

Quiz 1 – Page 1

1. Which of the following appeared earliest (closest to when Earth was formed)?
 - a. dinosaurs
 - b. humans
 - c. insects

2. Which of the following appeared most recently (closest to today)?
 - a. dinosaurs
 - b. humans
 - c. insects

3. When was Earth formed?
 - a. about 200 thousand years ago
 - b. about 150 million years ago
 - c. about 4.6 billion years ago

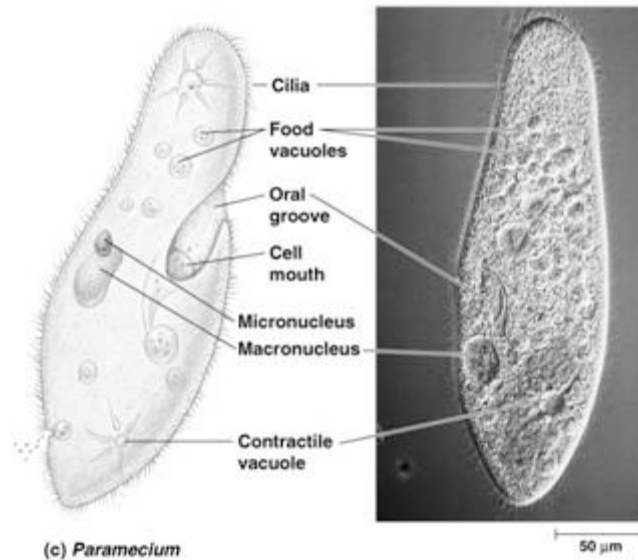
4. When did humans first appear?
 - a. about 200 thousand years ago
 - b. about 150 million years ago
 - c. about 4.6 billion years ago

5. A geologic time scale shows _____.
 - a. the dates when different fossils were formed
 - b. when major changes occurred during Earth's history
 - c. the ages and locations of different layers of rocks

6. Which of the following is the correct order from largest to smallest division of geologic time?
 - a. eras, periods, epochs, eons
 - b. eons, eras, periods, epochs
 - c. epochs, eons, eras, periods

Quiz 1 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.

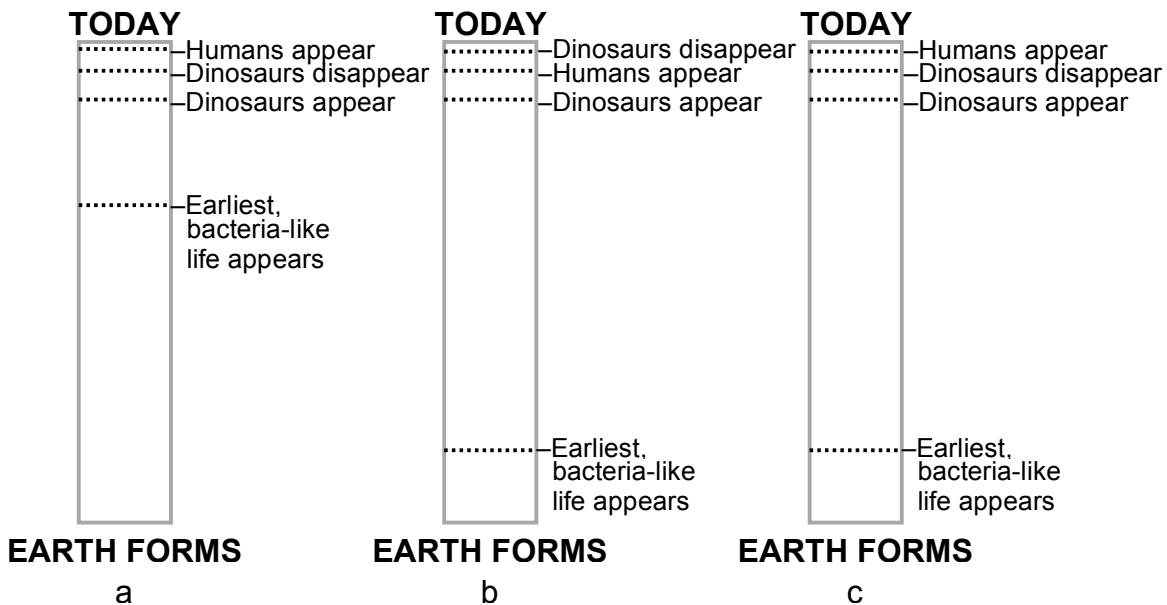


The image on the left is _____.

- a. a magnified version of the object on the right
 - b. a drawing of the object on the right
 - c. a miniature version of the object on the right
 - d. a different object than the object on the right
8. What is extinction, and what can cause it to happen?

Quiz 2 – Page 1

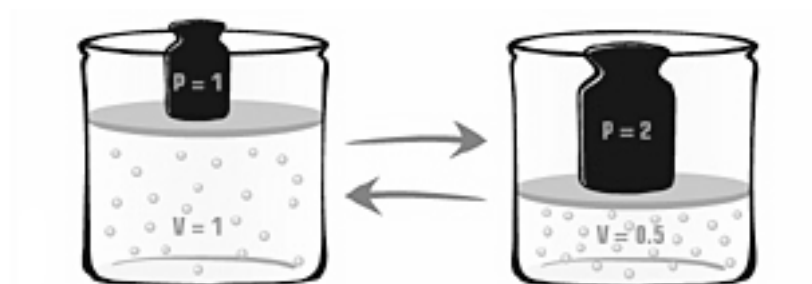
1. What does a proportional time scale show?
 - a. How many years ago different events occurred.
 - b. The locations at which different events occurred.
 - c. How different parts of Earth's history compare to the whole.
2. Which of the figures below most closely represents changes in life on earth over time?



