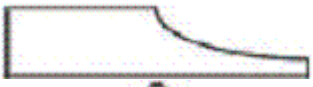
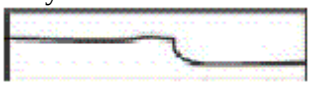
Weathering, Erosion & Soils Quiz

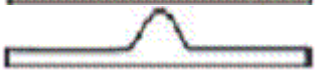
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. The diagram below shows a cross-section of a rock layer. Erosion is the main force acticing on this area.

After many years, which cross-section would most likely result?

a. 

c. 

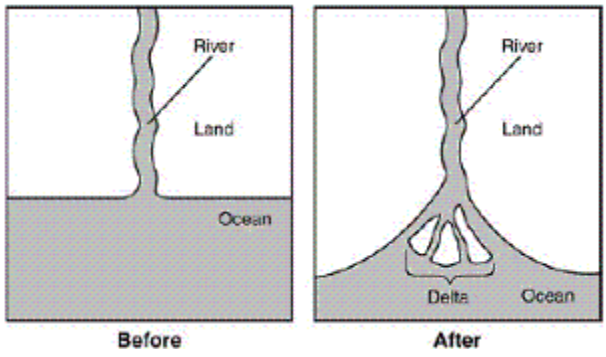
b. 

d. 

____ 2. Water is a very important part of the physical weathering of rock. Which of these properties of water is most important in causing some of the physical weathering of rock?
a. Water is a liquid at room temperature
b. Water can contain different minerals
c. Water expands when it freezes
d. Water dissolves many chemicals

____ 3. Which of the following is the best evidence that an area of land was once covered by a glacier?
a. limestone caverns
b. marine fossils
c. abrasion of surface rocks
d. peeling slabs of rock

____ 4. What process formed this delta?

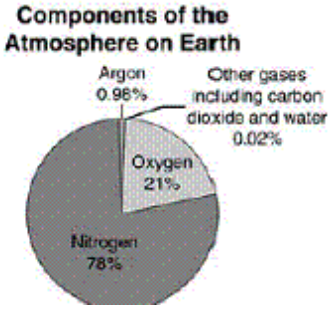


a. erosion and deposition
b. condensation and precipitation
c. shifting tectonic plates
d. rock layer deformation

____ 5. Which is most directly responsible for building up a river delta?
a. erosion
b. leaching
c. subsidence
d. deposition

____ 6. Which is an example of organic weathering of rocks?
a. glaciers moving large pieces of a fractured rock
b. tree roots growing in a fractured rock
c. ice freezing on a rock surface
d. wind blowing against a rock surface

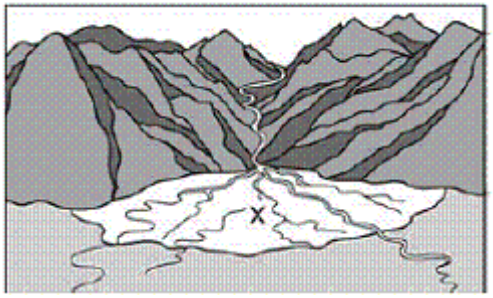
____ 7. The graph shows the chemical composition of Earth's atmosphere.



Which of these gases in Earth's atmosphere is most responsible for the chemical weathering of rock?

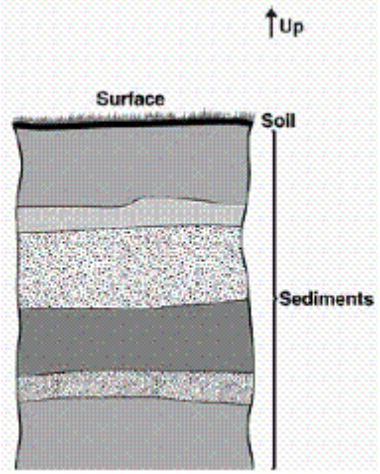
a. nitrogen
b. argon
c. oxygen
d. hydrogen

____ 8. Why did the mountain stream deposit so much eroded soil in the area marked X?



a. The speed of the water increased there
b. The speed of the water decreased there
c. The water got colder there
d. The water got warmer there

____ 9. The diagram illustrates structures at and beneath Earth's surface.



Which process formed the layers of sediments shown in the diagram?

a. subsurface volcanic activity
b. deposition of eroded material
c. crust folding and faulting
d. crystallization of magma

____ 10. Which process accounts for the expansion and contraction of rocks?

a. mechanical weathering
b. organic decomposition
c. abrasion resistance
d. heat conduction

____ 11. Which of these best describes how the surface of a beach is formed?

a. mechanical weathering
b. chemical weathering
c. mass movement
d. volcanic eruption

____ 12. Topsoil is considered to be most fertile when it has a

a. low pH level
c. high organic matter level

b. low sand content
d. high parent rock material level

____ 13. Human actions can change the rate at which soil erodes. Which of the following would most likely slow the rate of soil erosion?
a. applying nitrogen-rich fertilizers
c. building houses on stilts
b. keeping grasses trimmed short
d. planting trees along cliffs

