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SOLUTIONS BOOK

CLASS 6

Social Science · Exploring Society

CHAPTER 3

Landforms and Life

Complete Questions and Activities Solutions

In-text Questions

Questions, Activities and Projects

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Every question is followed by its answer. Question numbers above are clickable and the PDF bookmarks panel lets you jump to any exercise set or question. Figures are reproduced from the NCERT textbook (© NCERT) for educational use.

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1.1

CLASS 6 SOCIAL SCIENCE · CHAPTER 3

In-text Questions

Solutions · 9 questions

Directions (Questions 1–9): These are the questions that appear inside the chapter (The Big Questions, Think About It and Let’s Explore, including the discussion on Kālidāsa’s verses), numbered in the order in which they appear. Many are open-ended; model answers based on the chapter are given, and you may add examples from your own surroundings.

QUESTION 1 *The Big Questions · p. 41*

What are the major types of landforms and their significance to life and culture?

ANSWER

A landform is a physical feature on the surface of our planet Earth. Landforms take shape over millions of years and have a significant connection with the environment and life. They can broadly be divided into three categories: mountains, plateaus and plains.

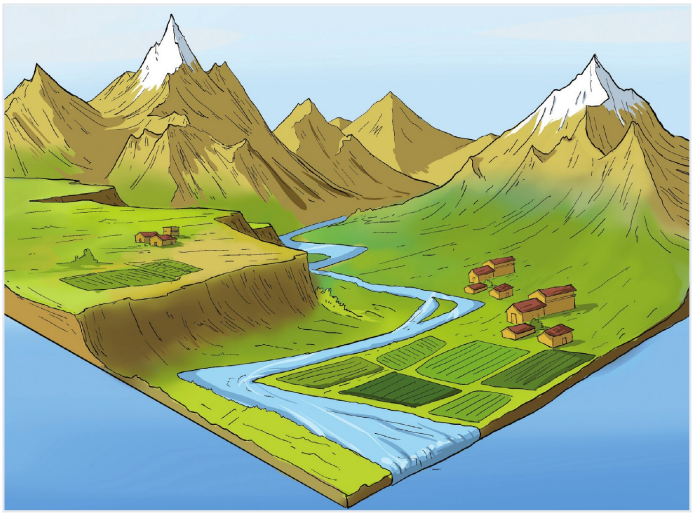


Fig. 3.1. This drawing illustrates three landforms — mountains in the background (two of them snow-capped), a plateau on the left and a plain in the foreground, with a river emerging from the mountains.

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a Major types of landforms

Landform	What it is	Examples from the chapter
Mountains	Landforms much higher than the surrounding landscape, with a broad base, steep slopes and a narrow summit. Highlands with a lower height, less steep slopes and rounded tops are called hills.	Himalayas (Asia), Alps (Europe), Andes (South America), Aravalli Range
Plateaus	Landforms that rise up from the surrounding land and have a more or less flat surface; some of their sides are often steep slopes.	Tibetan Plateau, Deccan Plateau, Chhota Nagpur Plateau
Plains	Landforms with an extensive flat or gently undulating surface and no large hills or deep valleys; generally not more than 300 metres above sea level.	Ganga plain (Gangetic plain)

b Significance to life

- **Mountains:** snow at lower altitudes melts every summer and feeds rivers; the slopes carry montane forests and diverse fauna; people practise terrace farming, herding and tourism.
- **Plateaus:** rich in mineral deposits (‘storehouses of minerals’), so mining is a major activity; lava plateaus often have rich black soil, and many plateaus have spectacular waterfalls.
- **Plains:** rivers deposit sediments that make the soil very fertile, so agriculture is a major occupation; river navigation is easy; the first civilisations developed around rivers in fertile plains, and a large part of the world’s population lives in plains.

