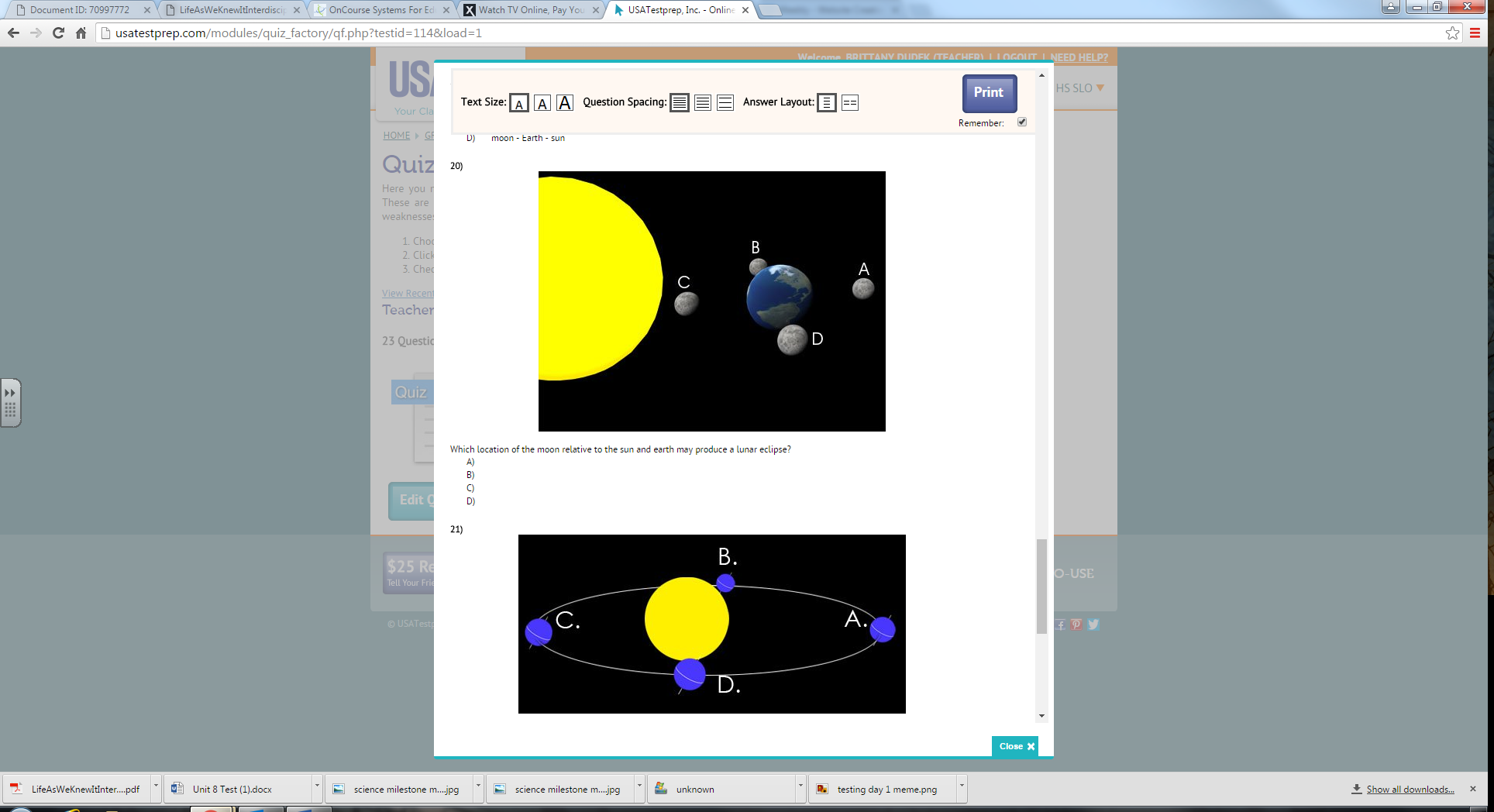
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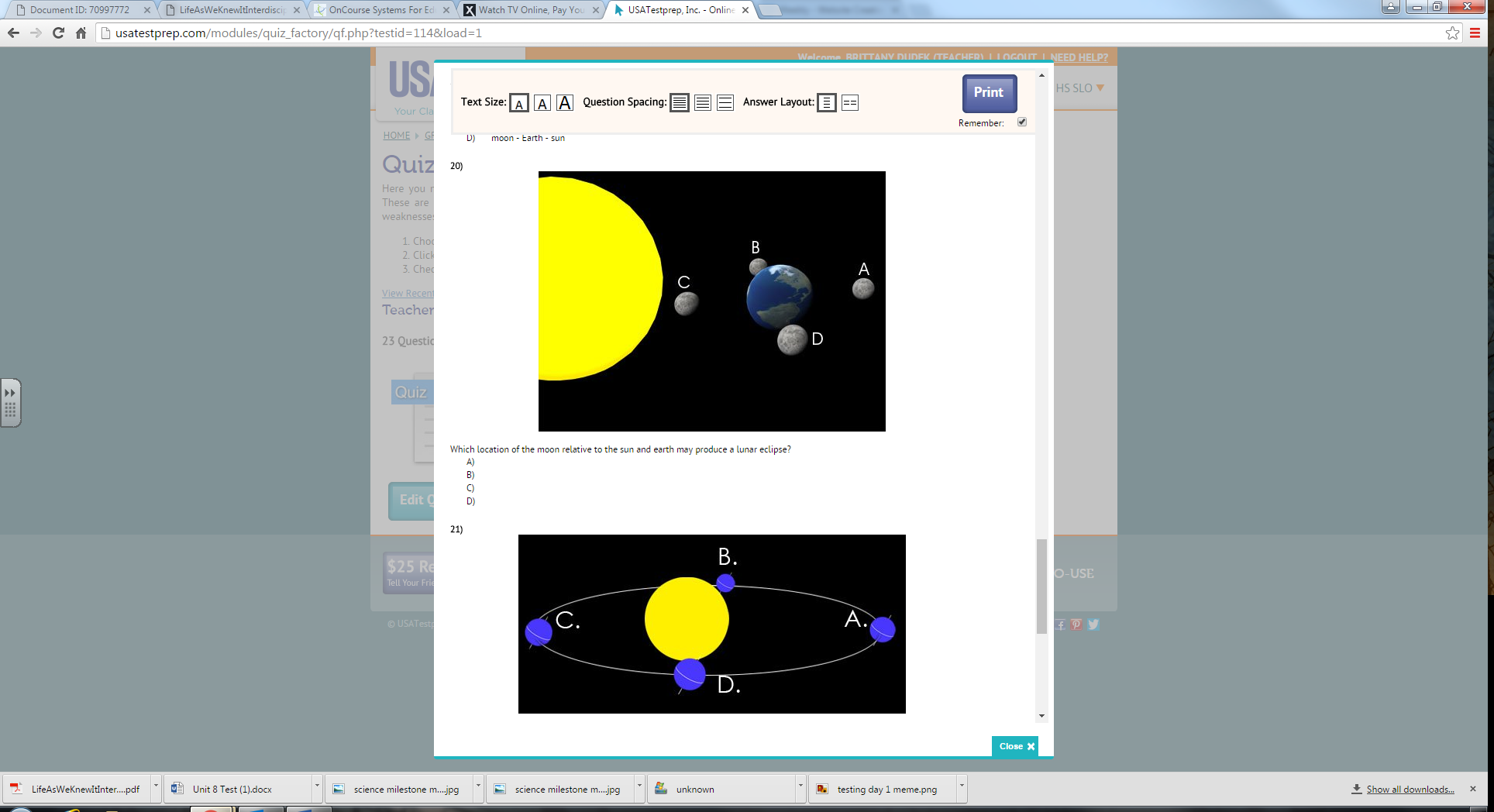
**6th Grade Earth Science**

