

Earth Science Jeopardy!

Weather and Climate	Plate Tectonics	Atmospheric Heat Transfer	Earth's Evolution	Rock Cycle & Landforms
<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>
<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>

10-The atmosphere surrounding Earth helps to maintain the various climates found around the world and keeps Earth from becoming extremely cold all over. How does the atmosphere help to keep Earth insulated and warm?

- a) The atmosphere creates heat as Earth moves through space, helping to insulate Earth.
- b) The atmosphere traps the heat generated by Earth's core and helps maintain Earth's climate.
- c) The atmosphere helps spread the warmth from the water near the equator to other parts of Earth.
- d) The atmosphere helps trap heat energy from the Sun and energy radiated from Earth to maintain the climate

Answer: D



20-On some small islands in the Pacific Ocean, the average sea level is rising on the beaches little by little each year. Residents of the islands are worried that their island, and their homes, may become flooded in a few years. What is the most likely cause for the water level increases?

- a) They are getting more rain in their area.
- b) The tides are more dramatic because of the number of full moons they have experienced.
- c) Ice from the North and South poles is melting and adding to the water in the ocean.
- d) The waves are bigger because of increased winds.

Answer: C



30-Alise is trying to describe the climate of her home state, Florida, to a friend who lives in California.

Which statement best describes the climate where she lives?

- a) It typically rains in the afternoon during the summer.
- b) The average yearly temperature is 22°C (72°F).
- c) Yesterday the temperature was 32°C (90°F) and it was raining.
- d) It is usually hot at the beach.

Answer: B



40-Hurricanes are large storms that form over warm waters out in the ocean. Hurricanes are associated with low-pressure regions in the atmosphere. How does the low pressure associated with a hurricane help them to grow big and powerful?

- a) Air in the atmosphere tends to move toward low-pressure regions, which would increase the winds surrounding a hurricane.
- b) Low-pressure regions push away other air in the atmosphere, which would make the hurricane bigger.
- c) Low-pressure air heats up the water and therefore makes the hurricane stronger.
- d) Low-pressure conditions means slow winds, which makes the hurricane stronger



Answer: A

50-Based on the northern location of England on the map, it appears that it would have a cold, harsh climate. In reality, England has a mild climate because of the warm Gulf Stream current in the Atlantic Ocean. How does the Gulf Stream current help keep England's climate mild?

- a) The warm water of the Gulf Stream warms the land of England where they meet.
- b) The warm Gulf Stream waters heat the air over the ocean, which then moves over England.
- c) The warm Gulf Stream waters make the air very humid, which results in a milder climate in England.
- d) The warm Gulf Stream waters attract the cold air from England, thus keeping England mild.



Answer: B

10- The Earth is made up of several large, slow-moving tectonic plates that sometimes cause earthquakes. Which layer of the Earth contains these large plates?

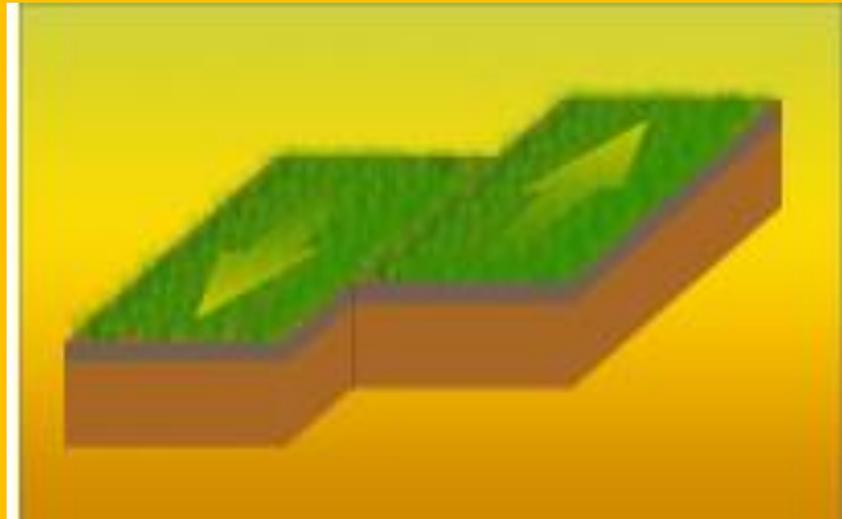
- a) lithosphere
- b) mantle
- c) molten core
- d) solid core

Answer: A



20- There are places on the surface of the Earth where two tectonic plates slide against each other, moving in opposite directions. Sometimes these plates become stuck and don't move for long periods of time, which causes a lot of energy to build between the two plates until there is too much energy and the plates slip, causing a sudden motion. What is the result of this sudden motion?