c Significance to culture

- Many traditional communities consider mountains sacred. Tibetans call Mount Everest ‘Chomolungma’ and Nepalis call it ‘Sagarmatha’; Mount Kailash is held sacred by followers of Hinduism, Buddhism, Jainism and Bon.
- The Atharva Veda’s Bhūmi Sūkta (‘Hymn to the Earth’) speaks of the Earth as a mother, and Kālidāsa’s *Kumārasambhava* begins with an invocation to the Himalayas.
- Rivers carry immense cultural value. A river’s source and its confluence with other rivers are considered sacred, and numerous festivals, ceremonies and rituals are conducted at such locations.
- The five *tiṇais* of ancient Tamil Sangam poetry link landscapes (such as mountainous regions and fertile agricultural plains) with lifestyles, moods and occupations.

Therefore, the three major landforms are mountains, plateaus and plains, and each has shaped how people live, earn their living and express their culture.

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QUESTION 2 *The Big Questions · p. 41*

What are the challenges and opportunities of life associated with each landform?

ANSWER

Each landform offers different challenges as well as opportunities. The points given in the chapter are brought together below.

a Opportunities and challenges of each landform

Landform	Opportunities	Challenges
Mountains	Crisp mountain air and scenic beauty that attract tourists (skiing, hiking, mountaineering, paragliding) and pilgrims; terrace farming on slopes and farming in some valleys; herding; snow-fed rivers; forests and diverse wildlife.	Rugged terrain with steep slopes, so regular farming is possible only in some valleys; natural hazards such as flash floods, landslides, avalanches, cloudbursts, heavy snowfall and cold weather; excessive tourism can put the fragile mountain environment under pressure.
Plateaus	Rich mineral deposits, so mining is a major activity (for example iron, coal and manganese in the Chhota Nagpur Plateau); lava plateaus often have rich black soil; spectacular waterfalls.	Many plateaus have a rocky soil, which makes them less fertile than plains and therefore less favourable to farming.
Plains	Very fertile soil from river sediments, ideal for growing crops of all kinds; agriculture and river fishing; a gentle slope that makes river navigation easy; large populations and many economic activities.	Irrigation has increased agricultural production but has also depleted groundwater, a challenge for the future of agriculture; other problems include high population and pollution.

b Adapting to the landform

In the mountains, cultivation is practised on the slopes by cutting steps into the slope. This is called **terrace farming** (Fig. 3.5). Humans have adapted to all landforms, and the diverse ways in which they have made every landform their home are a testimony to our adaptability and **resilience**.

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Fig. 3.5. Terrace farming in north India

Therefore, every landform offers opportunities as well as challenges, and people have adapted to each of them with resilience.

QUESTION 3 *Let's Explore · p. 42*

(i) As a class activity, form groups of four or five students and observe the school's surroundings. What kind of landscape do you see? Will the landscape change a few kilometres away? Or within some 50 kilometres? Compare with other groups.
(ii) In the same groups, discuss a journey that any of you has made through a region of India. List the different landscapes seen on the way. Compare with other groups.

ANSWER

This is a group activity, so the findings depend on your own school and your own journey. Model ways of answering both parts are given below.

i Observing the school's surroundings

- Decide the landform. Wide flat or gently undulating land (generally not more than 300 metres above sea level) is a plain; a raised area with a more or less flat top and some steep sides is a plateau; high land with steep slopes is a mountain, and lower highlands with rounded tops are hills.
- Note the features of the landscape: soil, vegetation, rivers or ponds, farms, forests and buildings.

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- Discuss whether the landscape would change a few kilometres away or within some 50 kilometres, and write down your group's observation with reasons.
- Compare with other groups. Groups in different places may report different landscapes, which shows how the appearance of land changes from one region to another.

ii A journey through a region of India

List the landscapes in the order in which they were seen. As a model, here is the journey by road described in the chapter:

Place on the way	Landform	Landscape seen
Chhota Nagpur region (Jharkhand)	Plateau	Raised land with a more or less flat surface and rocky soil
Prayagraj (Uttar Pradesh)	Plain	Flat, fertile land with rivers and farms
Almora (Uttarakhand)	Mountains	Steep slopes with forests and valleys, and terraced fields

Therefore, the landscape changes from one region to another, and a single journey can take us across several different landforms.