1. Many years ago, people believed that the Earth was the center of the solar system because from Earth, it looks as if the stars and the sun
   1. Revolve around the Earth
   2. Are controlled by the sun
   3. Are much smaller than Earth
   4. Move more quickly that the Earth
2. Which theory do scientists believe MOST LIKELY explains the creation of the universe?
   1. Big Bang Theory
   2. Radiation Theory
   3. Red Shift Theory
   4. Butterfly Effect Theory
3. According to the Big Bang Theory of the origin of the universe, the universe has expanded from a hot dense state into a vast, cooler state. What would be considered scientific evidence supporting this theory?
   1. Galaxies are moving toward each other
   2. Galaxies are moving away from each other
   3. Cosmic background x-ray radiation was detected in space
   4. The existence of common elements throughout the universe
4. Based on data collected from many different sources, such as the Hubble telescope as the Wikinson Microwave Anisotropy Probe, scientists have been able to show that about 75% of the universe is composed of dark energy. Which of these theories becomes more credible knowing this information?
   1. The universe is expanding at a accelerating rate
   2. Our solar system is the only known solar system to exist
   3. The universe will end within the next few million years
   4. All parts of the universe can be seen through current technology
5. Which list is organized from SMALLEST to LARGEST?
   1. Planet, galaxy, solar system, universe
   2. Solar system, planet, universe, galaxy
   3. Universe, solar system, planet, galaxy
   4. Planet, solar system, galaxy, universe
6. Our solar system is in the Milky Way Galaxy, what shape is this galaxy?
   1. Oval
   2. Rectangular
   3. Spiral
   4. Triangular
7. Our solar system lies in
   1. The central ring of the milky way
   2. One of the spiral arms of the milky way
   3. In the galactic center of the milky way
   4. Outside the spiral arms of the milky way
8. The inner planets are different from the outer planets mainly because they are
   1. Colder
   2. Larger
   3. Comprised of gas
   4. Comprised of rock
9. Earth seems to be the only planet in our solar system that can support life. All BUT ONE of these is a reason why life is found only on Earth. That is
   1. A moderate climate
   2. The presence of water on Earth
   3. It is the perfect distance from the sun
   4. It has gravity to hold an atmosphere in place
10. The stars in the night sky look as if they are slowly moving because
    1. The Earth is moving
    2. They rotate around the Sun
    3. They rotate around the Earth
    4. The Sun blocks them out at times
11. Why does Earth orbit the Sun rather than any other body in the Solar System?
    1. The mutual repulsions among all the planets hold Earth in its orbit
    2. The Earth is closer to the Sun than other bodies in the solar system
    3. The Sun is the most massive object; gravitational attraction is related to mass
    4. The rotational motions of all the planets, including Earth, cause them to remain in its orbit around the sun
12. What would happen to the planets in the solar system if the sun’s gravitational force were to suddenly disappear?
    1. They will stop spinning
    2. They will fly away in straight lines
    3. They will start moving toward the sun
    4. They will stop moving and become static
13. Which force determines Earth’s path around the Sun?
    1. Nuclear force
    2. Magnetic force
    3. Gravitational force
    4. Electrostatic force
14. A meteorite is DIFFERENT from a comet mainly because it
    1. Has a tail of ice and dust
    2. Enters the Earth’s atmosphere
    3. Has a nucleus made of snow and rock
    4. Is found in orbit between Mars and Jupiter
15. \_\_\_\_\_\_\_\_\_\_ form a belt between Mars and Jupiter
    1. Asteroids
    2. Comets
    3. Meteors
    4. Stars
16. During a full moon, \_\_\_\_\_\_\_\_\_\_\_ of the moon is facing the Earth.
    1. None
    2. A quarter
    3. The dark side
    4. The bright side
17. What is the phase of the moon is positioned between the sun and the Earth?
    1. New moon
    2. Full moon
    3. Half moon
    4. Waxing crescent
18. Which is the correct alignment for a solar eclipse?
    1. Sun – moon – Earth
    2. Moon – sun – Earth
    3. Earth – sun – moon
    4. Moon – Earth – sun
19. Which location of the moon relative to the sun and Earth may produce a lunar eclipse?