3. Which of the following is true about both rocks and minerals?
 - a. Both can be elements or compounds.
 - b. Both are solids, and neither is man-made.
 - c. Both can be organic or inorganic.
4. What type of structure does a mineral have?
 - a. crystalline
 - b. amorphous
 - c. can be crystalline or amorphous
5. What type of structure does a rock have?
 - a. crystalline
 - b. amorphous
 - c. can be crystalline or amorphous

Quiz 2 – Page 2

6. Which property measures the ability of a mineral to resist scratching?
- density
 - hardness
 - luster
7. **Note to student:** We know you didn't study this recently, but we want you to try to answer the question based on the information in the diagram.



Boyle's Law: The volume of a gas is inversely proportional to its pressure. That is, if the pressure increases, the volume decreases. Similarly, the volume would increase if the pressure decreased.

According to the above model of Boyle's Law, if one were to increase the volume of a gas, the pressure of the gas would _____.

- decrease
 - increase
 - remain the same
 - increase, then decrease
8. Name and describe two properties that can be used to identify minerals.

Quiz 3 – Page 1

1. Which substance is the same type of matter (element, compound, or mixture) as a rock?
 - a. oxygen
 - b. carbon dioxide
 - c. air

2. Which property can be used to identify a mineral?
 - a. size
 - b. weight
 - c. heaviness-for-size

3. A mineral's properties are determined by _____.
 - a. how it forms and what it is made of
 - b. whether it is organic or inorganic
 - c. how pure it is

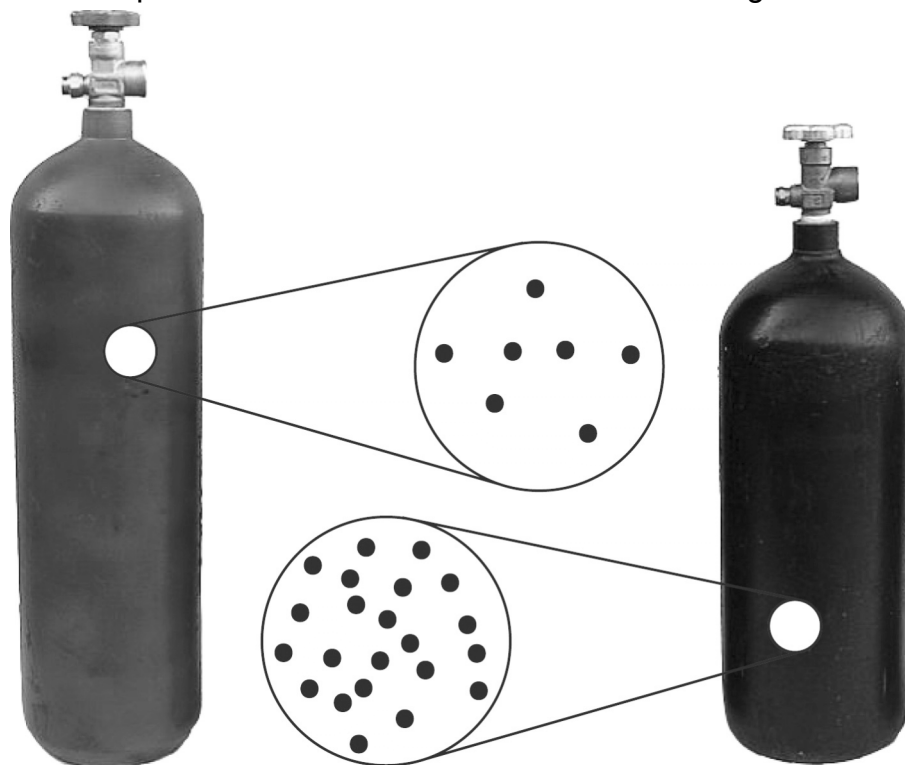
4. Returning the land to its original condition after mining is completed is called _____.
 - a. excavation
 - b. surface mining
 - c. reclamation

5. Minerals are _____.
 - a. elements only
 - b. compounds only
 - c. either elements or compounds

6. Minerals that have shiny surfaces, do not let light pass through them, and are good conductors of heat and electricity are called _____.
 - a. metallic minerals
 - b. nonmetallic minerals
 - c. gemstones

Quiz 3 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.



In the above diagram of air tanks, what does the image inside the larger circle represent?

- a. a magnified version of the tank's contents
- b. a view of objects that are not part of the tank's contents
- c. a life-size view of the tank's contents
- d. a miniature view of the tank's contents

8. How do igneous rocks form?

Quiz 4 – Page 1

1. What does a numeric time scale show?
 - a. How many years ago different events happened.
 - b. The locations at which different events happened.
 - c. How different parts of Earth's history compare to the whole.

