6th grade Earth Science Benchmark Assessment

Name:_____

1. A home has a sloping backyard. The family puts in retaining walls made of large boulders part way down the hill. Why?

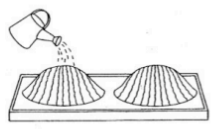
   A. They look nice.
   B. They keep soil in place.
   C. To improve the view.
   D. To keep the house from rolling.

2. Changes on the earth's surface can happen slowly or at a rapid pace. Identify one example of how the earth surface changes slowly and how it changes rapidly. Make sure to explain how it changes the earth's surface.

_____
_____
_____
_____

3. Which experiment would best show how different methods of plowing fields on a hill affect erosion?

1



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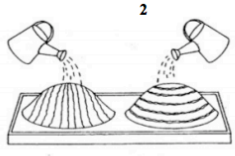

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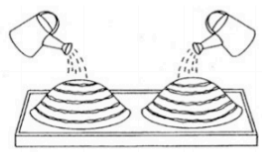


4. What makes the experiment you chose above the best way to show the affect of erosion on the plowed field?

_____
_____

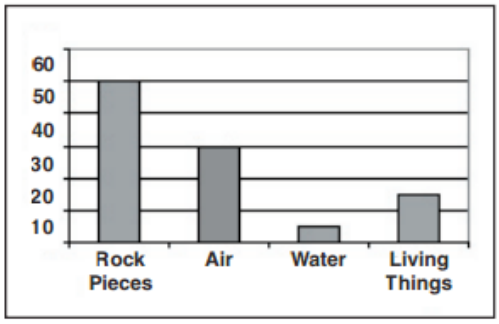
5. What is the difference between physical and chemical weathering?

_____
_____

6. What forms after a rock has been weathered over many years?
   A. soil
   B. a stream
   C. valleys
   D. a lake

7. Circle all of the ways rock can be broken down and weathered?
   A. freezing and thawing
   B. plant roots
   C. heat expansion
   D. carried away by wind

Use this graph of a soil sample to answer the next two questions. It shows the percentages of rock pieces, air, water and living things.



8. What is this soil mostly composed of?

A. rock pieces
B. air
C. water
D. living things

9. If the percentage of water went up, which other part would most likely go down?

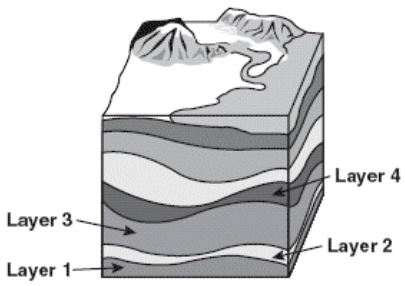
A. none would
B. air
C. water
D. living things

10. Which of the following **best** describes the components of soil?
A. Clay, silt and mud
B. Plants, animals, dirt and minerals
C. Layered sediment, sand particles and rocks
D. Eroded rock, organic material, water and air

11. What is the smallest type of particle found in soil samples?
A. Silt
B. Clay
C. Sand
D. Pebble

12. Draw lines to correctly match the rock type with the process involved in forming the rock?

Rock Type	Process
A. igneous	pressure and heat
B. sedimentary	erosion and weathering
c. Metamorphic	cooling of molten rocks and magma



13. According to the diagram above, which sedimentary rock layer is most likely the oldest?
    A. 1
    B. 2
    C. 3
    D. 4

    Explain why.

    _____

    _____

14. Scientists have discovered fossils of the same organisms in many different parts of the world. These fossils provide evidence that
    A. the continents were once joined together
    B. most life-forms that existed in the past are still present today
    C. most of Earth's surface was once covered by molten rock
    D. rocks have been transformed from one type to another

15. A fossil of a fish was found embedded in a layer of rock that is near the top of a mountain. What might scientists conclude about the history of this area?

    A. An earthquake once struck the area.
    B. A volcano once erupted in the area.
    C. A lush forest covered the area.
    D. A sea once covered the area.

16. Why are fossils found in sedimentary rock?

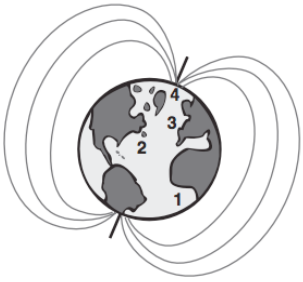
    _____

    _____

17. What creates the Earth's magnetic field?

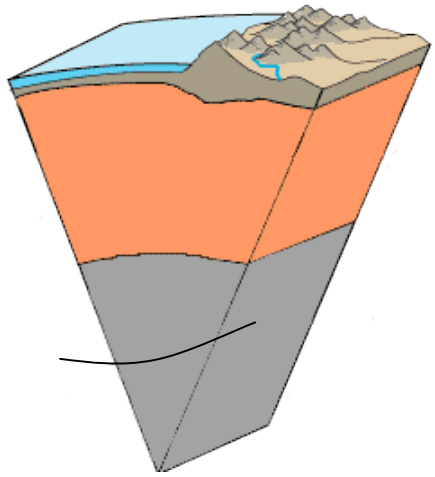
    A. The composition of the Earth's poles.
    B. The structure of the Earth's surface.
    C. Convection in the Earth's liquid outer core.
    D. The revolution of the Earth around the Sun.

18. The diagram below shows that the magnetic field of Earth is similar to that of a bar magnet.



    At which location is Earth's magnetic field the strongest?
    a. 1
    b. 2
    c. 3
    d. 4

The Earth is made up of four layers. Label them on to the diagram below. Once you have done that complete the missing word exercise which follows.



The inner core is the (19)_____ of the Earth. It is made of solid iron and nickel. The outer

core is made up of liquid iron and nickel. The (20) _____ is the

largest section of the Earth and is made up of (21)_____ rock (plastic properties).

These partially melted rocks are called magma. Temperatures here are around 5,000°C.

The crust is the (22)_____ layer of the Earth and is made up of solid rock. The Earth's crust is

broken up into pieces called (23)_____, which move or 'float' upon the mantle. Convection currents cause the

Earth's plates to move. The plates move very (24) _____ (around one or two millimetres

a year). The movement of the Earth's plates is known as (23)_____ .

24-26.

Draw diagrams to explain what is happening at the 3 types of plate boundaries.