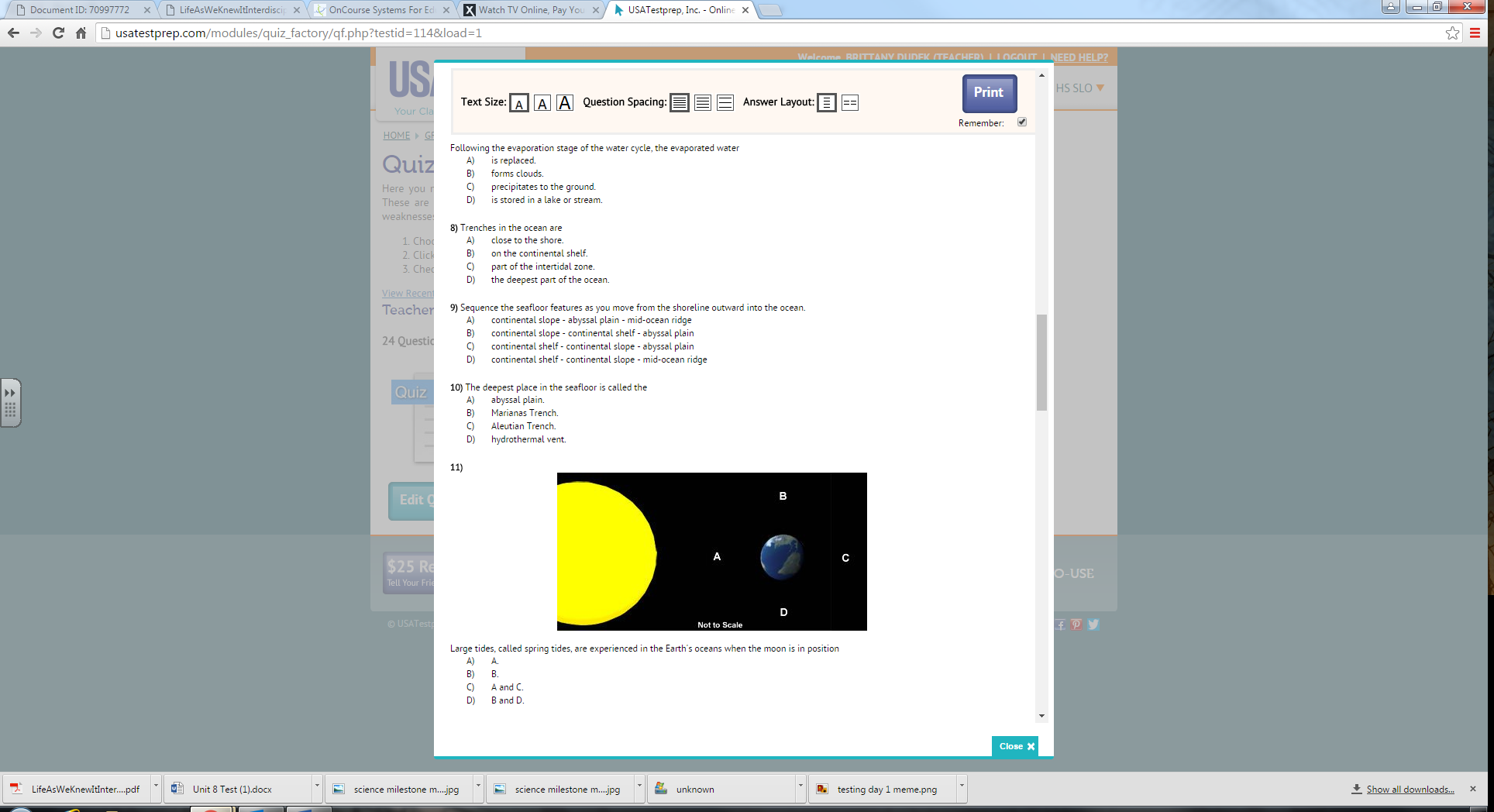
* 1. A
  2. B
  3. C
  4. D

1. If you live in the SOUTHERN hemisphere, what season would you be experiencing in position C in this diagram?



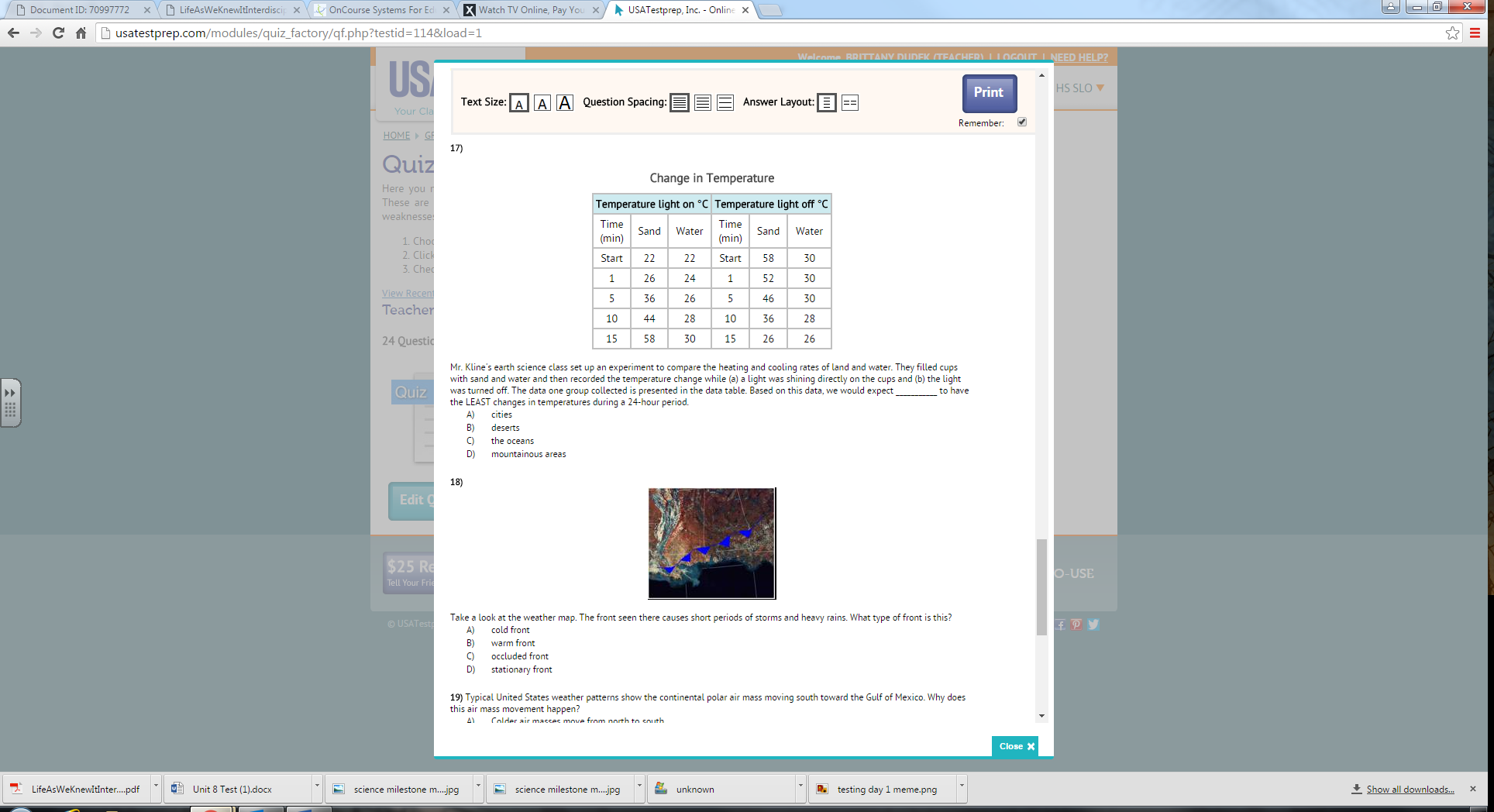
* 1. Fall
  2. Summer
  3. Winter
  4. Spring

1. If the Earth were not tilted on its axis, what would be the result?
   1. Day length would be less than 24 hours
   2. Both sides of the moon would be visible
   3. Temperatures would be constant year round
   4. The length of the year would be more than 365 days
2. Which factor has the biggest impact on Earth’s seasons?
   1. Earth’s revolution
   2. Earth’s elliptical orbit
   3. Earth’s tilt on its axis
   4. Earth’s distance from the sun
3. About 3% of the water on Earth is freshwater. Only about 40% of that freshwater is available for human use. Why is so much freshwater unavailable for human use?
   1. It is frozen
   2. It is polluted
   3. It is salt water
   4. It is in aquifers
4. Where is most of the Earth’s freshwater located?
   1. In lakes
   2. In rivers
   3. In oceans
   4. In glaciers
5. What percent of the Earth is covered by water?
   1. 20%
   2. 50%
   3. 70%
   4. 85%
6. When humans remove vegetation from an area, the water cycle is MOST directly affected in which way?
   1. Clouds in the area will increase
   2. Runoff from the area will decrease
   3. Evaporation in the area will decrease
   4. Precipitation in the area will increase
7. Without heat from the Sun, the water cycle would
   1. Reverse
   2. Not work
   3. Slow down
   4. Not be affected
8. Following the evaporation stage of the water cycle, the evaporated water
   1. Is replaced
   2. Forms clouds
   3. Precipitates to the ground
   4. Is stored in a lake or stream
9. Trenches in the ocean are
   1. Close to the shore
   2. On the continental shelf
   3. Part of the intertidal zone
   4. The deepest part of the ocean
10. Sequence the seafloor features as you move from the shoreline outward into the ocean
    1. Continental slope – abyssal plain – mid ocean ridge
    2. Continental slope – continental shelf – abyssal plain
    3. Continental shelf- continental slope – abyssal plain
    4. Continental shelf- continental slope- mid ocean ridge
11. The deepest place in the seafloor is called the
    1. Abyssal plain
    2. Marianas trench
    3. Aleutian trench
    4. Hydrothermal vent
12. Large tides, called spring tides are experienced in the Earth’s oceans when the moon is in position



* 1. A
  2. B
  3. A and C
  4. B and D

1. Ocean currents are caused by water’s density differences. The density differences in the ocean water are due to different salt concentrations and differences in
   1. Waves
   2. Temperature
   3. Plate tectonics
   4. Volcanic activity
2. The Gulf Stream current makes the waters of the North Atlantic
   1. Warmer
   2. Cooler
   3. More dense
   4. Less nutrient rich
3. In the oceans, the colder water sinks into deep basins, while warmer water stays closer to the surface. The water then moves around the ocean basin. This causes
   1. Tidal waves
   2. Wind drifts
   3. Ocean currents
   4. Plate tectonics
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ currents are responsible for circulating hot and cold air in the atmosphere and causing local weather systems.
   1. Oceanic
   2. Radiation
   3. Conduction
   4. Convection
5. When warm air from a large body of water moves quickly into a land area of cold air, we can expect \_\_\_\_\_\_\_\_\_\_ to occur where the two air masses meet.
   1. Fog
   2. Low humidity
   3. Thunderstorms
   4. A gentle sea breeze
6. Mr. Kline’s Earth science class set up an experiment to compare the heating and cooling rates of land and water. They filled cups with sand and water and then recorded the temperature change while (a) a light was shining directly on the cups and (b) the light was turned off. The data one group collected is presented in the data table. Based on this data, we would expect \_\_\_\_\_\_\_\_\_\_ to have the LEAST changes in temperatures during a 24-hour period.