____ 14. Some forests develop after farmland is abandoned. Grasses may be overtaken by pine trees which are eventually replaced by hardwood trees. During this process, the soil also changes. Which change during this process is a form of chemical weathering?
a. Water intake by trees reduces soil water content
c. Rocks broken apart by tree roots add texture to the soil
b. Recycled organic matter from trees lowers soil pH
d. Increased shade from the tree canopy lowers soil temperature

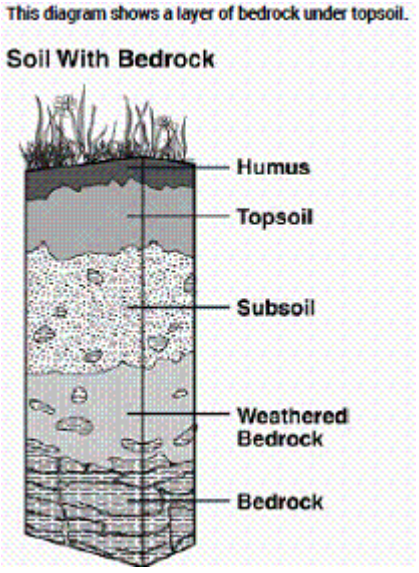
____ 15. Soil that drains slowly most likely has a high amount of
a. ash
c. clay
b. sand
d. peat

____ 16. Which environment would most likely have rich, fertile soil?
a. a desert plain
c. a mountain peak
b. a coastal beach
d. a floodplain

____ 17. Living organisms have a role in weathering and erosion in the ecosystem. Which statement describes the role of bacteria and fungi?
a. they hold soil in place during high winds
c. they increase water access and flow and help aerate the soil
b. they decompose organic matter in the soil
d. they grow within cracks of rocks, breaking the rock into small pieces

____ 18. A large quantity of heavy rain falling in a short time period will most likely
a. reduce the amount of nutrients in the soil
c. reduce the oxygen levels in the soil
b. increase the number of minerals in the soil
d. increase the temperature of the soil

This diagram shows a layer of bedrock under topsoil.



____ 19. How can the type of bedrock under soil affect the characteristics of the soil?
a. by preventing soil erosion
c. by contributing small rock particles to the soil
b. by absorbing excessive rainwater
d. by providing surface area for nutrient accumulation

____ 20. A gardener wants to increase the ability of garden soil to retain water. Which of these should the gardener add to the soil?

a. coarse sand
b. loose gravel
c. nitrogen pellets
d. organic material

____ 21. Before rock can become soil, it must undergo certain processes. One process in the formation of soil involves plants. How can plants chemically change rocks into soil?

a. They weather rocks with acid
b. They strip the rocks of minerals
c. They break rocks into small pieces
d. they increase the density of the rocks

____ 22. The finest-grained soils are richest in

a. sand
b. humus
c. clay
d. iron

____ 23. The table shows some of the characterisitcs of the soil in an area of land.

Surface Area	Soil Color	Soil Content	Texture
Flat	Dark brown	Humus, sand, & clay	gritty

Which characteristic of this area indicates that the soil was formed as a result of the interaction between organisms and their environment?

a. the area is flat
b. the soil color is dark brown
c. the soil contains humus
d. the soil feels gritty

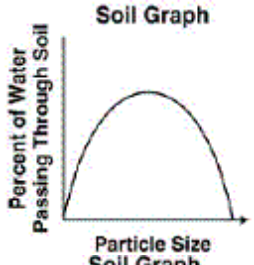
____ 24. What is the source of the organic matter needed for most fertile soils?

a. moving water
b. eroded sand
c. decaying plants
d. weathered bedrock

____ 25. A glacier retreats leaving bare rocks. Lichens begin to live on the rocks. The lichens produce an acid that starts to break down the rocks. How will this process affect the environment?

a. It will put acid into the lakes and ponds
b. It will begin the process of building soil
c. It will prevent the carbon cycle from occurring
d. It will prevent bacteria from invading the ecosystem

____ 26. Which graph best relates soil particle size to the percent of water able to pass through the soil?

a.


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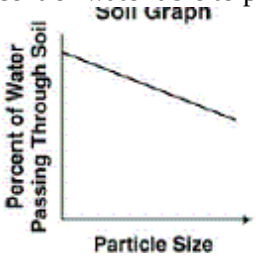

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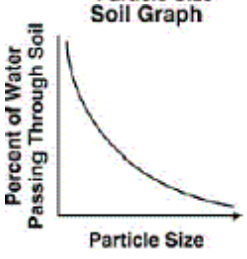

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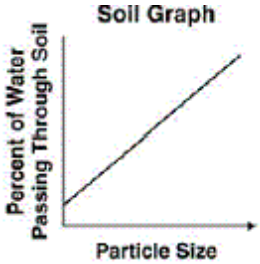

____ 27. The breakdown of rocks and minerals into smaller particles without a change in composition is called-

a. Igneous Intrusion
b. Chemical Precipitation
c. Mechanical weathering
d. Metamorphic foliation

____ 28. Which of these describes forest soil?

a. More rock fragments in the humus layer
c. More clay in the humus layer thatn in

than in deeper layers

b. More organic matter in the humus layer thatn in the deeper layers

deeper layers

d. More sand-sized particles in the humus layer than in deeper layers