QUESTION 4 *Think About It · p. 43*

What is snow?

ANSWER

Snow is water that reaches the ground from the atmosphere in a solid state.

a Meaning

- Snow is a form of **precipitation**. Precipitation is water from the atmosphere reaching the ground in any form; rain, snow and hail are the most common forms.
- Snow and hailstones are nothing but precipitation of water in a solid state.

b Where and when it falls

- At higher altitudes, if it is cold enough, snow falls and covers the landscape in a soft, white blanket.

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- Unless we live in a Himalayan region (such as Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Sikkim or Arunachal Pradesh), we may never have seen snow. In the rest of India, most precipitation is in the form of rain and hail.

c Why it matters

- 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.

Therefore, snow is precipitation of water in a solid state, and it falls where the land is high and cold enough.

QUESTION 5 *Kālidāsa's Verses · p. 46*

Discuss the verses and the following questions in class.
(i) What are the 'western to the eastern oceans'? Can you locate them as well as the 'Lord of mountains' on Fig. 5.2?
(ii) Why is Gangā mentioned? (Hint: There could be several reasons.)

ANSWER

The verses are from Kālidāsa's *Kumārasambhava,* which begins with an invocation to the Himalayas, the 'Lord of mountains'.

i The two oceans and the 'Lord of mountains'

- The 'Lord of mountains' is **Himālaya**, the Himalayas, the great mountain range that rises in the north.
- In the poet's picture the range stretches across the north from the western ocean to the eastern ocean, that is, from the side of the **Arabian Sea** in the west to the side of the **Bay of Bengal** in the east.
- To locate them, use the map given as Fig. 5.2 in the textbook (it belongs to a later chapter, so it is not reproduced here) or any physical map of India. Find the Arabian Sea on the west and the Bay of Bengal on the east, and the Himalayas as the mountain wall along the north between the two sides.

ii Why is Gangā mentioned?

- **Origin:** the Ganga is the largest river originating from the Himalayas; it is nearly 2,500 km long and has numerous tributaries.

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- **Flow from the mountains:** the verse speaks of ‘descending Gangā’; rivers come down from the mountains, fed by melting snow.
- **Climate and comfort:** the wind carries cool spray from the river, which cools the mountain people, showing how mountains and rivers together shape life.
- **Sacredness:** rivers, and especially their sources, have immense cultural value, and the Ganga is held sacred.
- **Link to the plains:** the river carries the gifts of the mountains to the Ganga plain, where about 40 crore people live.

Therefore, the verses present the Himalayas as the ‘Lord of mountains’ and Gangā as the river that carries their gifts to the plains.

QUESTION 6 *Let’s Explore · p. 49*

These images (Fig. 3.6 on page 50) depict a few challenges that people living in the mountains may face. Discuss them in groups in the class and write one paragraph on each. Also discuss why, despite many such challenges, people still choose to live in the mountains.

ANSWER

Fig. 3.6 shows seven challenges of mountain life: six are natural and one, uncontrolled tourism, is human-made. One paragraph is given on each, followed by the discussion.

a One paragraph on each challenge

Flash flood. A flash flood is a sudden local flood, often caused by a cloudburst. Water rushes down the steep slopes with little warning, so people have very little time to reach safety, and fields, roads and homes in the path can be damaged.

Landslide. A landslide is the sudden collapse of a mass of earth or rock from a mountainside. On steep slopes it can damage or block roads, as seen in the picture, and cut villages off from the rest of the region.

Avalanche. An avalanche is the sudden fall of snow, ice or rocks from a mountainside and often occurs when the snow starts melting. It can bury paths and settlements below and is dangerous for travellers and climbers.

