



Class 9 Social Science – Chapter 2

Important Questions – Shaping of the Earth's Surface

Book: *Understanding Society: India and Beyond – Grade 9, Part 1*

Session: 2026–27



Very Short Answer Questions

1. What is meant by the **Earth's crust**?
 2. Name the major layers of the Earth.
 3. What is the **mantle**?
 4. What is the **core**?
 5. What are tectonic plates?
 6. What is **plate tectonics**?
 7. What causes tectonic plates to move?
 8. What is a plate boundary?
 9. What is an earthquake?
 10. What is a volcano?
 11. What is the **Ring of Fire**?
 12. Where do most earthquakes and volcanoes occur?
 13. What is meant by a mountain?
 14. What is a valley?
 15. How are ocean basins related to plate movement?
 16. Why is the Earth's surface constantly changing?
 17. What is an earthquake-prone region?
 18. Why is India vulnerable to earthquakes?
 19. How can earthquakes affect human life?
 20. Why is the study of plate tectonics important?
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Short Answer Questions

- 1. Explain the structure of the Earth.**
- 2. What are tectonic plates? Why are they important in understanding the Earth's surface?**
- 3. Explain the theory of plate tectonics.**
- 4. How does the movement of tectonic plates shape the Earth's surface?**
- 5. Explain the relationship between plate boundaries and earthquakes.**
- 6. Why are volcanoes commonly found along plate boundaries?**
- 7. What is the Ring of Fire? Why is it important?**

The textbook identifies the **Pacific Ring of Fire** as an area where many earthquakes and volcanoes occur because of plate boundaries.

- 8. How are mountains formed?**
- 9. How are valleys formed?**
- 10. How does plate tectonics explain the distribution of continents and oceans?**
- 11. Why is the Earth's surface described as dynamic rather than static?**
- 12. Why do some regions experience more earthquakes and volcanic activity than others?**
- 13. What factors make an earthquake particularly dangerous to human beings?**
- 14. Why can an earthquake cause severe damage in a densely populated region?**

The textbook specifically asks students to consider the risk of earthquakes in India and why human lives are at risk in densely populated areas.

- 15. How can knowledge of plate tectonics help in disaster management?**
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Long Answer Questions

1. Explain the theory of plate tectonics and discuss its role in shaping the Earth's surface.

Include:

-  Tectonic plates
-  Plate movement
-  Formation of mountains
-  Formation of valleys
-  Formation of ocean basins
-  Volcanoes
-  Earthquakes

The textbook describes plate tectonics as a key theory for understanding the constantly changing Earth's surface.

2. Explain why earthquakes and volcanoes are concentrated around plate boundaries.

Discuss:

Plate movement → Stress/activity at boundaries → Earthquakes and volcanic activity

Also explain the importance of the **Pacific Ring of Fire**.

3. Explain how plate tectonics helps us understand the distribution of continents and oceans.

Discuss how the movement of Earth's plates over geological time has influenced the arrangement of:

-  Continents
-  Oceans
-  Mountains
-  Valleys

The textbook specifically states that plate tectonics helps explain the distribution of continents and oceans.

4. Explain why India is vulnerable to earthquakes.

In your answer, discuss:

- India's geographical setting.
- Tectonic activity.
- Population density in vulnerable areas.
- Possible damage to buildings and infrastructure.
- Risks to human life and the environment.

The textbook uses the **2001 Gujarat earthquake** to highlight the severe effects that a major earthquake can have in a densely populated country.

5. “The Earth's surface is constantly changing.” Explain with suitable examples.

Explain changes caused by:

-  Volcanic activity
 -  Earthquakes
 -  Mountain building
 -  Valley formation
 -  Changes associated with plate movement
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HOTS / Analytical Questions

1. Why do you think most earthquakes and volcanoes occur along plate boundaries rather than randomly across the Earth's surface?
2. If tectonic plates stopped moving completely, how would Earth's surface change over a very long period?
3. Why can the same magnitude earthquake cause different levels of damage in different places?

4. Why is population density an important factor when assessing earthquake risk?

5. A region has no active volcanoes but experiences frequent earthquakes. What might this tell you about its tectonic setting?

6. Why is identifying earthquake- and volcano-prone regions important for disaster management?

The textbook specifically notes that plate tectonics helps identify earthquake- and volcano-prone regions and supports disaster management.

7. How can scientific knowledge about Earth's processes help communities reduce disaster risk?



Map-Based Important Questions

1. Identify the major tectonic plates shown on the textbook map.

Students should be able to locate/name plates such as:

-  Pacific Plate
-  Eurasian Plate
-  African Plate
-  North American Plate
-  South American Plate
-  Indo-Australian Plate
-  Antarctic Plate

The textbook map activity asks students to select two plates and identify their associated continents and oceans.

2. What relationship can you observe between the maps showing tectonic plates and earthquakes/volcanoes?

3. Locate the Pacific Ring of Fire on a world map.

4. Identify regions of India vulnerable to earthquakes.



Case-Based Questions

Case Study 1

A region is located close to a tectonic plate boundary. It experiences frequent earthquakes and has several active volcanoes.

Questions:

- a. What does the location suggest about the region's tectonic activity?
 - b. Why might earthquakes occur frequently there?
 - c. Why might volcanoes also be present?
 - d. What measures could help reduce the impact of disasters in the region?
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Case Study 2

A major earthquake occurs in a densely populated city. Several buildings collapse, roads are damaged and essential services are disrupted.

Questions:

- a. Why can population density increase the impact of an earthquake?
- b. What types of infrastructure may be affected?
- c. Why are earthquake-resistant buildings important?
- d. How can disaster preparedness reduce loss of life?

The textbook specifically highlights that a major earthquake in a densely populated country such as India can cause severe damage to life and the environment.



Assertion–Reason Questions

1. Assertion:

Plate tectonics plays an important role in shaping the Earth's surface.

Reason: Movement of tectonic plates can produce mountains, valleys, ocean basins, volcanoes and earthquakes.

2. Assertion:

Many earthquakes and volcanoes occur near plate boundaries.

Reason: Plate movement and interaction are concentrated along these boundaries.

3. Assertion:

The Pacific Ring of Fire is associated with significant earthquake and volcanic activity.

Reason: It is surrounded by areas of active plate boundaries.

4. Assertion:

Understanding plate tectonics is useful for disaster management.

Reason: It helps identify regions that are more vulnerable to earthquakes and volcanic activity.

Top 10 Questions for Exam Revision

If students have limited time, prepare these first:

1. ★ Explain the theory of **plate tectonics**.
2. ★ How does movement of tectonic plates shape the Earth's surface?
3. ★ Explain the relationship between **plate boundaries, earthquakes and volcanoes**.
4. ★ What is the **Ring of Fire**?
5. ★ How does plate tectonics explain the distribution of continents and oceans?
6. ★ Explain the formation of mountains and valleys.
7. ★ Why is India vulnerable to earthquakes?
8. ★ What factors determine the severity of earthquake damage?
9. ★ Why is it important to identify earthquake- and volcano-prone regions?

10. ★ “The Earth's surface is constantly changing.” Explain with examples.

Quick Revision Chart

EARTH'S SURFACE

Internal processes



Plate Movement



 Mountains

 Valleys

 Ocean Basins

 Volcanoes

 Earthquakes

Disaster Connection

Plate boundaries



 Earthquakes +  Volcanoes



 Risk to settlements



 Need for preparedness + disaster management

★ Key Concept

Plate tectonics → Explains how Earth's surface changes + helps identify hazard-prone regions.