

# Critical Features of Earth

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**Your Name:**

**1. Which of the following best describes the primary function of mountains in shaping Earth's climate?**

- A. They act as barriers, influencing wind and rainfall patterns.
  - B. They release stored carbon, affecting atmospheric composition.
  - C. They absorb solar radiation, heating the surrounding air.
  - D. They generate strong air currents that dissipate clouds.
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**2. Plains are primarily important for their role in marine biodiversity and controlling ocean currents.**

- A. True
  - B. False
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**3. Name two ways in which rivers contribute to shaping landscapes.**

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**4. The Earth's ..... acts as an invisible shield, deflecting harmful charged particles from the Sun and deep space.**

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**5. Match the Earth feature with its primary importance.**

- |               |                      |  |
|---------------|----------------------|--|
| 1. Mountains  | <input type="text"/> | A. Support large-scale agriculture and human settlement.         |
| 2. Plains     | <input type="text"/> | B. Influence weather patterns and host unique life.              |
| 3. Coastlines | <input type="text"/> | C. Control the planet's climate and support marine biodiversity. |
| 4. Oceans     | <input type="text"/> | D. Protect lands from ocean storms and support rich ecosystems.  |
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**6. What is the phenomenon called when moist ocean air rises over a mountain range, cools, and falls as rain on one side, leaving the other side dry?**

- A. Moisture barrier effect
  - B. Atmospheric deflection
  - C. Orographic lifting effect
  - D. Rain shadow effect
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**7. Oceans absorb carbon dioxide, which helps regulate the Earth's climate.**

- A. True
  - B. False
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**8. How do tectonic plates influence the formation of the Himalayas?**

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**9.** Most of Earth's food production comes from ..... due to their good soil and flat land.

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**10.** Which of the following is NOT a primary economic value derived from coastlines?

- A. Automobile manufacturing
  - B. Fishing industries
  - C. Tourism
  - D. Trade via ports
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**11.** Rivers are considered biodiversity hotspots, specifically for deep-sea marine life.

- A. True
  - B. False
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**12.** What is the primary role of the magnetosphere in protecting life on Earth?

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**13.** The Grand Canyon was carved by the ..... River over millions of years.

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**14.** In which type of plate boundary do plates slide past each other horizontally, leading to earthquakes like those along the San Andreas Fault?

- A. Divergent boundary
  - B. Transform boundary
  - C. Subduction zone
  - D. Convergent boundary
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**15.** All mountain formation is a result of one tectonic plate being forced beneath another in a process called subduction.

- A. True
  - B. False
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**16.** Explain how wetlands and floodplains contribute to natural hazard regulation.

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**17.** The movement of tectonic plates forms mountains and causes earthquakes, but they are also responsible for .....  
Earth's crust and creating new landforms.

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**18.** Which term describes a region with high biodiversity where many unique species are found?

- A. Geologic fault
  - B. Climate zone
  - C. Rain shadow
  - D. Biodiversity hotspot
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**19. Rivers primarily function as heat reservoirs, moderating global temperatures.**

- A. True
  - B. False
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**20. Identify two ways in which human civilization and development have been influenced by Earth's physical features.**

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**21. The process where large blocks of crust are uplifted or tilted along faults is known as ..... faulting.**

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**22. What happens when an oceanic plate collides with a continental plate?**

- A. The denser oceanic plate is forced beneath the continental plate.
  - B. They slide past each other, forming a transform boundary.
  - C. Both plates crumple upward to form fold mountains.
  - D. The continental plate is forced beneath the oceanic plate.
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**23. Earthquakes only occur at plate boundaries and never within plates.**

- A. True
  - B. False
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**24.** How do physical features like landforms and climate interact with living organisms?

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**25.** Oceans are often referred to as Earth's ..... because they help maintain stable global temperatures.

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**26.** Which of the following is not considered one of Earth's interconnected systems?

- A. Geosphere
  - B. Technosphere
  - C. Biosphere
  - D. Hydrosphere
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**27.** Understanding Earth's physical systems is crucial for managing environmental challenges because these systems are deeply interconnected.

- A. True
  - B. False
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**28.** Give an example of how a specific physical feature provides a critical water resource.

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**29.** The process of seafloor spreading at mid-ocean ridges forms new ..... over geological timescales.

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**30.** What is the primary way oceans regulate global climate?

- A. By releasing stored mineral resources into the atmosphere.
  - B. By absorbing heat from the sun and distributing it via currents.
  - C. By generating strong winds that cool coastal areas.
  - D. By reflecting sunlight away from Earth's surface.
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**31.** Volcanic activity only creates destructive landforms and plays no role in renewing Earth's crust.

- A. True
  - B. False
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**32.** How does Earth's magnetic field protect the ozone layer?

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**33.** Plains are considered 'Earth's ..... ' because most of our food comes from them.

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**34. Which physical feature is described as providing habitats for a wide range of species and often acting as biodiversity hotspots?**

- A. Mountains and Forests
  - B. Plains
  - C. Oceans
  - D. Coastlines
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**35. The Gulf Stream, an ocean current, helps to warm western Europe.**

- A. True
  - B. False
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**36. What is a 'rain shadow effect' and what causes it?**

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**37. Combining scientific Earth system models with local ecological knowledge can lead to more ....., practical, and culturally appropriate policies.**

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**38. Which type of earthquake is typically of lower magnitude and occurs when plates move apart and new crust forms?**

- A. Deep earthquakes at subduction zones
  - B. Earthquakes at transform boundaries
  - C. Earthquakes at continental collision zones
  - D. Earthquakes at divergent boundaries
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**39. Coastal features like beaches and dunes primarily serve as recreational areas and have no significant protective function.**

A. True

B. False

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**40. How do oceans contribute to marine biodiversity?**

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