2. If you could travel back in time to when the Earth was first formed as a planet, how many years back in time would you have to travel?
 - a. about 4.6 thousand years
 - b. about 4.6 million years
 - c. about 4.6 billion years

3. Which of the following correctly lists the organisms in the fossil record from most recent to earliest?
 - a. reptiles, mammals, plants
 - b. mammals, reptiles, plants
 - c. plants, reptiles, mammals

4. What type of minerals make up most of Earth's crust?
 - a. silicate minerals
 - b. nonsilicate minerals
 - c. native elements

5. One difference between rocks and minerals is _____.
 - a. all minerals are elements and all rocks are compounds
 - b. all minerals are compounds and all rocks are mixtures
 - c. all minerals are pure substances and all rocks are mixtures

6. A mineral that is composed of only one element is called a _____.
 - a. gemstone
 - b. silicate mineral
 - c. native element

7. Which of the following is not a property of minerals?
 - a. naturally formed
 - b. organic
 - c. crystalline

Quiz 4 – Page 2

8. Mrs. Smith's class tested three minerals (A, B, C) for hardness. This table shows their results:

Mineral	Scratched by fingernail?	Scratched by penny?
A	yes	yes
B	no	yes
C	no	no

Which mineral is the softest?

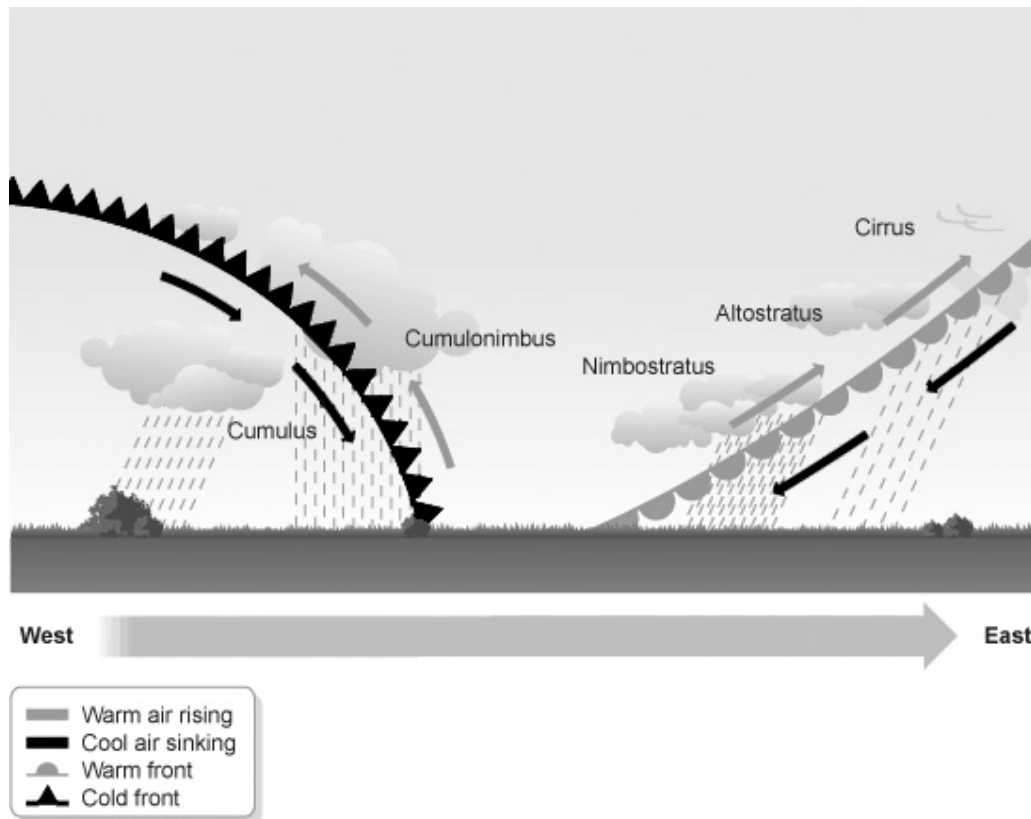
- a. A
 - b. B
 - c. C
9. Suppose you found a new mineral (X). Which test would show whether X is harder than all three of the minerals in question 8?
- a. scratch X with A
 - b. scratch X with B
 - c. scratch X with C
10. Which of the following best describes what you would find if you could tunnel deep down inside the Earth?
- a. The mantle is rigidly solid because the extreme pressure prevents solid rock from melting.
 - b. The mantle is completely liquid because the extreme heat melts any solid rock that moves below the crust.
 - c. The upper mantle is rigid and the lower mantle is soft because heat and pressure get more extreme the deeper you go.
11. What type of rock is formed when molten rock cools and hardens?
- a. igneous
 - b. metamorphic
 - c. sedimentary
12. What type of rock is formed when particles settle and get compacted and cemented together?
- a. igneous
 - b. metamorphic
 - c. sedimentary

Quiz 4 – Page 3

13. Granite forms deep below Earth's surface, from slowly cooling magma. What feature results from this process?
- a. Granite has small crystals.
 - b. Granite has large crystals.
 - c. Granite has no crystals.
14. Based on the description in item 13, what type of igneous rock is granite?
- a. extrusive
 - b. intrusive
 - c. could be extrusive or intrusive
15. When solid rock melts, it forms _____.
- a. lava
 - b. magma
 - c. sediments
16. What's the difference between rocks and minerals?

Quiz 4 – Page 4

17. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.



As indicated in the diagram above, the weather fronts are moving from the _____ to the _____.