Cloudburst. A cloudburst is a sudden violent rainstorm. So much rain falls in a short time that rivers and streams swell quickly; a cloudburst is therefore often followed by flash floods and landslides.

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Heavy snowfall. Heavy snow covers houses and roads, as the picture shows. It makes movement difficult, can block routes and makes everyday work harder for the people living there.

Cold weather. Mountain regions can be very cold, especially in winter. People need warm clothing and shelter, and the cold limits outdoor work and farming.

Uncontrolled tourism. Tourism is an important source of income, but an excessive inflow of visitors crowds the roads, as in the picture, and puts the fragile mountain environment under pressure. It is often difficult to find the right balance.



Fig. 3.6. Life in the mountains has definite positives, from pure air to the beautiful scenery. It also involves potential challenges, both natural and human-made, some of which are depicted in these pictures.

b Why people still choose to live in the mountains

- **Livelihoods:** farming in valleys, terrace farming on slopes, herding, and income from tourism and from pilgrims who travel to holy sites.
- **Natural gifts:** crisp, pure mountain air, scenic beauty, forests and the water of rivers fed by melting snow.

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- **Culture and belonging:** many communities consider mountains sacred, and generations have made them their home.
- **Adaptability:** humans have adapted to all landforms, and mountain communities have learned to meet the challenges of their terrain and weather.

Therefore, mountain life brings natural and human-made challenges, but people stay because the mountains also offer clean air, beauty, livelihoods and a sacred, familiar home.

QUESTION 7 *Let's Explore · p. 53*

Use the colour code in Fig. 3.8 to add a landform to each name. For instance, 'Tibetan plateau', 'Rocky range', 'Nile plain'. (You do not have to remember the names in this map.)

ANSWER

Fig. 3.8 uses three colours: brown for a plateau, light green for a river plain and orange for a mountain range. Match the colour of each named area with the legend and add the landform to the name.

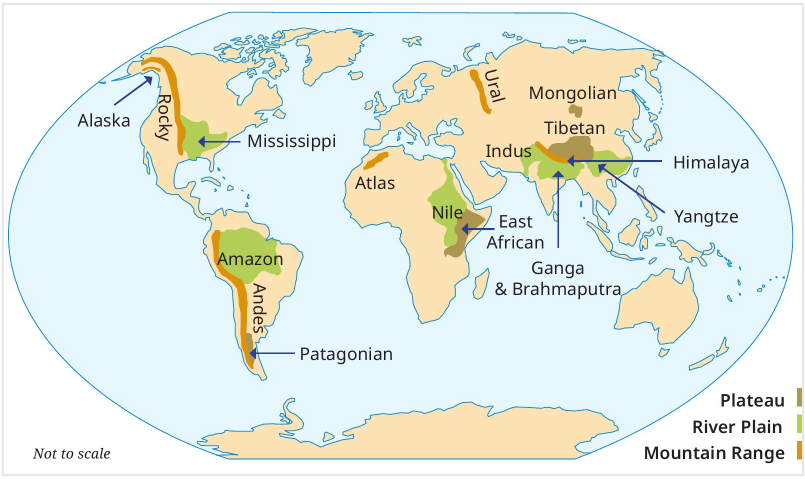


Fig. 3.8. This world map shows a few major mountain ranges, plateaus and plains.

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a Landform added to each name

Landform (colour in Fig. 3.8)	Names on the map with the landform added
Mountain range (orange)	Alaska range, Rocky range, Ural range, Himalaya range, Atlas range, Andes range
Plateau (brown)	Mongolian plateau, Tibetan plateau, East African plateau, Patagonian plateau
River plain (light green)	Mississippi plain, Indus plain, Yangtze plain, Nile plain, Ganga and Brahmaputra plain, Amazon plain

Therefore, the sixteen names on the map are six mountain ranges, four plateaus and six river plains.