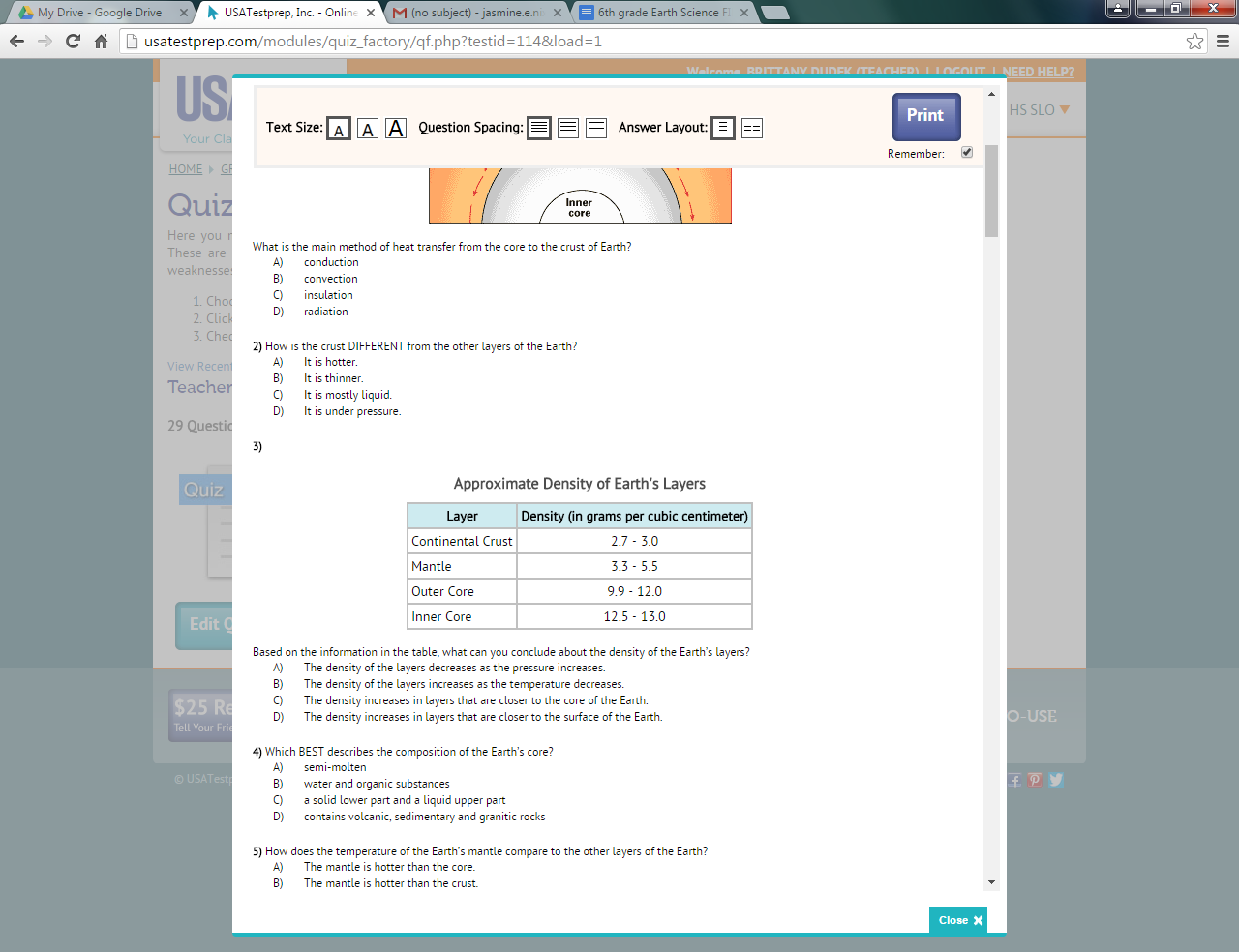
* 1. Cities
  2. Deserts
  3. The oceans
  4. Mountainous areas

1. Take a look at the weather map. The front seen there causes short periods of storms and heavy rains. What type of front is this?

