

Unit 2B – Plate Tectonics Twitter Review Questions

U2T-1: Identify the two continents that collided to form the Appalachian Mountains.

- Answer: North American and Africa

U2T-2: A lateral/horizontal displacement of continental crust is representative of which type of fault?

- Answer: Strike-Slip Fault

U2T-3: What type of stress (tensional/compressional/shearing) is applied as a result of a reverse fault?

- Answer: Compressional

U2T-4: What type of stress (tensional/compressional/shearing) is applied as a result of a strike-slip fault?

- Answer: Shearing

U2T-5: What type of stress (tensional/compressional/shearing) is applied as a result of a normal fault?

- Answer: Tensional

U2T-6: This type of earthquake seismic wave compresses and expands rocks in the same direction of wave travel.

- Answer: P-Waves

U2T-7: This type of earthquake seismic wave causes rocks to move sideways (perpendicular) in relation to wave travel.

- Answer: S-Waves

U2T-8: This type of earthquake seismic wave causes rock to move up and down (rolling) and side-to-side in relation to wave travel.

- Answer: Surface Waves

U2T-9: What numerical scale is used to measure the magnitude of an earthquake?

- Answer: Richter Scale

U2T-10: How many seismic stations are needed to accurately locate the epicenter of an earthquake?

- Answer: At least 3

U2T-11: What is the numerical range used by the Richter scale to measure the magnitude of an earthquake?

- Answer: 0-10

U2T-12: A P-Wave travel time is 5 mins and 20 seconds. How far does this wave travel? (Use seismic waves graph from HW on Weebly)

- Answer: 2800 km

U2T-13: If an S-Wave arrival time is 05:00:00 PM and P-Wave arrival is 04:55:20 PM, what is the epicenter distance?

- Answer: 3200 km

U2T-14: How far is a seismic station from the epicenter if S-Waves arrives 7 minutes after first P-Wave?

- Answer: 5400 km

U2T-15: Active volcanoes are most abundant along edges of tectonic plates or away from plate boundaries?

- Answer: Edges of tectonic plates

U2T-16: When a reverse fault occurs, the footwall will move _____ and the hanging wall will move _____.

- Answer: Down ; Up

U2T-17: In a normal fault, the footwall moves _____ and the hanging wall moves _____.

- Answer: Up ; Down

U2T-18: Most earthquakes occur in areas where they have occurred in the past, along plate boundaries, and without warning. True or false?

- Answer: True

U2T-19: Briefly describe how magma forms.

- Answer: Solid rock in crust and upper mantle MELTS

U2T-20: The subduction of Pacific plate on all sides formed a horse-shoe shaped region where most volcanoes are formed is called the ____.

- Answer: Ring of Fire

U2T-21: NEED TO KNOW: Correct order of the layers of the Earth from surface to center of planet.

- Answer: Crust → (Lithosphere & Asthenosphere) → Mantle → Outer Core → Inner Core

U2T-22: What is the composition of the outer core of the Earth?

- Answer: Liquid Iron

U2T-23: What is the composition of the inner core of the Earth?

- Answer: Solid Iron & Nickel

U2T-24: AFTER the formation of Appalachian Mtns, what is responsible for present locations of North American & African plates? Be specific.

- Answer: Seafloor spreading at mid-ocean ridge in Atlantic Ocean

U2T-25: The Hawaiian islands are a series of volcanic islands formed as a result of magma plumes at ____ ____.

- Answer: Hot Spots

U2T-26: A tectonic plate is a piece of the lithosphere that consists of the ____ and uppermost ____.

- Answer: Crust ; Mantle

U2T-27: NEED TO KNOW: Correct order of series of events that formed the Appalachian Mountains.

- Answer: Crust formed → supercontinent broke apart → continental drift → continental collision → continental divergence into present day positions

U2T-28: What is the estimated age of the Appalachian Mountains?

- Answer: 480 Million Years Old

U2T-29: Identify the three (3) most influential factors that determine the eruptive power of volcanoes.

- Answer: Temp of magma ; Composition of magma ; Amount of dissolved gas in magma

U2T-30: What is the name given to the process in which one plate is pulled underneath the other.