- a. north to south
- b. west to east
- c. east to west
- d. south to north

Quiz 5 – Page 1

1. What type of rock can form at or near earth's surface?
 - a. igneous
 - b. sedimentary
 - c. both igneous and sedimentary

2. The tiny holes in igneous rocks like pumice were formed by _____.
 - a. bubbles of gas that escaped when lava hardened
 - b. tiny worms crawling in mud that later hardened
 - c. extreme heat and pressure deep beneath Earth's surface

3. What type of rock can be made up of rock fragments, dissolved minerals, or the remains of plants or animals?
 - a. igneous
 - b. sedimentary
 - c. metamorphic

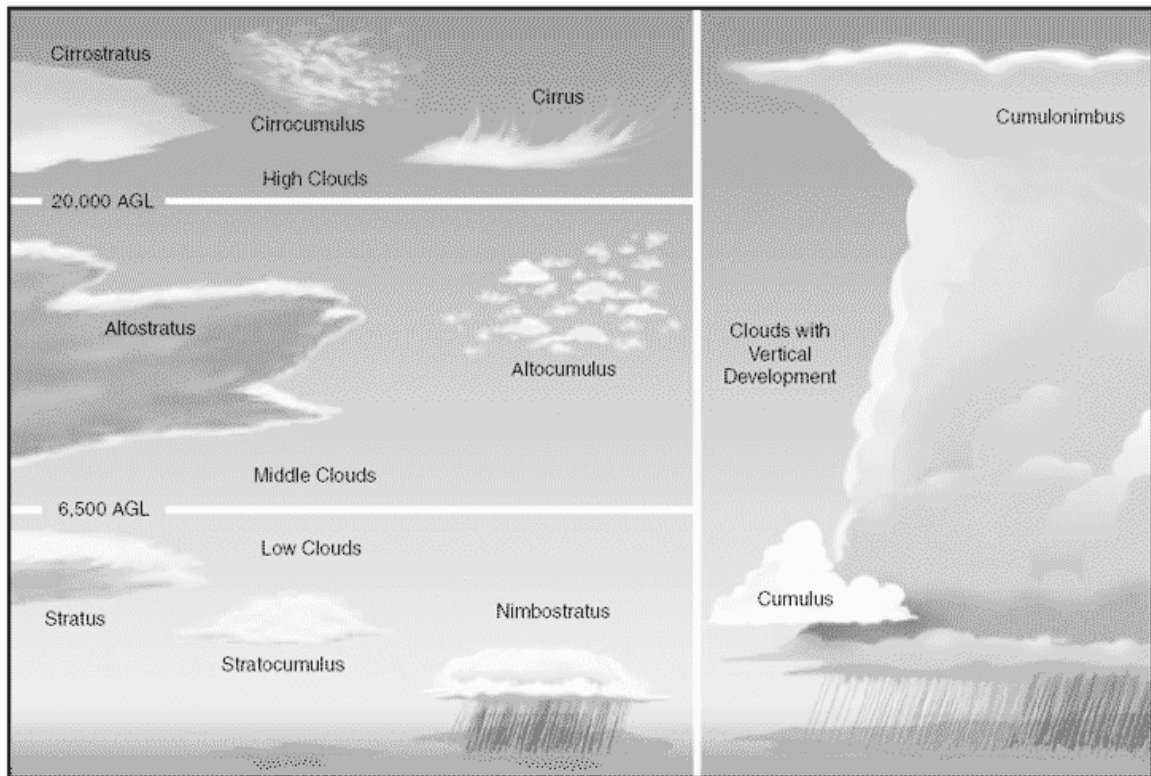
4. Ripple marks in rocks are formed by _____.
 - a. flowing water and wind
 - b. heating and cooling
 - c. drying and cracking

5. The formation of layers in sedimentary rock formations is called _____.
 - a. cementation
 - b. solidification
 - c. stratification

6. Weathering is when _____.
 - a. rocks break apart to form small pieces or bits
 - b. loose bits of rock are carried from one place to another
 - c. loose bits of rock settle and pile up

Quiz 5 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the figure.



- According to the above figure, which of the following would be considered a "high cloud?"
- altocumulus
 - cirrocumulus
 - stratocumulus
 - cumulus
8. What is the rock cycle?

Quiz 6 – Page 1

1. Which statement best describes how sediments settle?
 - a. The heaviest particles tend to settle first, and the lightest particles tend to settle last.
 - b. The smallest particles tend to settle first, and the largest particles tend to settle last.
 - c. All the particles settle at approximately the same time, regardless of weight or size.

2. In which type of rock is the fossil imprint of a fern leaf most likely to be found?
 - a. igneous
 - b. metamorphic
 - c. sedimentary

3. What type of rock is formed when an existing rock changes because of heat and/or pressure?
 - a. igneous
 - b. metamorphic
 - c. sedimentary

4. When a metamorphic rock is forming, why doesn't the rock melt and become magma?
 - a. The minerals that make up the rock do not have a melting point.
 - b. The increased pressure raises the rock's melting point.
 - c. A cementing agent keeps the rock from changing to a liquid.