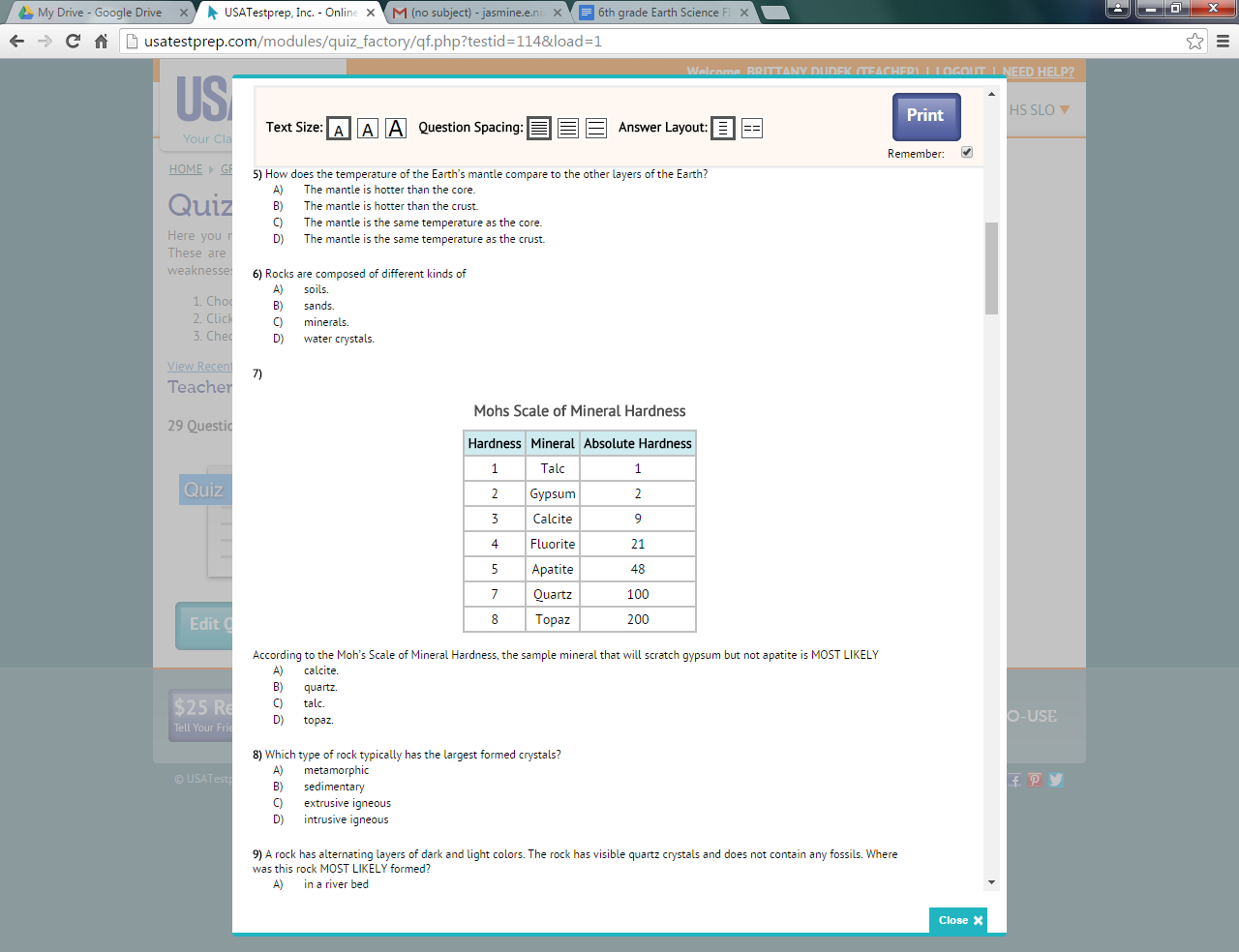


* 1. Cold front
  2. Warm front
  3. Occluded front
  4. Stationary front

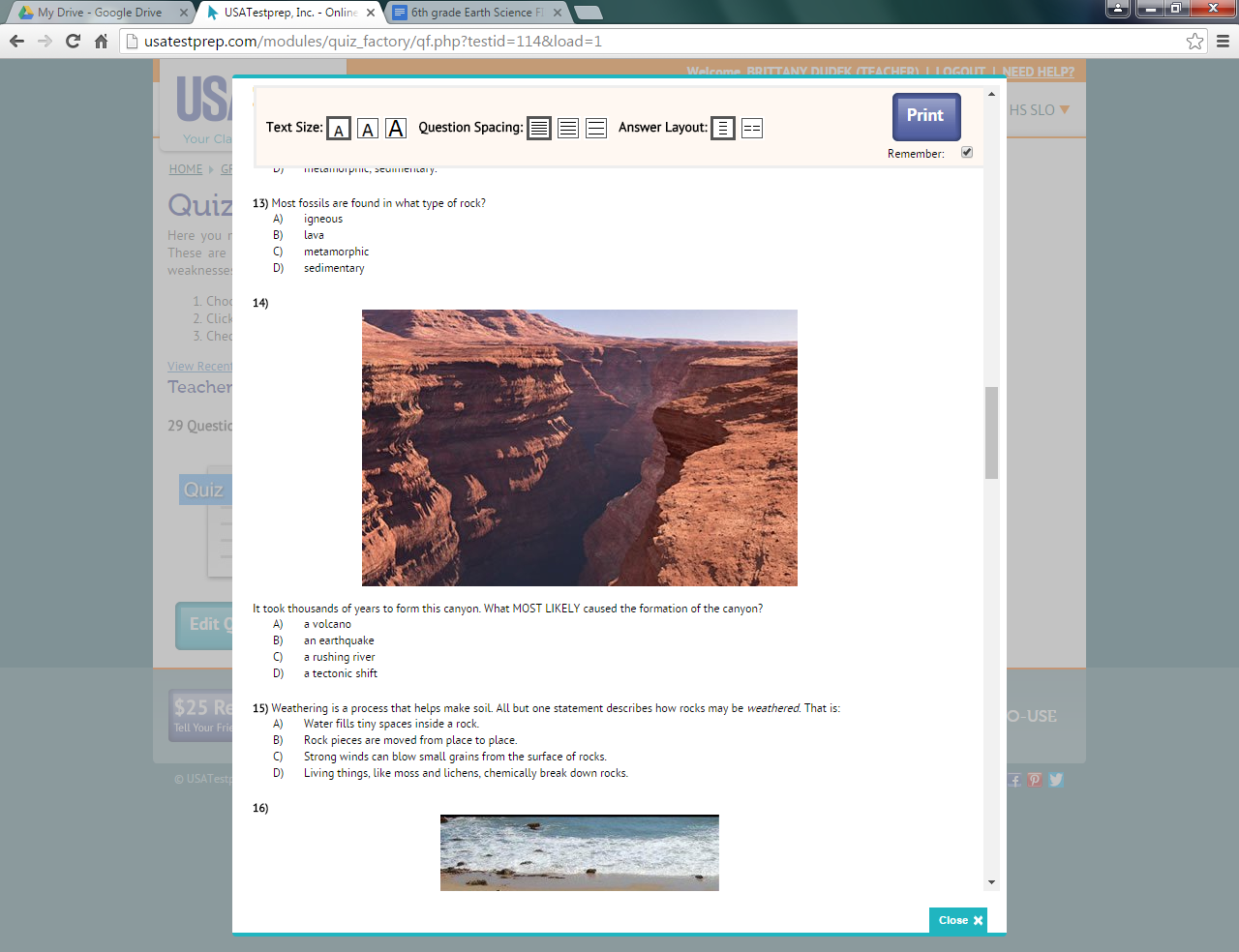
1. Typical United States weather patterns show the continental polar air mass moving south toward the Gulf of Mexico. Why does this air mass movement happen?
   1. Colder air masses move from north to south
   2. Continental air masses always move in the direct of the nearest body of water
   3. The polar air mass moves south to replace the rising maritime tropical air mass
   4. The continental polar air mass is blocked in by maritime air masses on all sides.
2. During the summer months, the sun warms an area of tropical ocean water and a large amount of water evaporates into the air. Which of these weather events will MOST LIKELY occur?
   1. Blizzard
   2. Hurricane
   3. Tornado
   4. Tsunami
3. Scientists say that conditions must be “just right” for a hurricane to start up. Which is the first step of “just right” in the development of a hurricane?
   1. Cool ocean water replaces warmer surface water
   2. Very warm ocean water evaporates into the atmosphere
   3. Hot dry wind blows from land across the ocean surface
   4. Humid ocean air cools and condenses to form precipitation
4. What event is MOST LIKELY to cause a hurricane?
   1. A distant tidal wave
   2. A supercell thunderstorm
   3. A deep underwater earthquake
   4. Warm water evaporated from the ocean
5. The uneven heating of the atmosphere by the sun’s energy creates pressure differences. Which effect is a direct result of this?
   1. Formation in clouds
   2. Generation of winds
   3. Occurrence of lightning
   4. An increase in humidity
6. What causes the wind?
   1. The Earth’s orbit around the sun
   2. The Earth’s rotation on its axis
   3. The layers of the Earth’s atmosphere
   4. Uneven heating of the Earth’s surface by the sun
7. What is the main method of heat transfer from the core to the crust of the Earth?
   1. Conduction
   2. Convection
   3. Insulation
   4. Radiation
8. How is the crust different from the other layers of the Earth?
   1. It is hotter
   2. It is thinner
   3. It is mostly liquid
   4. It is under pressure



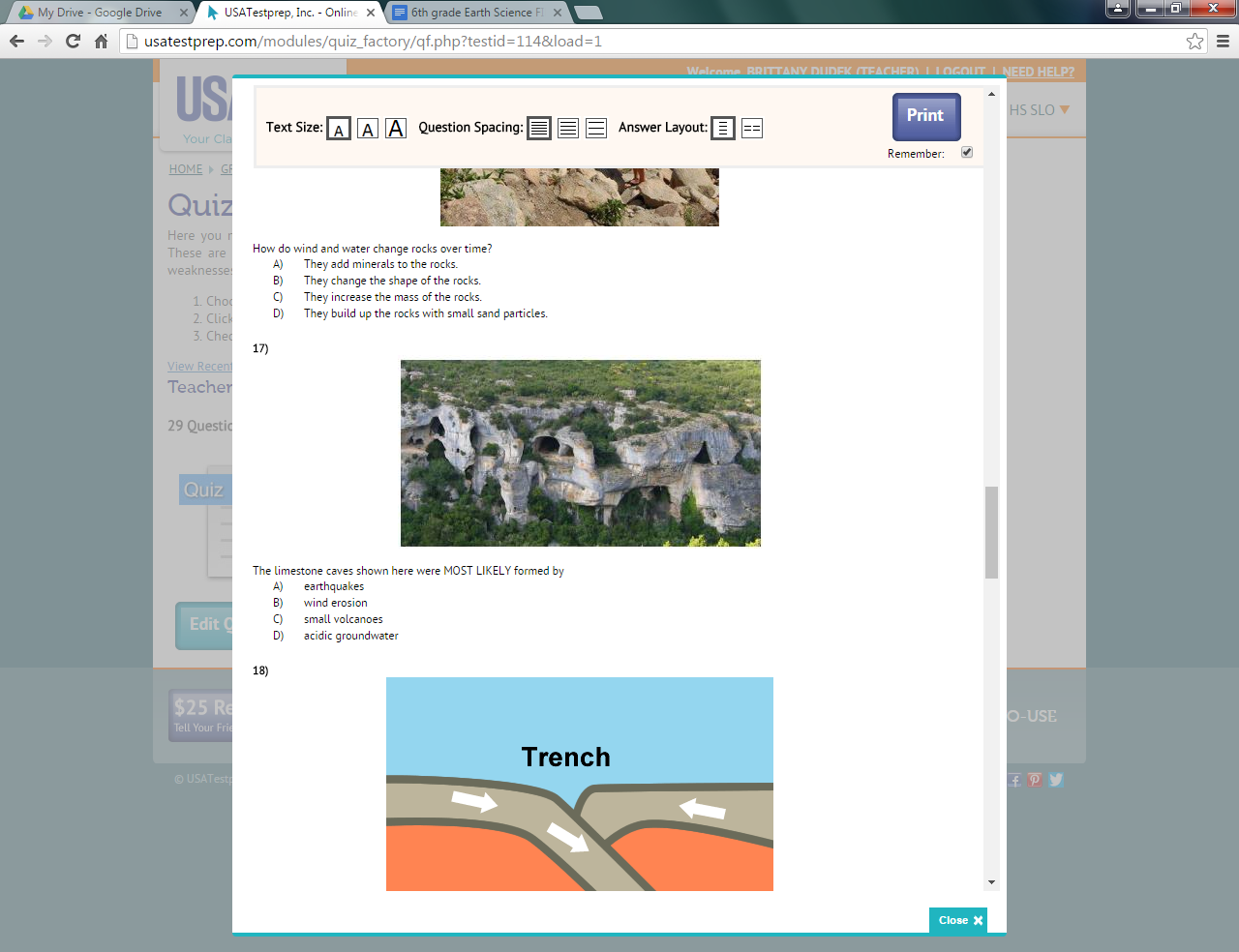
1. Based on the information in the table, what can you conclude about the density of the Earth’s layers?
   1. The density of the layers decreases as the temperature increases
   2. The density of the layers increases as the temperature decreases
   3. The density increases in layers that are closer to the core of the Earth
   4. The density increases in layers that are closer to the surface of the Earth
2. Which best describes the composition of the Earth’s core?
   1. Semi molten
   2. Water and organic substances
   3. A solid lower part and liquid upper part
   4. Contains volcanic, sedimentary, and igneous rocks
3. How does the temperature of the Earth’s mantle compare to the other layers of the Earth?
   1. The mantle is hotter than the core
   2. The mantle is hotter than the crust
   3. The mantle is the same temperature as the core
   4. The mantle is the same temperature as the crust
4. Rocks are composed of different kinds of
   1. Soils
   2. Sands
   3. Minerals
   4. Water crystals



