla
- (d) Sunita Williams

Answer: (b) Bachendri Pal (in 1984)

7. What are sediments?

- (a) Types of mountains
- (b) Particles of rock, sand and silt deposited by rivers
- (c) Types of desert plants
- (d) Minerals found in plateaus

Answer: (b) Particles of rock, sand and silt deposited by rivers

8. The Nohkalikai Falls drops down from which plateau?

- (a) Deccan Plateau
- (b) Tibetan Plateau
- (c) Cherrapunji Plateau
- (d) Chhota Nagpur Plateau

Answer: (c) Cherrapunji Plateau (in Meghalaya, dropping 340 metres)

9. Which of the following is NOT a mountain animal mentioned in the chapter?

- (a) Yak
- (b) Golden Eagle
- (c) Camel
- (d) Ibex

Answer: (c) Camel (Camels are desert animals, not mountain animals)

10. What does 'confluence' mean?

- (a) The source of a river
- (b) The meeting point of two or more rivers
- (c) The mouth of a river where it meets the sea
- (d) A waterfall on a plateau

Answer: (b) The meeting point of two or more rivers

11. How much of India's population lives in the Ganga plain?

- (a) About 10 crore (one-tenth)
- (b) About 20 crore (one-sixth)
- (c) About 40 crore (more than one-fourth)

(d) About 60 crore (half)

✔ Answer: (c) About 40 crore (more than one-fourth)

12. The Deccan Plateau was formed through which process?

- (a) Earthquake activity
- (b) River erosion
- (c) Volcanic activity
- (d) Glacial activity

✔ Answer: (c) Volcanic activity (millions of years ago)

Case-Based Questions

📖 Case Study 1: Life in the Himalayan Mountains

Ravi lives in a small village in Uttarakhand. His family practises terrace farming on the mountain slopes, growing rice and vegetables. The village is surrounded by dense montane forests with pine and deodar trees. Every winter, the higher peaks get covered with snow. Tourism is a major source of income, with many visitors coming for trekking and visiting nearby temples. However, last year, a sudden cloudburst caused flash floods, damaging several homes and the only road connecting the village to the nearest town.

1. (a) Why does Ravi's family practise terrace farming instead of regular farming?
2. (b) Name two types of trees found in montane forests.
3. (c) What is a cloudburst and how did it affect Ravi's village?
4. (d) List two occupations of people in mountain regions mentioned in this passage.

(a) Ravi's family practises terrace farming because the mountain terrain has steep slopes where regular farming is not possible. By cutting steps (terraces) into the slope, they create flat surfaces where crops can be grown and water can be retained.

(b) Two types of trees found in montane forests are **pine** and **deodar**. Other examples include firs and spruce.

(c) A cloudburst is a sudden violent rainstorm. In Ravi's village, it caused flash floods (sudden local floods) that damaged several homes and the only road connecting the village to the nearest town, disrupting connectivity and daily life.

(d) Two occupations mentioned are: (i) **Terrace farming** (agriculture) and (ii) **Tourism** (visitors coming for trekking and temple visits).

📖 Case Study 2: The Gangetic Plain — Blessings and Challenges

The Ganga plain is one of the most fertile and densely populated regions in India. About 40 crore people live here, depending on agriculture as their primary occupation. Farmers grow food crops like rice, wheat and maize, as well as fibre crops like cotton and jute. In recent decades, the shift from rainfed farming to

irrigation using canals and groundwater has increased crop production. However, excessive pumping of groundwater has led to a decline in water table levels. The river Ganga, which sustains this region, is also facing severe pollution from industrial waste and sewage.

1. (a) Why is the Ganga plain so fertile?
2. (b) Name any two food crops and two fibre crops grown in this region.
3. (c) What is the difference between rainfed and irrigated agriculture?
4. (d) Mention two major challenges faced by the Ganga plains.

(a) The Ganga plain is very fertile because rivers originating from the Himalayas carry particles of rock, sand and silt called 'sediments'. These sediments are deposited in the plains by the rivers, enriching the soil and making it ideal for growing crops of all kinds.