- a) mountains
- b) earthquakes
- c) volcanoes
- d) large valleys



Answer: B



30- In some places on Earth, large tectonic plates are moving toward each other and collide with great force. One such place is where the Indian plate and the Eurasian plate meet. What type of formation might occur where two tectonic plates collide?

- a) a canyon
- b) a rift valley
- c) a mountain range
- d) an earthquake

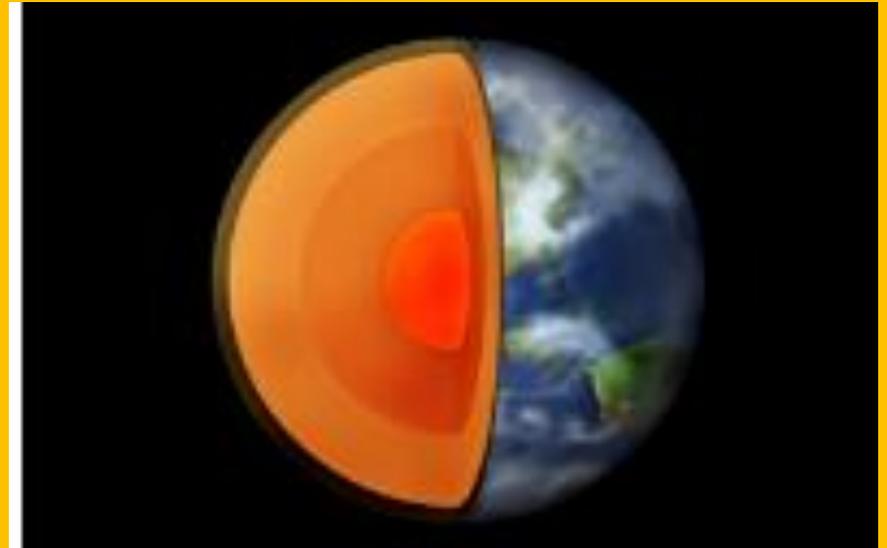


Answer: C



40- The Earth is made up of several different layers, and each layer has different properties. Which layer of the Earth is the least dense?

- a) the mantle
- b) the crust
- c) the molten core
- d) the solid core



Answer: B



50- The surface of the Earth is made of several tectonic plates that move at a very slow rate. What causes the plates to move?

- a) explosions within the Earth's mantle
- b) convection currents within the Earth's mantle
- c) expansion of the Earth's core pushing on the tectonic plates
- d) contraction of the Earth's core pulling on the tectonic plates



Answer: B

10- Which statement regarding air temperature is NOT true?

- a) Cool air rises and warm air falls.
- b) Air heats up more quickly than land.
- c) Warm air is less dense than cool air.
- d) Air heats up more quickly than water.

Answer: A



20- Wind is caused by which of the following?

- a) the gravity of the Sun
- b) the Moon's attraction to Earth
- c) the uneven heating of Earth's surface
- d) the changes in the ozone layer

Answer: C



30- If you visit the beach on a hot summer day you will probably feel a sea breeze coming off the water onto the land. Which of the following causes this sea breeze?

- a) During the day, solar radiation warms the land more than the water.
- b) The water is warmer than the land during the day.
- c) Earth is tilted toward the Sun, causing air to move inland from the water.
- d) Hurricanes that form in the oceans blow air into the shore.

Answer: A



40- Which of the following explains why different latitudes on Earth receive different amounts of solar energy?

- a) The Sun's rays strike more directly over the equator than at the poles.
- b) The Sun is hotter in the summer than the winter.
- c) The Earth turns more quickly at the poles than it does at the equator.
- d) Energy from the Sun is lost while travelling through space.

Answer: A



50- In which atmospheric action can we see evidence of conduction?

- a) Radiation from the Sun heats the surface of the Earth.
- b) The surface of the Earth heats the air that contacts it.
- c) Cold air pushes warm air upward creating a current.
- d) Air increases in density and sinks back towards the Earth.



