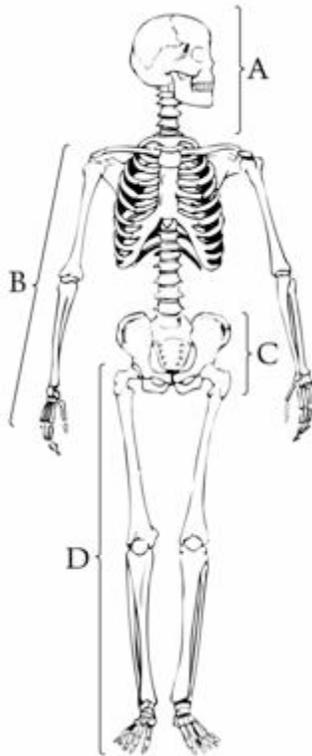


1. The surface of the Moon is covered with craters. Most of these craters were formed by

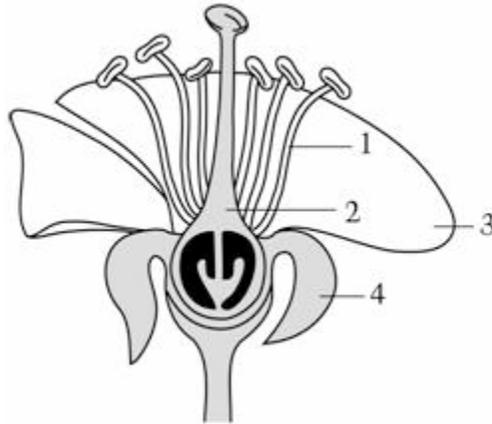
- A) eruptions of active volcanoes
- B) the impacts of many meteoroids
- C) shifting rock on the Moon's surface ("moonquakes")
- D) tidal forces caused by the Earth and Sun

2. Which part of the human skeleton is most like the bones in a bird's wing?



- A) A
- B) B
- C) C
- D) D

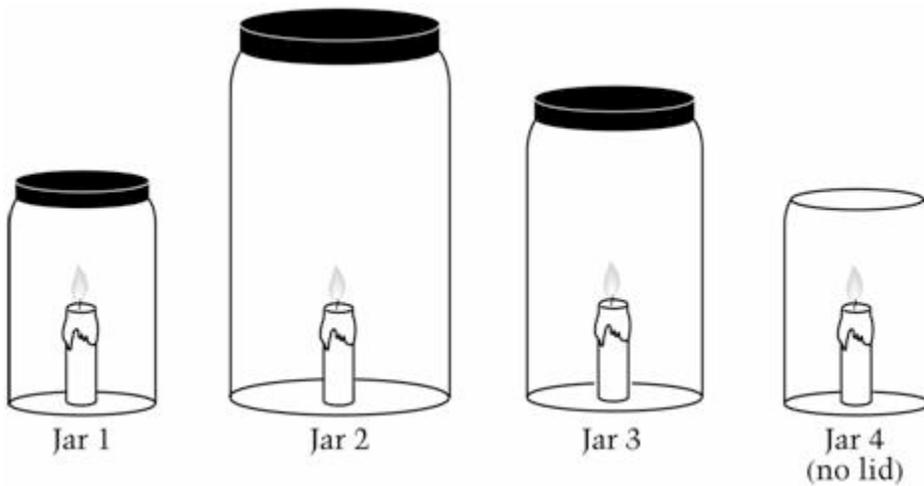
3.



Which two numbers in the picture above of a flower show the male and female parts?