- Answer: Subduction

U2T-31: Overall, which seismic waves are the most destructive?

- Answer: Surface Waves

U2T-32: Which type of tectonic plate boundary is located at the Mid-Atlantic Ridge; a mid-ocean ridge separating North America & Africa?

- Answer: Divergent Boundary

U2T-33: Identify the four (4) most common types of PYROCLASTIC material produced from a volcanic eruption.

- Answer: Ash, Cinders, Lapilli, Lava/Volcanic Bombs ; Lahar flows are NOT pyroclastic because it is a mudflow that flows down sides of volcano and not ejected

U2T-34: What is the primary source of energy that allows the movement of lithospheric plates? (Be specific)

- Answer: Mantle Convection driven by Earth's internal heat

U2T-35: Two convection currents (cells) moving in opposite directions signifies that a ____ boundary is possible.

- Answer: Divergent

U2T-36: The origin of an earthquake deep within the Earth is called the ____.

- Answer: Focus

U2T-37: The origin of an earthquake directly above the focus on the surface of Earth is referred to as the ____.

- Answer: Epicenter

U2T-38: Why are subduction zones not commonly found at continental-continental convergent boundaries?

- Answer: Continental crust is NOT DENSE enough to be subducted into mantle

U2T-39: Crust is destroyed along a ____ boundary.

- Answer: Convergent

U2T-40: Crust is formed along a ____ boundary.

- Answer: Divergent

U2T-41: Crust is neither destroyed nor formed along a ____ boundary.

- Answer: Transform

U2T-42: Compare the thickness of both the oceanic and continental crust.

- Answer: Oceanic crust is much THINNER than continental crust.

U2T-43: Compare the density of both the oceanic and continental crust.

- Answer: Oceanic crust is DENSER than continental crust

U2T-44: Volcanic island arcs are associated with what type of plate boundary? Be very specific.

- Answer: Oceanic-Oceanic Convergent Boundary

U2T-45: Tall, large, & cone-shaped mountains in which layers of lava alternate with layers of ash in a violent eruption is a ____ volcano.

- Answer: Composite

U2T-46: Compared to the age of ocean crust near deep-sea trenches, the age of ocean crust near ocean ridges is ____.

- Answer: Younger

U2T-47: What is true of the orientation of rocks on either side of a divergent boundary.

- Answer: They are the same/identical

U2T-48: What features are produced/formed when two oceanic plates converge? (3 features)

- Answer: Subduction Zone; Trench; Volcanic Island Arc

U2T-49: What feature is produced/formed when two continental plates converge? (1 feature)

- Answer: Folded Mountains

U2T-50: What features are produced/formed when during an oceanic-continental convergence? (3 features)

- Answer: Subduction Zone; Trench; Continental Volcano

U2T-51: What features are produced/formed when two oceanic plates diverge? (2 features)

- Answer: Mid-Ocean Ridge ; New Ocean Crust

U2T-52: What feature is produced/formed when two continental plates diverge? (1 feature)

- Answer: Rift Valley

U2T-53: Ridge push is to _____ (convergent/divergent) boundary as slab pull is to (convergent/divergent) boundary.

- Answer: Divergent ; Convergent

U2T-54: The weight of a subducting plate helps pull the lithosphere into a subduction zone during the process of _____ .

- Answer: Slab Pull

U2T-55: Explain the process of mantle convection.

- Answer: Rising and sinking of magma due to internal heating of Earth's core

U2T-56: This type of volcano is broad at its base and is gently sloping with a non-explosive eruption.

- Answer: Shield Volcano

U2T-57: This type of volcano is relatively small with steep sides producing explosive cinders.

- Answer: Cinder Cone Volcano

U2T-58: This type of volcano is large and has very steep sides that produce alternating layers of lava and ash.

- Answer: Composite Volcano

U2T-59: What is the primary source of energy that allows the movement of lithospheric plates? (Be specific)

- Answer: Mantle Convection driven by Earth's internal heat

U2T-60: What is the name of the supercontinent that later formed Earth's present day landmasses?

- Answer: Pangaea