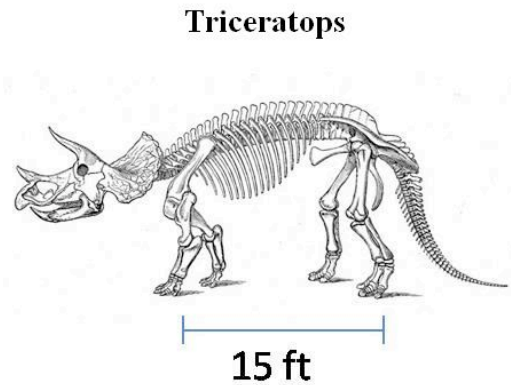
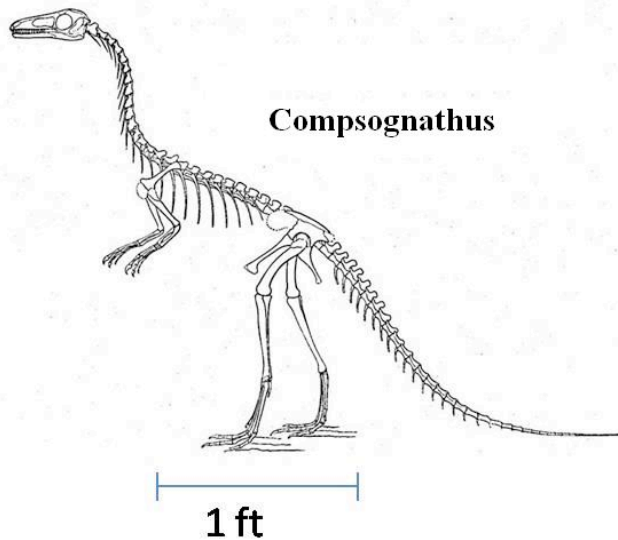
5. Which statement is true?
 - a. Sedimentary rocks form on, near, or deep below Earth's surface.
 - b. Metamorphic rocks only form below Earth's surface.
 - c. Igneous rocks only form on or near Earth's surface.

6. Metamorphic rocks with mineral crystals arranged in parallel layers or bands are called _____.
 - a. foliated
 - b. nonfoliated
 - c. stratified

Quiz 6 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.

Dinosaur Skeletons



- According to the diagram above _____.
- a. compsognathus was 1 foot long
 - b. triceratops was 1 foot long
 - c. compsognathus was larger than triceratops
 - d. triceratops was larger than compsognathus
8. What changes can happen to a rock because of heat and pressure?

Quiz 7 – Page 1

1. The color of a mineral in powdered form is called _____.
 - a. luster
 - b. streak
 - c. pigment

2. Pumice is an igneous rock that has very low density. What does this mean?
 - a. It does not have much ability to resist scratching.
 - b. Its surface does not reflect light very well.
 - c. It is not very heavy for its size.

3. What is the main difference between intrusive and extrusive igneous rock?
 - a. where they form
 - b. chemical composition
 - c. mineral composition

4. Clastic sedimentary rocks are formed from _____.
 - a. fragments of rocks and minerals
 - b. solutions of dissolved minerals
 - c. the remains of plants and animals

5. What is the process in which sedimentary rocks are arranged in layers?
 - a. strata
 - b. stratification
 - c. foliation

6. If there were no weathering or erosion, which type of rock would be LEAST common?
 - a. igneous
 - b. metamorphic
 - c. sedimentary

Quiz 7 – Page 2

7. Which statement is true?
 - a. Sedimentary rocks form on or near Earth's surface.
 - b. Igneous rocks only form below Earth's surface.
 - c. Metamorphic rocks form on, near, or below Earth's surface.

8. When a rock is changing because of pressure, its grains _____.
 - a. become smaller and less dense
 - b. tend to line up with each other
 - c. gradually change to volcanic glass

9. Metamorphic rocks form from _____.
 - a. molten rock
 - b. sediments
 - c. existing rocks

10. What rock-forming process happens when a rock is heated by nearby lava?
 - a. contact metamorphism
 - b. regional metamorphism
 - c. clastic metamorphism

11. Which process moves rock fragments from one place to another?
 - a. weathering
 - b. erosion
 - c. transport
 - d. deposition

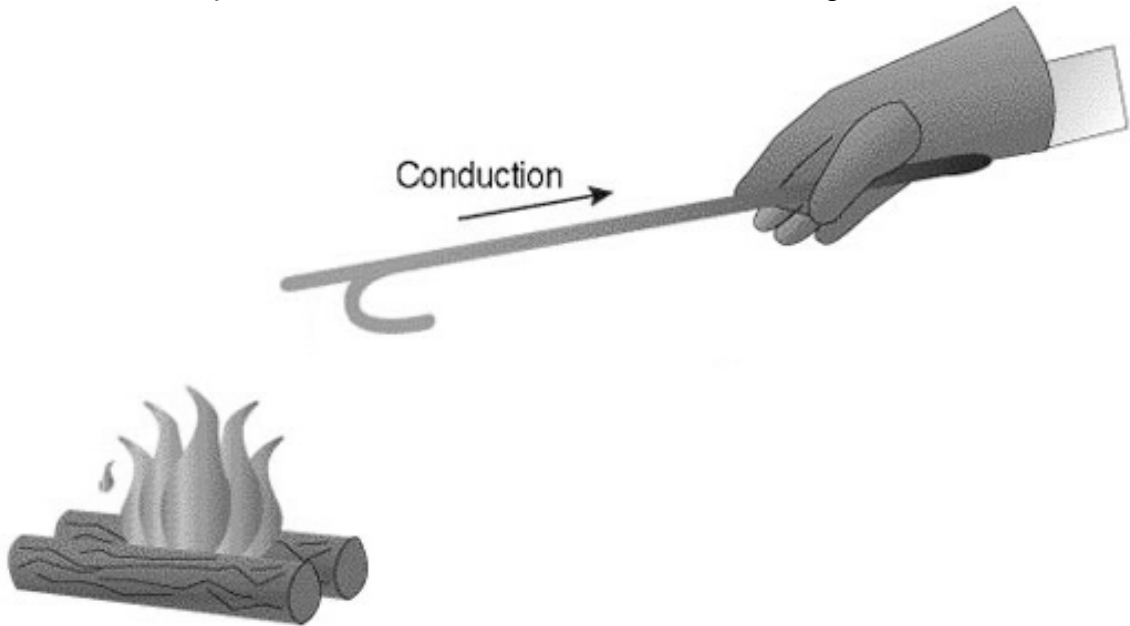
12. Which process allows loose bits of rock to settle?
 - a. weathering
 - b. erosion
 - c. transport
 - d. deposition