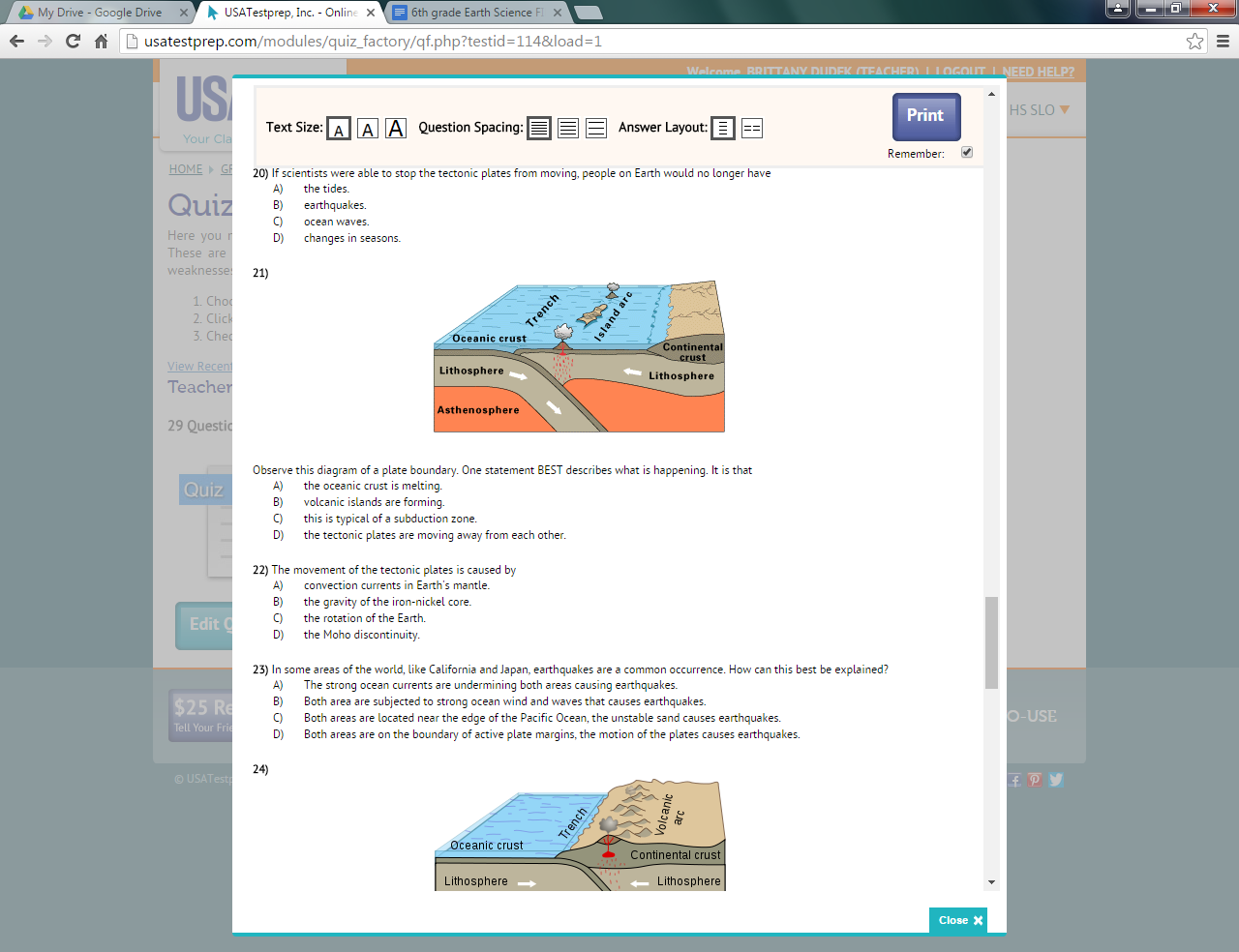
1. According to the Moh’s Scale of Hardness, the samle mineral that will scratch gypsum but not apatite is most likely
   1. Calcite
   2. Quartz
   3. Talc
   4. Topaz
2. Which type of rock typically has the largest formed crystals?
   1. Metamorphic
   2. Sedimentary
   3. Extrusive igneous
   4. Intrusive igneous
3. A rock has alternating layers of dark and light colors. The rock has visible quartz crystals and does not contain any fossils. Where was this rock most likely formed?
   1. In a river bed
   2. On the ocean floor
   3. Deep under the Earth
   4. In an active volcano
4. Marble is formed when intense heat and pressure is applied to limestone. What type of rock is marble?
   1. Metamorphic
   2. Sedimentary
   3. Extrusive igneous
   4. Intrusive igneous
5. More than a billion years ago, the continent of Africa hit North America, generating enormous pressure and heat while pushing up the Blue Ridge Mountains to a height of 30,000 feet. Most of these mountains have since been worn away by wind, rain, and the growth of living organisms. The order of the rock cycle in this case is best described as
   1. Igneous, sedimentary
   2. Metamorphic, igneous
   3. Igneous, metamorphic
   4. Metamorphic, sedimentary
6. Most fossils are found in what type of rock?
   1. Igneous
   2. Lava
   3. Metamorphic
   4. Sedimentary



