

Lesson at a Glance

- The lithosphere is broken into numerous plates known as the **lithospheric plates**. These plates move around very slowly. The movement of these plates causes changes on the surface of the earth.
- The earth movements are divided on the basis of the forces which cause them.
- The forces which act in the interior of the earth are known as **endogenic forces**.
- The forces which work on the surface of the earth are called as **exogenic forces**.
- Endogenic forces sometimes produce sudden movements which cause earthquakes and volcanoes.
- A **volcano** is an opening in the earth's crust through which molten material erupts suddenly.
- When the lithospheric plates move, the surface of the earth vibrates. The vibrations can travel all round the earth. These vibrations are known as **earthquakes**.
- The place in the crust where the movement starts is known as the **focus**.
- The **epicentre** of the earthquake is the place on the surface above the focus.
- Maximum damage occurs near the epicentre.
- Some common **earthquake prediction methods** include studying animal behaviour, fish in the ponds get agitated, snakes come to the surface.
- The damage caused due to earthquakes can be minimised if we are prepared before hand.
- During an earthquake one can take shelter under a kitchen counter, table or desk, against an inside corner or wall. One should be away from fire places, areas around chimneys, windows, etc.
- **Weathering** and **erosion** are two processes due to which the landscape is being continuously worn away.

- Weathering is the breaking up of the rocks on the earth's surface. Erosion is the wearing away of the landscape by different agents like water, wind, etc.
- When the river tumbles at steep angle over very hard rocks or down a steep valley side it forms a waterfall.
- Large bends formed by twisting and turning of the river while entering the plain are called **meanders**.
- An **ox-bow lake** is a cut-off lake formed due to cut off of a meander loop.
- Flood plains are fertile areas formed by the deposition of fine soil and other material (sediments) during floods.
- **Levees** are the raised banks of the rivers.
- The streams which distribute the waters of a river are known as **distributaries**.
- The triangular deposits at the mouth of a river from delta, which is very fertile.
- The **erosion** and **deposition** of the sea waves gives rise to **coastal landforms**.
- Hollow like caves are formed on the rocks at the coast due to erosional work of sea waves. These formations are called **sea caves**. When these cavities become very big, only the roof of the caves remain, forming **sea arches**.
- This roof sometimes breaks due to erosion and thus only walls are left. These wall—like features are known as **stacks**.
- The steep rocky coast rising almost vertically above sea water is called **sea cliff**.
- The sea waves deposit sediments along the shores forming **beaches**.
- The landscape is eroded due to glaciers which are rivers of ice. The material carried by the glacier such as rocks, sand and silt gets deposited and forms **glacial moraines**.
- **Wind** is an active agent of erosion and deposition in the deserts. When the wind blows, it lifts and transports sand from one place to another. When it stops blowing the sand falls and gets deposited in low hill-like structures known as **sand dunes**.
- When very fine and light sand gets deposited in large areas, it called **loess**.

■ TEXTBOOK QUESTIONS SOLVED ■

Q. 1. Answer the following questions briefly:

- (i) Why do the plates move?
- (ii) What are exogenic and endogenic force?
- (iii) What is erosion?
- (iv) How are flood plains formed?
- (v) What are sand dunes?
- (vi) How are beaches formed?
- (vii) What are ox-bow lakes?

- Ans.**
- (i) The plates move because of the movement of the molten magma inside the earth.
 - (ii) **Exogenic forces.** The forces that work on the surface of the earth are called as exogenic forces.
Endogenic forces. The forces that act in the interior of the earth are called as endogenic forces.
 - (iii) Erosion is the wearing away of the landscape by different agents like water, wind and ice.
 - (iv) During floods, layers of fine soil and other material called sediments are deposited on the river bank. This leads to the formation of a flat fertile flood plains.
 - (v) Sand dunes are low hill-like structures formed by the deposition of sand in the deserts.
 - (vi) Beaches are formed when the sea waves deposit sediments along the shores of the sea.
 - (vii) When the meander loop is cut off from the main river, it forms a cut-off lake. As its shape is like an ox bow, it is also known as ox-bow lake.

Q. 2. Tick the correct answer:

- (i) Which is not an erosional feature of sea waves?
 - (a) Cliff
 - (b) Beach
 - (c) Sea cave.
- (ii) The depositional feature of a glacier is
 - (a) Flood plain
 - (b) Beach
 - (c) Moraine.
- (iii) Which is caused by the sudden movements of the earth?
 - (a) Volcano
 - (b) Folding
 - (c) Flood plain.

- (iv) Mushroom rocks are found in
 (a) Deserts (b) River valleys
 (c) Glaciers.
- (v) Ox bow lakes are found in
 (a) Glaciers (b) River valleys
 (c) Deserts.

Ans. (i) —(a), (ii) —(c), (iii) —(a), (iv) —(a), (v) —(b).

Q. 3. Match the skill:

- | | |
|-----------------|-------------------------|
| (i) Glacier | (a) Sea shore |
| (ii) Meanders | (b) Mushroom rock |
| (iii) Beach | (c) River of ice |
| (iv) Sand dunes | (d) Rivers |
| (v) Waterfall | (e) Vibrations of earth |
| (vi) Earthquake | (f) Sea cliff |
| | (g) Hard bed rock |
| | (h) Deserts |

Ans. (i) —(c), (ii) —(g), (iii) —(a), (iv) —(h), (v) —(d), (vi) —(e).

Q. 4. Give reasons:

- (i) Some rocks have a shape of a mushroom.
 (ii) Flood plains are very fertile.
 (iii) Sea caves are turned into stacks.
 (iv) Buildings collapse due to earthquakes.

Ans. (i) In deserts, winds usually erode the lower section of the rock more than the upper part. Therefore, such rocks have narrower base and wider top, which take the shape of a mushroom.

(ii) Flood plains are formed by the deposition of fine soil and other material called sediments on the river banks. As the soil and sediments are brought by flood water, they are very fertile.

(iii) Sea waves strike at the rocks. As a result cracks develop which become bigger over time and hollow like caves are formed on the rocks. They are called sea caves. These cavities become bigger and bigger and a time comes when only the roof of the caves remain to form sea arches. Further erosion breaks the roof and only walls are left. These wall like features are called stacks. In this way, sea caves are turned into stacks.

- (iv) Most of the buildings are not safe enough to resist the vibrations of the earthquakes. They are not made earthquake-proof. They collapse tearing apart due to shallow foundation and lack of adequate steel in the interior design.

Q. 5. Activity

Observe the photographs given below. These are various features made by a river. Identify them and also tell whether they are erosional or depositional or landforms formed by both.

Photograph	Name of the Feature	Type (Erosional or Depositional or Both)
		
		
		

Ans.

Photograph	Name of the Feature	Type (<i>Erosional or Depositional or Both</i>)
	Waterfall	Erosional and depositional both
	Meander	Erosional and depositional both
	Flood plain	Depositional