Quiz 7 – Page 3

13. What type(s) of rock can weather, erode, move, and settle to form sediments?
- a. sedimentary
 - b. metamorphic and igneous
 - c. igneous, metamorphic, and sedimentary
14. What type(s) of rock can change because of extreme heat and pressure?
- a. metamorphic
 - b. igneous and sedimentary
 - c. igneous, metamorphic, and sedimentary
15. Which process involves movements inside the Earth?
- a. erosion
 - b. deposition
 - c. uplift
16. How do geologists classify rocks?

Quiz 7 – Page 4

17. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.



- According to the above diagram, heat is being _____ the gloved hand.
- a. convected toward
 - b. conducted toward
 - c. conducted away
 - d. radiated toward

Quiz 8 – Page 1

1. If you were able to dig a tunnel to the center of the Earth, what conditions would you find?
 - a. Temperature would increase, and pressure would decrease.
 - b. Temperature and pressure would both increase.
 - c. Temperature would decrease, and pressure would increase.

2. The changes that take place in the rock cycle do not _____.
 - a. chemically change matter
 - b. physically change matter
 - c. create or destroy matter

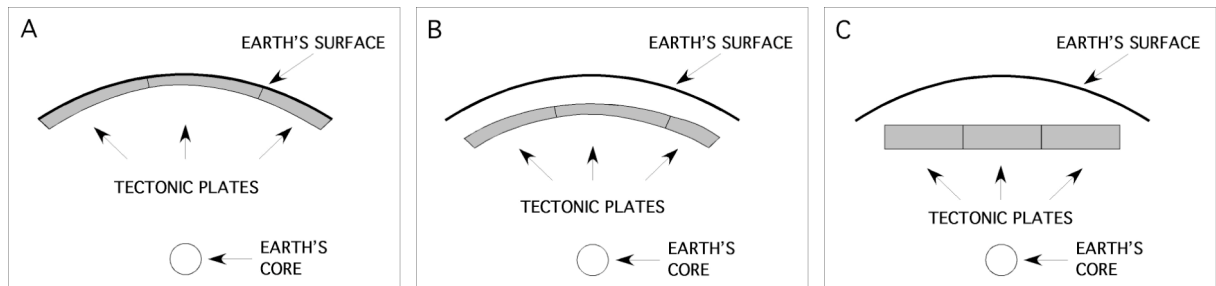
3. If you think about the minerals that make up the Earth, where are the densest minerals located?
 - a. near the center of the Earth
 - b. near the surface
 - c. between the center and the surface

4. How does oceanic crust compare with continental crust?
 - a. oceanic crust is thicker than continental crust
 - b. oceanic crust is denser than continental crust
 - c. oceanic crust contains lighter minerals than continental crust

5. Which layer includes a section of the mantle that is solid but bends like clay and flows very slowly?
 - a. asthenosphere
 - b. lithosphere
 - c. mesosphere

Quiz 8 – Page 2

6. Which diagram most closely represents the correct location of the Earth's tectonic plates?



a

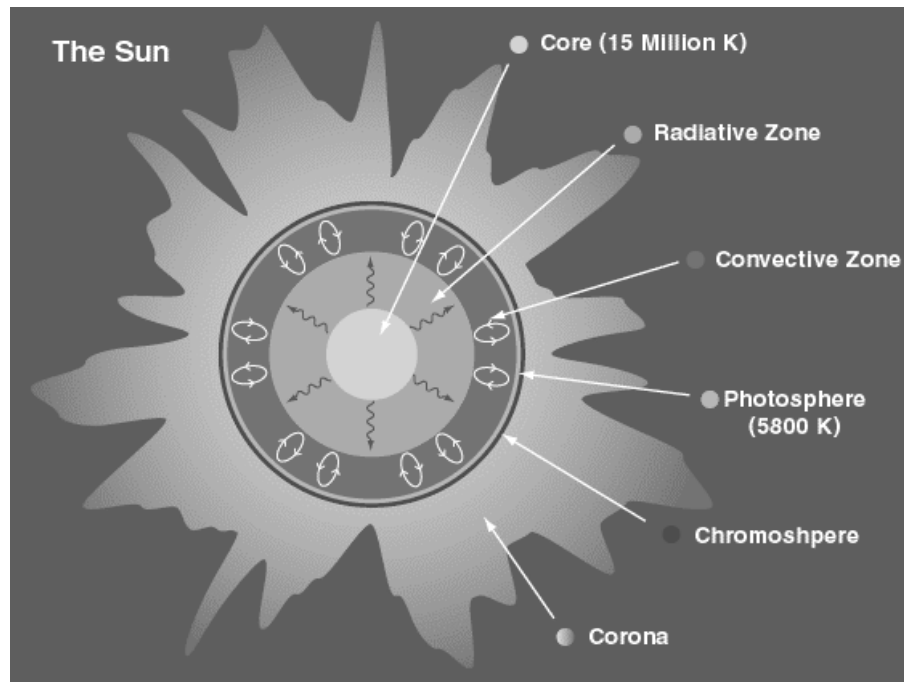
b

c

7. What is continental drift?

Quiz 8 – Page 3

8. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the figure.