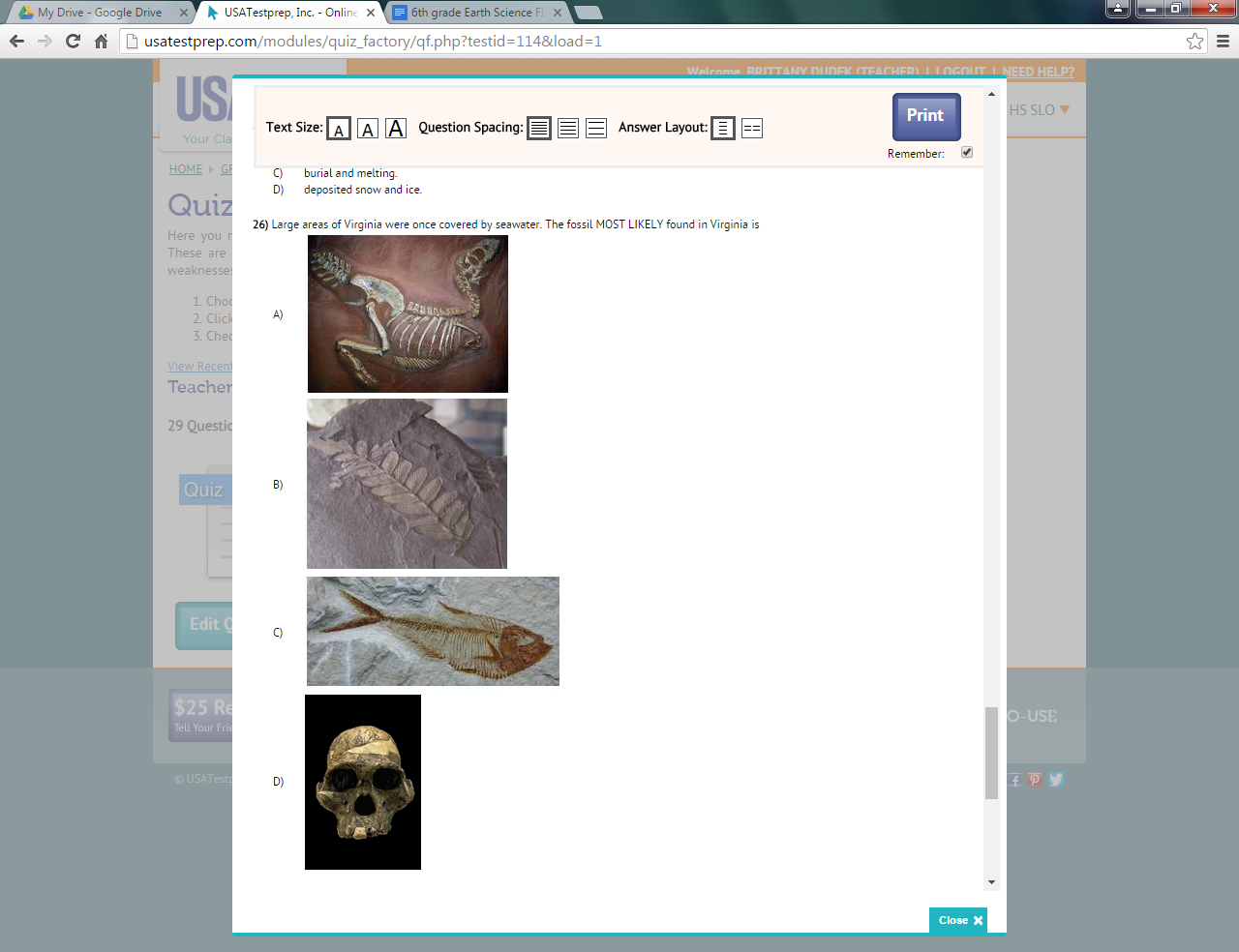
1. It took thousands of years to form this canyon. What most likely caused the formation of the canyon?
   1. A volcano
   2. An earthquake
   3. A rushing river
   4. A tectonic shift
2. Weathering is the process that helps make soil. All but one statement describes how rocks may be weathered. That is
   1. Water fills tiny spaces inside rock
   2. Rock pieces are moved from place to place
   3. Strong winds can blow small grains from the surface of rocks
   4. Living things, like moss and lichens, chemically break down rocks
3. How to wind and water change rocks over time?
   1. They add minerals to the rocks
   2. They change the shape of rocks
   3. They increase the mass of the rocks
   4. They build up the rocks with small sand particles