QUESTION 8 *Let's Explore · p. 54*

The picture in Fig. 3.9 has been taken from a satellite. It captures a portion of north India from a high altitude. Observe and discuss the image as a class activity.
(i) Which colour is the Ganga plain?
(ii) What does the white expanse represent?
(iii) What does the brown expanse at the bottom left of the image represent?

ANSWER

A satellite picture shows the land from a great height, so colours give clues about what covers the ground.

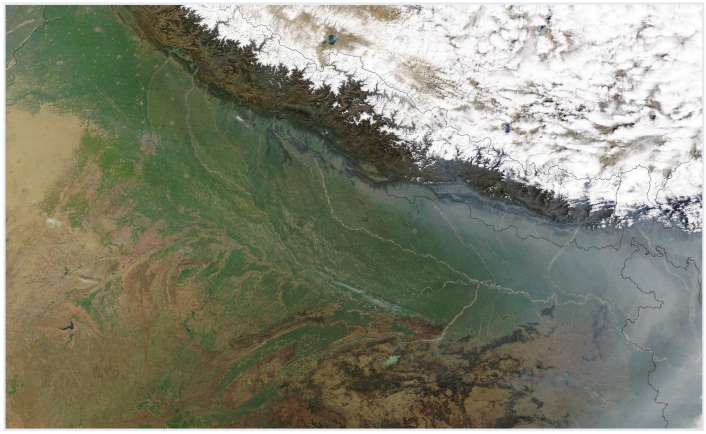


Fig. 3.9. A satellite view of the Ganga plain

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i Colour of the Ganga plain

The Ganga plain is **green**. It appears as a broad green band along the foot of the mountains because it is fertile and covered with crops and vegetation; the rivers cross it as thin pale lines.

ii The white expanse

The white expanse at the top right represents **snow** (with some cloud) covering the high Himalayan mountains and the high land beyond them. At high altitudes the snow may never melt, leaving the mountains permanently snow-capped.

iii The brown expanse at the bottom left

The brown colour shows **dry land with very little vegetation**. At the left, in the north-west, it is the **Thar Desert**, a large dry expanse with very little precipitation; the browner uplands lower in the picture are the drier plateau and hill country to the south of the plain.

Therefore, green shows the fertile Ganga plain, white shows snow on the high mountains and brown shows dry land such as the Thar Desert.

QUESTION 9 *Let's Explore · pp. 55–56*

(i) Can you give examples of river sources or confluences from your region that are regarded sacred by any community?
(ii) Visit a nearby river and observe all activities there, whether economic or cultural. Note them down and discuss with your classmates.
(iii) Name some popular tourist destinations in India and identify the category of landform they are associated with.

ANSWER

Parts (i) and (ii) depend on your own region, so model answers are given. Part (iii) is answered with well-known destinations.

i Sacred river sources and confluences

- **Gangotri** and **Yamunotri** in the Himalayas, the places linked with the sources of the Ganga and the Yamuna, are regarded as sacred.
- **Devprayag**, where the Bhagirathi and the Alaknanda meet to form the Ganga, is a sacred confluence.
- **Prayagraj**, where the Ganga and the Yamuna meet, is a sacred confluence where festivals and rituals are held.

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- Add examples from your own region: name the river source or meeting point of rivers and the community that regards it as sacred.

ii Activities at a river

Note down what you actually see at the river you visit. A model list is given below.

Economic activities	Cultural activities
River fishing	Prayers and offerings to the river
Boats carrying people and goods (river navigation, as in Fig. 3.10)	Rituals and ceremonies on the banks
Water for irrigation of fields	Festivals held at the river, especially at its source or confluence



Fig. 3.10. River transportation on the Ganga

iii Popular tourist destinations and their landforms

Landform	Popular tourist destinations
Mountains	Manali, Shimla, Darjeeling, Nainital
Plateaus	Hundru Falls (Chhota Nagpur Plateau), Nohkalikai Falls (Cherrapunji Plateau, Meghalaya), Hampi (Deccan Plateau)
Plains	Agra, Varanasi, Amritsar
Desert	Jaisalmer (Thar Desert)

Therefore, rivers and landforms are linked with both livelihoods and culture, and popular tourist destinations are found in every landform.