According to the figure above, what is the correct order of the layers of the sun, starting from the center and moving outward?

- a. corona, chromosphere, photosphere, convective zone
- b. core, radiative zone, photosphere, convective zone
- c. corona, radiative zone, convective zone, photosphere
- d. core, radiative zone, convective zone, photosphere

Quiz 9 – Page 1

1. What processes change sediments into sedimentary rock?
 - a. weathering and erosion
 - b. compaction and cementation
 - c. stratification and folding

2. Metamorphism can best be defined as _____.
 - a. compaction and cementation of rock fragments
 - b. solidification of magma by cooling
 - c. changing of a rock by heat and/or pressure

3. Metamorphic rocks _____.
 - a. always contain fossils
 - b. sometimes contain fossils
 - c. rarely contain fossils

4. What processes will change a sedimentary rock into an igneous rock?
 - a. melting; cooling; hardening
 - b. heating; recrystallization; deformation
 - c. deposition; compaction; cementation

5. Which statement about metamorphic rocks is the most complete?
 - a. They are formed from sedimentary rocks.
 - b. They are formed from sedimentary and igneous rocks.
 - c. They are formed from all three types of rocks.

6. An igneous rock changes to sediment by _____.
 - a. heat and pressure
 - b. weathering and erosion
 - c. melting and cooling

Quiz 9 – Page 2

7. Which layer includes the crust and rigid outer area of the mantle?
 - a. lithosphere
 - b. mesosphere
 - c. asthenosphere

8. The hypothesis that Earth's continents were once connected into a single landmass is called _____.
 - a. continental drift
 - b. sea-floor spreading
 - c. magnetic reversal

9. The process in which new oceanic crust forms as tectonic plates move apart and magma rises and solidifies is called _____.
 - a. continental drift
 - b. sea-floor spreading
 - c. magnetic reversal

10. When an oceanic plate collides with a continental plate, _____ sinks into the asthenosphere.
 - a. the denser oceanic plate
 - b. the denser continental plate
 - c. whichever plate is denser

11. What happens when part of a fluid is warm and part is cool?
 - a. The warm part sinks and the cool part rises.
 - b. The warm part rises and the cool part sinks.
 - c. The warm and cool parts move toward each other.

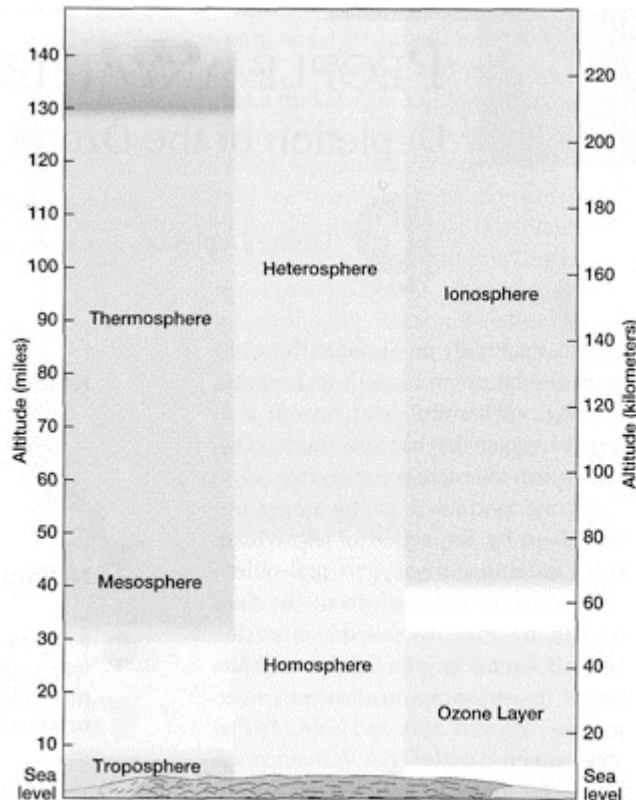
12. At a divergent plate boundary, tectonic plates are moving _____.
 - a. toward each other
 - b. away from each other
 - c. past each other sideways

Quiz 9 – Page 3

13. When a rock layer breaks and forms two blocks of rock that grind past each other, the surface where they meet is called a _____.
a. monocline
b. fault
c. ridge
14. About how far does a tectonic plate move in a year
a. a few centimeters
b. a few meters
c. a few kilometers
15. What causes tectonic plate to move?
a. magnetic-pole reversals
b. convection currents in the mantle
c. energy from ocean currents
16. What is a convection current and how does it form?

Quiz 9 – Page 4

17. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the figure.



The vertical distribution pattern of the various atmospheric spheres

According to the above figure, if you were to travel 30 kilometers above sea level, you would find yourself in the _____.