(b) Food crops: **Rice and Wheat** (also maize, barley, millets). Fibre crops: **Cotton and Jute** (also hemp).

(c) Rainfed agriculture depends on natural rainfall for watering crops, while irrigated agriculture uses artificial methods like canals or groundwater pumping to bring water to the fields. Traditional agriculture was mostly rainfed, but in recent decades there has been a shift to irrigation.

(d) Two major challenges are: (i) **Groundwater depletion** — excessive pumping of groundwater for irrigation has led to a decline in water table levels. (ii) **Pollution** — the Ganga river faces severe pollution from industrial waste and sewage, affecting water quality and the environment.

Case Study 3: The Mineral Wealth of the Chhota Nagpur Plateau

The Chhota Nagpur Plateau in Jharkhand is one of India's most mineral-rich regions. It has huge reserves of iron, coal and manganese. Mining is the primary economic activity, and the region contributes significantly to India's industrial output. The plateau is also known for its waterfalls, such as the Hundru Falls on the Subarnarekha River. However, the rocky soil of the plateau makes it less fertile compared to the nearby Ganga plains. Communities living here have adapted to the landscape, and many depend on mining and forestry for their livelihood.

1. (a) Why are plateaus called 'storehouses of minerals'? Give examples from the passage.
2. (b) Name the waterfall and river mentioned in the passage.
3. (c) Why is farming less common on the Chhota Nagpur Plateau compared to the Ganga plains?
4. (d) What are the main livelihoods of people living on this plateau?

(a) Plateaus are called 'storehouses of minerals' because they are rich in mineral deposits. The Chhota Nagpur Plateau, for example, has huge reserves of **iron, coal and manganese**, making mining a major economic activity in the region.

(b) The waterfall mentioned is **Hundru Falls**, located on the **Subarnarekha River**.

(c) Farming is less common on the Chhota Nagpur Plateau because the plateau has **rocky soil**, which makes it less fertile compared to the Ganga plains, where river sediments create very fertile soil ideal for agriculture.

(d) The main livelihoods of people living on this plateau are **mining** (extracting iron, coal, manganese and other minerals) and **forestry**.


Exam Tips — Score Maximum Marks!

- 🎯 Always remember the **three main landforms**: Mountains (broad base, steep slopes, narrow summit), Plateaus (flat top, steep sides), Plains (flat or gently undulating, below 300m)
- 🎯 Memorise key heights and data: Mount Everest = **8,849 m**, Tibetan Plateau altitude = **4,500 m**, Nohkalikai Falls = **340 m** drop, Ganga length = **2,500 km**, Ganga plain population = **40 crore**
- 🎯 For the True/False question, remember: Himalayas are young with **sharp** peaks (not rounded). **Yamuna** is tributary of Ganga (not the other way around). Not all deserts are hot (Gobi is cold)
- 🎯 Learn the **matching pairs** well — Mount Everest→climbing, plateau→roof of the world, Yamuna→tributary, camels→desert, Gangetic plains→rice fields
- 🎯 Know the difference between **young mountains** (tall, sharp — Himalayas) and **old mountains** (short, rounded — Aravalli)
- 🎯 For questions on plateaus, always mention: **storehouses of minerals**, mining activity, lava plateaus having black soil, spectacular waterfalls
- 🎯 Remember the **five tinais** of Tamil Sangam poetry — especially Kuriñji (mountains), Marudam (plains), Neydal (coastal) — they show the landform-culture connection
- 🎯 For **case-based questions**, always read the passage carefully, underline key words, and answer in points for clarity
- 🎯 Include **specific examples** in your answers (e.g., Chhota Nagpur for minerals, Ganga plain for agriculture, Cherrapunji for waterfalls) — examiners reward specific knowledge
- 🎯 For 5-mark questions, write at least **5 key points** with a brief introduction and conclusion. Use terms from the chapter like altitude, terrain, sediments, confluence, montane forest

UNIQUE STUDY POINT

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