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1.2

CLASS 6 SOCIAL SCIENCE · CHAPTER 3

Questions, Activities and Projects

Solutions · 5 questions

Directions (Questions 1–5): These are the Questions, activities and projects at the end of the chapter (page 58). Answer each in your own words using the points given.

QUESTION 1 *Questions, activities and projects · p. 58*

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

ANSWER

The answer depends on where you live. Use the steps and the model table below to write about your own place.

a Steps

- **Identify the landform:** is the land flat or gently undulating (plain), a raised area with a more or less flat top (plateau), or high with steep slopes (mountain or hill)?
- **Check the height:** plains are generally not more than 300 metres above sea level.
- **Look for features** from the chapter, such as rivers, forests, farmland, valleys, waterfalls or snow.

b Features you may see

If your place is on a…	Features from the chapter you may see
Plain	Flat land with fertile soil, farms growing crops such as rice and wheat, rivers or canals, river fishing and boats, a large population.
Plateau	Raised land with a flat top and steep sides, rocky soil, mining activity, rivers dropping as waterfalls.
Mountain or hill	Steep slopes with forests of pine, fir, spruce or deodar, terraced fields, valleys with rivers and streams, snow at high altitudes, tourists and pilgrims.

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Therefore, name the landform of your own place and list the features from this chapter that you can actually see there.

QUESTION 2 *Questions, activities and projects · p. 58*

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 the landscape changes from a plateau to a plain and then to mountains.

a Chhota Nagpur (Jharkhand): a plateau

- A plateau rises up from the surrounding land and has a more or less flat surface, with some steep sides.
- The Chhota Nagpur Plateau has huge reserves of iron, coal and manganese, so mining is a major activity.
- Plateaus often have a rocky soil, which is less fertile and less favourable to farming than the soil of plains.
- It has spectacular waterfalls, such as the Hundru Falls on the Subarnarekha River.

b Prayagraj (Uttar Pradesh): a plain

- Prayagraj lies in the Ganga plain, a landform with an extensive flat or gently undulating surface.
- Rivers from the mountains deposit sediments here, making the soil very fertile; rice, wheat, maize, barley and millets, and fibre crops such as cotton, jute and hemp, are grown.
- River fishing and agriculture are the major occupations, and the gentle slope makes river navigation easy.

c Almora (Uttarakhand): mountains

- Mountains are much higher than the surrounding landscape, with a broad base, steep slopes and a narrow summit.
- The slopes are covered with montane forest of conifers such as pines, firs, spruce and deodar.
- The terrain is rugged, so farming is possible in some valleys and by terrace farming on the slopes; tourism and pilgrimage are important, and hazards such as landslides and heavy snowfall are challenges.

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Therefore, the journey from Chhota Nagpur to Almora crosses a plateau, a plain and mountains, each with a very different landscape.

QUESTION 3 *Questions, activities and projects · p. 58*

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

ANSWER

For many centuries people have travelled to holy sites in the uplands, and pilgrimage spots are also found on plateaus and plains, often on rivers.

a Pilgrimage spots and their landforms

Pilgrimage spot	Landform	Note
Kedarnath (Uttarakhand)	Mountains	In the Himalayas
Badrinath (Uttarakhand)	Mountains	In the Himalayas
Amarnath Cave (Jammu and Kashmir)	Mountains	In the Himalayas
Mount Kailash (Tibet)	Mountains	Sacred to Hinduism, Buddhism, Jainism and Bon
Ujjain (Madhya Pradesh)	Plateau	On the Malwa Plateau
Pandharpur (Maharashtra)	Plateau	On the Deccan Plateau
Prayagraj (Uttar Pradesh)	Plain	Meeting of the Ganga and the Yamuna
Varanasi (Uttar Pradesh)	Plain	On the Ganga

Therefore, pilgrimage spots are found in mountains, plateaus and plains, and many lie on rivers or at their sources and confluences.