Answer: B

10- Jason lives on a ranch in Wyoming. There is a large sedimentary rock outcrop on the ranch. He found one fossil embedded in the rock near the top of the outcrop and another embedded in the rock almost at the bottom of the outcrop. What do their positions tell him about the two fossils?

- a) The lower fossil is older than the upper fossil.
- b) The upper fossil is older than the lower fossil.
- c) The upper fossil must be that of a climbing animal.
- d) The lower fossil must have washed down from the top.

Answer: B



20- Sometimes the layers in a rock face look as if they have been bent or broken. What is the most likely cause of this?

- a) uneven deposition of sediment as the rock formed
- b) folding and faulting in an earthquake
- c) weathering and erosion of some rock layers
- d) lava flows in a volcanic eruption

Answer: B



30- It is possible to find pollen fossilized in sedimentary rock layers. Even though pollen grains are very small, they have hard coverings that help them maintain their shape as the rock forms. Further, the pollen from each type of plant has a different shape than other types of pollen. If large quantities of pollen from a tropical tree are found fossilized in many of the rocks in a desert, what would scientists conclude from this?

- a) Great quantities of pollen blew in from some tropical area.
- b) People and animals carried the pollen as they crossed the desert.
- c) The area once had a tropical climate which supported the tropical tree.
- d) The rocks must have been brought in from a place where the tree grows.

Answer: C



40- What would be the most effective way for a scientist to get an idea of the actual age of a rock?

- a) Measure the relative amounts of radioactive elements in it.
- b) Judge its position in the rock face relative to that of other rocks.
- c) Measure the amounts of different forms of carbon it contains.
- d) Estimate how much of it has worn away since it formed originally.



Answer: A

50- The oldest rocks on Earth are found in Canada near the center of the North American Plate. Where would be the most likely place to find very young rocks?

- a) in Northern India, where the plates are colliding
- b) in the Hawaiian Islands, where a plate passes over a hot spot
- c) in Southern California, where two plates are sliding past each other
- d) in the middle of the South American Plate, where there is no plate boundary



Answer: B

10- What must happen in order for a metamorphic rock to be transformed into an igneous rock?

- a) It must be compressed by high temperatures and pressure within Earth's crust.
- b) It must be soaked in water until it dissolves and reforms in a different shape.
- c) It must be pulled under Earth's crust, melted, and forced out above the crust to cool.
- d) It must be weathered into sand grains and compressed into multiple layers.

Answer: C



20-Alaskan rivers that are fed by the meltwater of glaciers tend to be very cloudy, almost milky. What makes the water so cloudy?

- a) Tiny bits of weathered, very fine rock from the glacier are suspended in it.
- b) Soil that eroded from the river banks mixes into the water and clouds it.
- c) Acidic glacial ice weathers limestone into a chalky powder, which clouds the water.
- d) Millions of microorganisms living in the ice stay suspended in the river water.



Answer: B

30- Gravity, water, wind, and heat can all contribute to erosion. Which of the following natural landforms are primarily formed by wind erosion?

- a) deep river canyons
- b) desert sand dunes
- c) mudslides
- d) sinkholes

Answer: B



40-With the use of satellites, we are able to measure the exact heights of landforms such as mountains. Scientists have discovered that mountains in the Himalayas get taller by several centimeters each year. What is causing this?

- a) The continued force of two tectonic plates colliding pushes the mountains higher each year.
- b) Large amounts of sediment get blown to the tops of the mountains each year.
- c) The volcanoes in the mountains add layers of lava each year when they erupt.
- d) Underground roots from continued tree growth at the mountain base increases their height over time.

Answer: A



50- Both Ocala, Florida, and Lexington, Kentucky, are good places to raise racehorses, in part because of the limestone near the surface in both places. Calcium from the limestone helps make a horse's leg bones stronger and better able to withstand the pounding stress of running. Knowing that the Bluegrass Region around Lexington also sits on top of limestone, what other land features are also likely to be found there?

- a) sand dunes, lakes, and springs
- b) prairies, swamps, and marshes
- c) sinkholes, caves, and aquifers
- d) shallow rivers, flat land, and quartz sand



Answer: C

Final Jeopardy! Rules

- You can wager any amount you want up to your current score.
- I will accept only one answer for the question.
- Your team must decide on this answer together, take a vote if needed.

FINAL JEOPARDY!

The arrows in the picture below show several ways heat is transferred from the Sun as it strikes sand on the surface of a beach.

Which arrow shows convection?