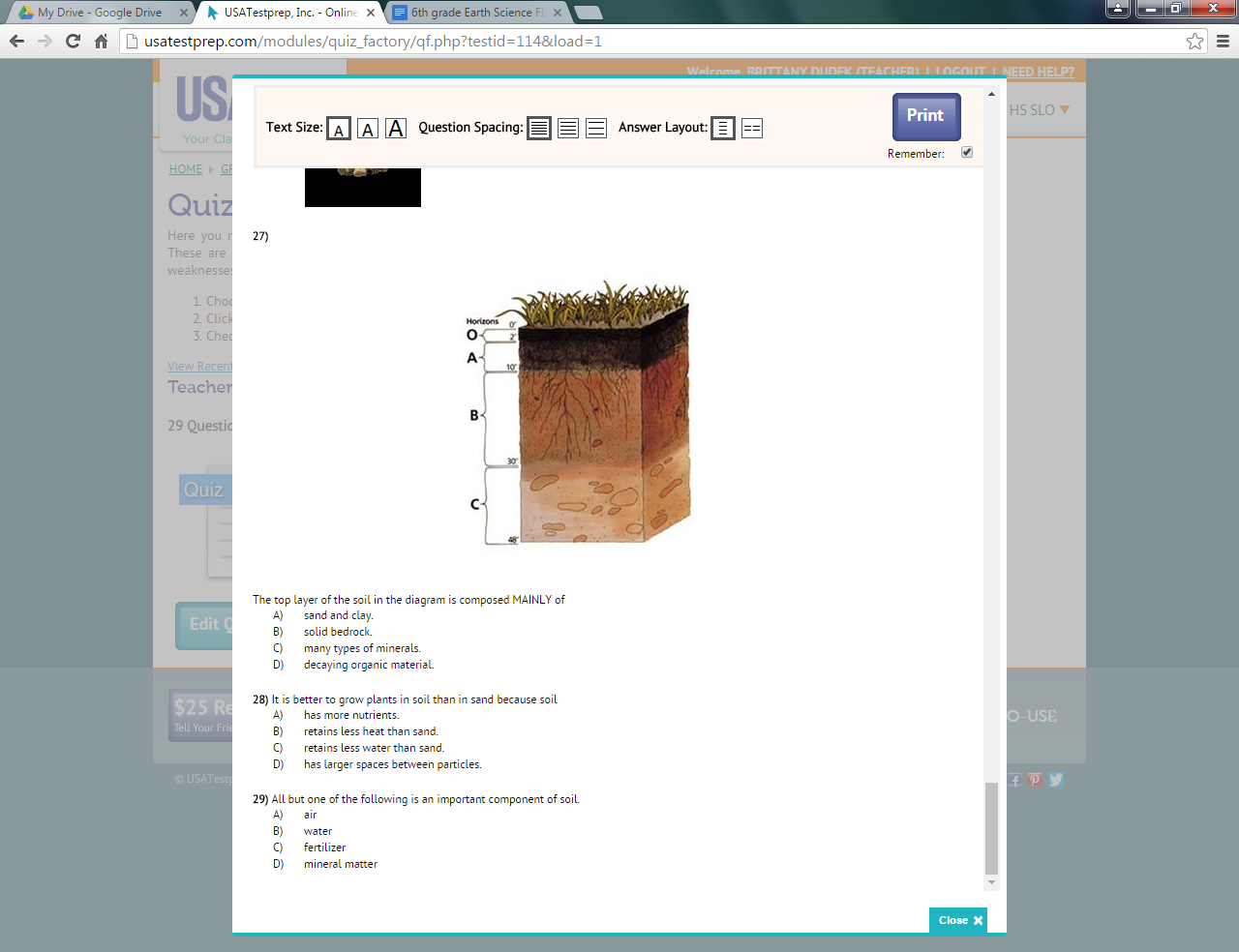


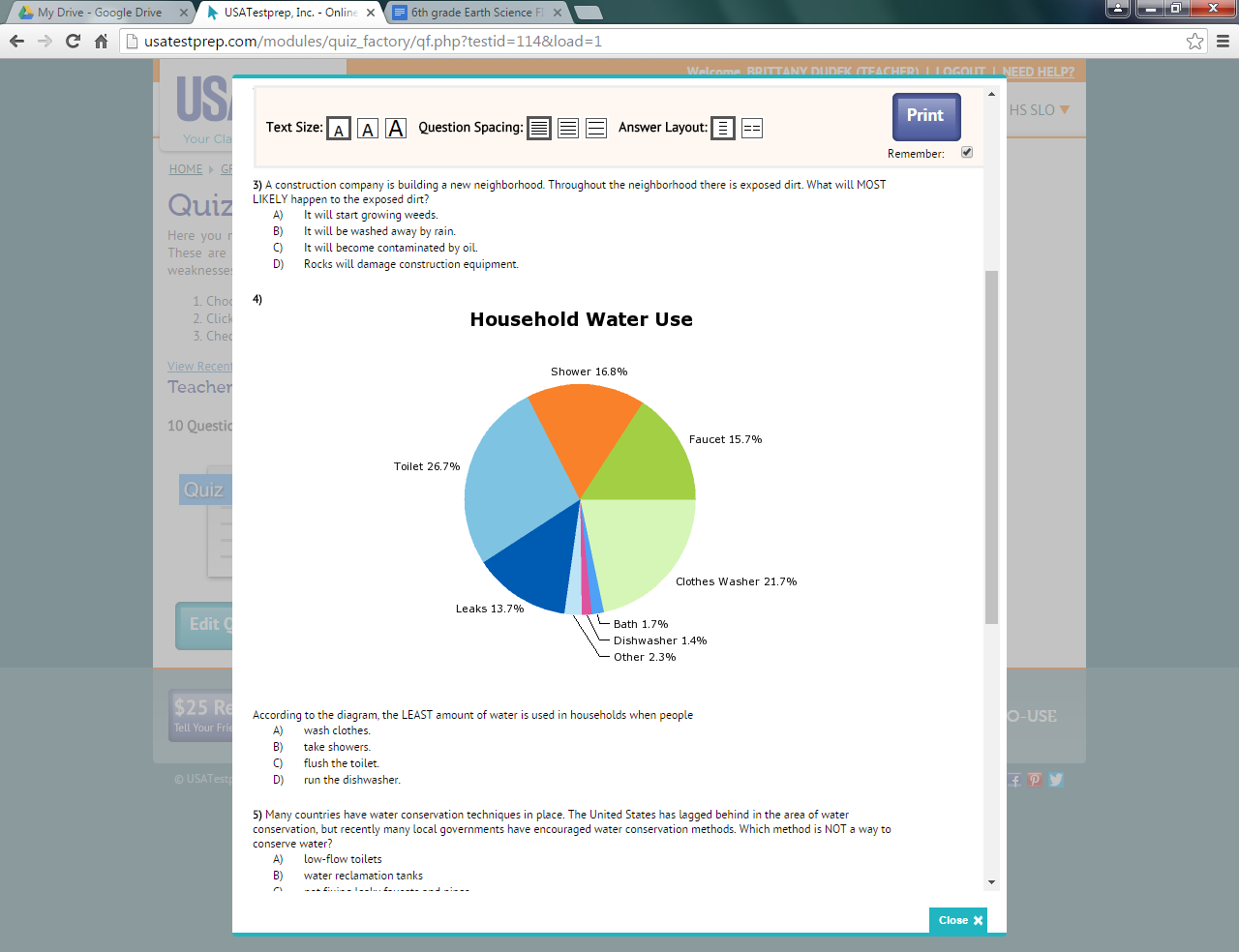
1. The limestone caves shown here were most likely formed by
   1. Earthquakes
   2. Wind erosion
   3. Small volcanoes
   4. Acidic groundwater
2. Ocean trenches are formed when
   1. Two oceanic plates slide past each other
   2. An oceanic plate goes under another oceanic plate
   3. Two oceanic plates grind past each other along transform faults
   4. Two oceanic plates hit each other causing both plates to drop
3. What geological theory explains how llamas and camels, close relatives, might be found on different sides of the world?
   1. Continental drift
   2. Natural selection
   3. Radiocarbon dating
   4. Endosymbiont theory
4. If scientists were able to stop the tectonic plates from moving, people on Earth would no longer have
   1. Tides
   2. Earthquakes
   3. Ocean waves
   4. Changes in seasons



1. Observe the diagram of the plate boundary. One statement best describes what is happening. It is that
   1. The oceanic crust is melting
   2. Volcanic islands are forming
   3. This is typical of a subduction zone
   4. The tectonic plates are moving away from each other
2. The movement of the tectonic plates is caused by
   1. Convection currents in Earth’s mantle
   2. The gravity of the iron-nickle core
   3. The rotation of the Earth
   4. The Moho discontinuity
3. In some areas of the world, like California and Japan, earthquakes are a common occurence. How can this best be explained?
   1. The strong ocean currents are undermining both areas causing earthquakes
   2. Both areas are subjected to strong ocean wind and waves that causes earthquakes
   3. Both areas are located near the edge of the pacific ocean, the unstable sand causes earthquakes
   4. Both areas are on the boundary of active plate margins, the motion of the plates causes earthquakes
4. Subduction zones occur on Earth where dense oceanic crust dives under more bouyant continental crust. These boundaries are characterized by a deep ocean trench next to a high continental mountain range, large numbers of earthquakes and volcanoes. All of this is further evidence for the
   1. Big bang theory
   2. Origin of the species
   3. Theory of plate tectonics
   4. Theory of natural selection
5. Sediment is formed by
   1. Soil erosion
   2. Weathered rock
   3. Burial melting
   4. Deposited snow and ice
6. Large areas of virginia were once covered by seawater. The fossil most likely found in virginia is





1. The top layer of the soil in the diagram is composed mainly of
   1. Sand and clay
   2. Solid bedrock
   3. Many types of minerals
   4. Decaying organic material
2. It is better to grow plants in soil than in sand because soil
   1. Has more nutrients
   2. Retains less heat than sand
   3. Retains less water than sand
   4. Has larger spaces between particles
3. All but one of the following is an important component of soil
   1. Air
   2. Water
   3. Fertilizer
   4. Mineral matter
4. What can people do to decrease erosion of the Earth’s surface?
   1. Cut down more trees
   2. Use more land to plant crops
   3. Allow natural vegetation to grow
   4. Allow cattle to graze more often
5. A construction company is building a new neighborhood. Throughout the neighborhood there is exposed dirt. What will most likely happen to the exposed dirt?
   1. It will start growing weeds
   2. It will be washed away by rain
   3. It will become contaminated by oil
   4. Rocks will damage construction equipment

1. According to the diagram, the least amount of water is used in households when people
   1. Wash clothes
   2. Take showers
   3. Flush the toilet
   4. Run the dishwasher
2. Many countries have water conservation techniques in place. The USA has lagged behind in the area of water conservation but recently many local governments have encouraged water conservation methods. Which method is not a way to conserve water?
   1. Low flow toilets
   2. Water reclamation tanks
   3. Not fixing leaky faucets and pipes
   4. Odd and even day lawn watering schedules
3. Which is the best way to conserve the Earth’s forests?
   1. Ride a bike to work
   2. Set up a comppost pile
   3. Recycle paper products
   4. Turn down your thermostat
4. The development of nuclear power has provided electricity for less money but at a cost. What may be considered a cost of nuclear power?
   1. Large amounts of energy are produced cheaply
   2. It takes a lot of energy to run a nuclear power plant
   3. Nuclear power plants provide new jobs for the community
   4. The radioactive waste is unsafe and hard to store safely
5. Fossil fuels are the compressed remains of ancient organinisms like plants or dinosaurs. They cannot be recylced. Once they are used, they are gone. Which of these is a fossil fuel?
   1. Corn
   2. Coal
   3. Timber
   4. Sunshine
6. Coal, oil, and natural gas
   1. Are renewable natural resources
   2. Are in very short supply for consumers
   3. Release carbon dioxide when they are burned
   4. Are clean fuels that contribute little to pollution
7. Wind energy is used to rotate the sails of a windmill. The rotating sails have
   1. Heat energy
   2. Kinetic energy
   3. Potential energy
   4. Electromagnetic energy