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QUESTION 4 *Questions, activities and projects · p. 58*

State whether true or false —
• The Himalayas are young mountains with rounded tops.
• Plateaus usually rise sharply at least on one side.
• Mountains and hills belong to the same type of landform.
• Mountains, plateaus and rivers in India have the same types of flora and fauna.
• Ganga is a tributary to the Yamuna.
• Deserts have unique flora and fauna.
• Melting snow feeds rivers.
• Sediments from rivers deposited in the plains makes the land fertile.
• All deserts are hot.

ANSWER

Each statement is checked against the chapter. The correct answer and the reason are given.

a Answers with reasons

Statement	Answer	Reason
The Himalayas are young mountains with rounded tops.	**False**	They are young mountains with tall, sharp peaks. Older mountains, like the Aravalli Range, have been rounded by erosion.
Plateaus usually rise sharply at least on one side.	**True**	A plateau rises up from the surrounding land with a flat surface, and some of its sides are often steep slopes.
Mountains and hills belong to the same type of landform.	**True**	The chapter has three main types: mountains, plateaus and plains. Hills are highlands of lower height and are described along with mountains.
Mountains, plateaus and rivers in India have the same types of flora and fauna.	**False**	These landforms have different climates and are home to a variety of flora and fauna.
Ganga is a tributary to the Yamuna.	**False**	The Yamuna is a tributary of the Ganga: it originates in the Himalayas and joins the larger Ganga.
Deserts have unique flora and fauna.	**True**	Deserts are large, dry expanses with very little precipitation, and their flora and fauna are unique.
Melting snow feeds rivers.	**True**	At lower altitudes the snow melts every summer and turns into water that feeds rivers.

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Statement	Answer	Reason
Sediments from rivers deposited in the plains makes the land fertile.	**True**	Rivers carry sediments from the mountains and deposit them in the plains, making the soil very fertile.
All deserts are hot.	**False**	Some deserts are hot (Sahara, Thar) but others are cold, like the Gobi Desert in Asia.

Therefore, statements 2, 3, 6, 7 and 8 are true, and statements 1, 4, 5 and 9 are false.

QUESTION 5 *Questions, activities and projects · p. 58*

Match words in pairs:
Mount Everest · rafting · camels · plateau · Ganga plains · waterway · Mount Kilimanjaro · Yamuna
with
Africa · roof of the world · rice fields · desert · river · Ganga · tributary · climbing

ANSWER

Each word in the first list is matched with exactly one word in the second list.

a Matched pairs

Word	Matching word	Reason
Mount Everest	climbing	The world's highest mountain, climbed by mountaineers such as Bachendri Pal and Arunima Sinha
rafting	river	Rafting is a sport done on a river
camels	desert	Camels are animals of the hot deserts, such as the Thar Desert
plateau	roof of the world	The Tibetan Plateau, with an average altitude of 4,500 m, is nicknamed the 'Roof of the World'
Ganga plains	rice fields	Rice is one of the food crops grown in the fertile Ganga plain
waterway	Ganga	Rivers like the Ganga are used for navigation, with boats carrying people and goods

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Word	Matching word	Reason
Mount Kilimanjaro	Africa	An isolated mountain in eastern Africa that is not part of any range
Yamuna	tributary	The Yamuna is a tributary of the Ganga

Therefore, the pairs are Mount Everest–climbing, rafting–river, camels–desert, plateau–roof of the world, Ganga plains–rice fields, waterway–Ganga, Mount Kilimanjaro–Africa and Yamuna–tributary.

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