- a. troposphere
- b. ozone layer
- c. mesosphere
- d. ionosphere

Quiz 10 – Page 1

1. What type of boundary is formed when tectonic plates move toward each other?
 - a. convergent
 - b. divergent
 - c. transform

2. Magma tends to form at divergent plate boundaries because _____.
 - a. temperature increases above the rock's melting point
 - b. pressure increases, which lowers the rock's melting point
 - c. pressure decreases, which lowers the rock's melting point

3. What causes convection currents in the mantle?
 - a. ridge push and slab pull
 - b. temperature differences within the mantle
 - c. seismic waves within the mantle

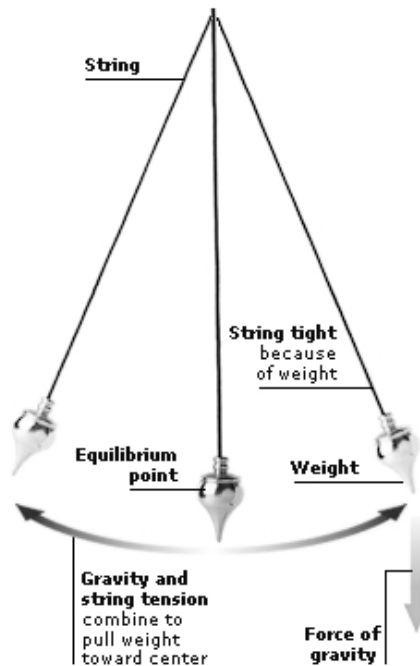
4. What causes many earthquakes and volcanoes?
 - a. tectonic plate movements
 - b. magnetic reversals
 - c. uplift and subsidence

5. Where do most earthquakes occur?
 - a. near ridges in the middle of tectonic plates
 - b. along faults near transform boundaries
 - c. near the boundaries between tectonic plates

6. Earthquakes release energy in _____ that travel away from the earthquake in all directions.
 - a. seismic waves
 - b. pyroclastic materials
 - c. subduction zones

Quiz 10 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.



According to the above model of a pendulum, both _____ and _____ are responsible for pulling the weight towards the center.

- a. equilibrium and gravity
- b. tension of the string and mass of the weight
- c. tension of the string and gravity
- d. gravity and density of the weight

8. Where do most earthquakes happen, and why do they happen there?

Quiz 11 – Page 1

1. Earthquakes are caused by energy that is released when _____.
 - a. deformed rock bounces back to its original shape
 - b. tectonic plates grind against each other
 - c. seismic waves travel in all directions

2. Which statement best describes the relationship between volcanoes, large earthquakes, and tectonic plates?
 - a. Volcanoes typically occur in the centers of tectonic plates and large earthquakes typically occur along the borders between tectonic plates.
 - b. Volcanoes and large earthquakes typically occur along the borders between tectonic plates.
 - c. Volcanoes and large earthquakes typically occur near the centers of tectonic plates.

3. Magma that contains a lot of _____ tends to cause explosive eruptions.
 - a. water or silicon
 - b. carbon or hydrogen
 - c. nitrogen or glycerin

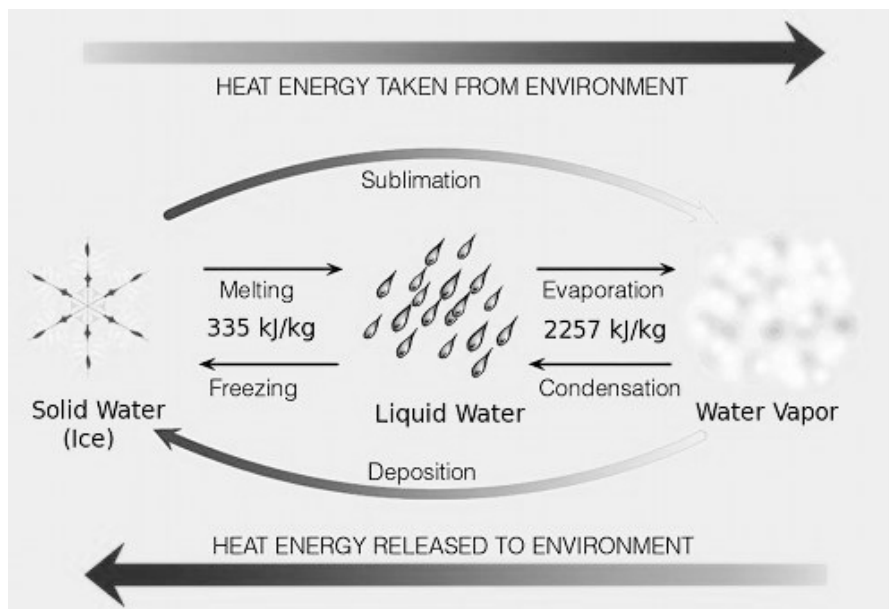
4. An opening that allows magma and gases to flow out onto Earth's surface is called a _____.
 - a. fault
 - b. volcano
 - c. ridge

5. Where do most volcanoes occur?
 - a. in hot spots like the Hawaiian Islands
 - b. along transform plate boundaries
 - c. near the edges of tectonic plates

6. Magma erupts as _____.
 - a. liquid rock called lava
 - b. solid rock called pyroclastic material
 - c. either lava or pyroclastic material

Quiz 11 – Page 2

7. **Note to student:** We know you didn't learn this, but we want you to try to answer the question based on the information in the diagram.



According to the above diagram, when heat energy is released to the environment, processes such as _____ and _____ can occur.

- a. sublimation; deposition
- b. condensation; freezing
- c. melting; evaporation
- d. evaporation; sublimation

8. How can a volcanic eruption result in climate change?