- A) 1 and 2
- B) 2 and 3
- C) 2 and 4
- D) 3 and 4

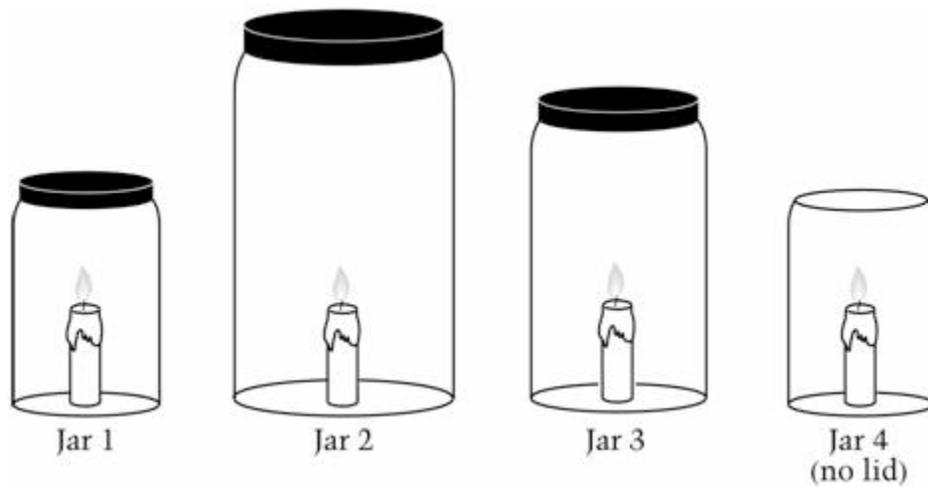
Pat set up four different jars with a burning candle in each jar. He put the lids on jars 1, 2, and 3, as shown in the picture below.



4. The candle in jar 1 burned for 2 minutes after the lid was put on. The candle in jar 2 burned for 8 minutes. About how long did the candle in jar 3 burn after the lid was put on?

- A) 1 minute
- B) 4 minutes
- C) 8 minutes
- D) 10 minutes

Pat set up four different jars with a burning candle in each jar. He put the lids on jars 1, 2, and 3, as shown in the picture below.



- Pat did not put a lid on jar 4. The candle in jar 4 burned for a very long time. Tell why this candle kept burning so much longer than the other candles.

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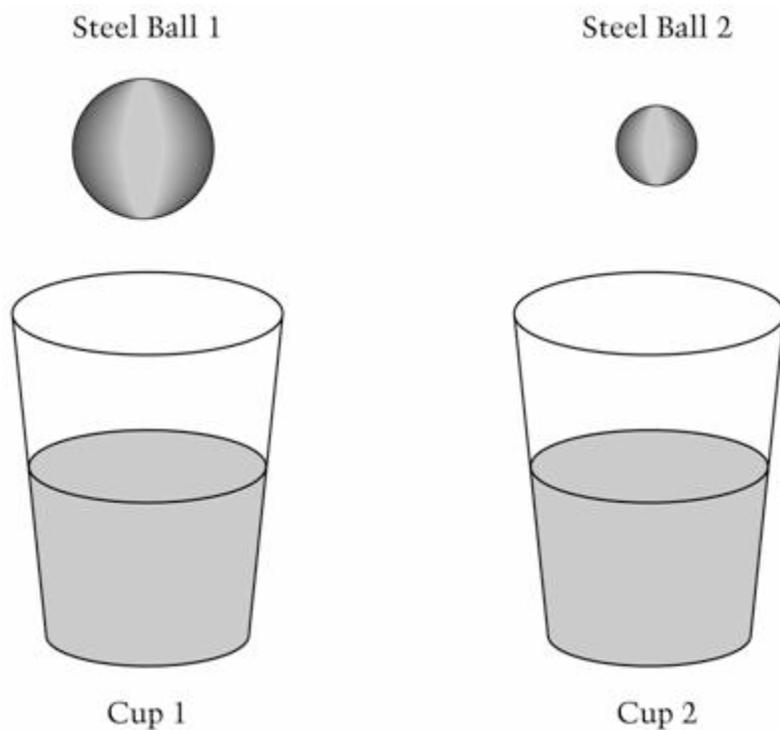


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As shown in the picture below, Christina has two identical cups that are filled to the same level with water. She also has two solid steel balls.



6. Christina puts ball 1 in cup 1 and ball 2 in cup 2. In which cup will the water level rise the most?

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Tell why you think so.

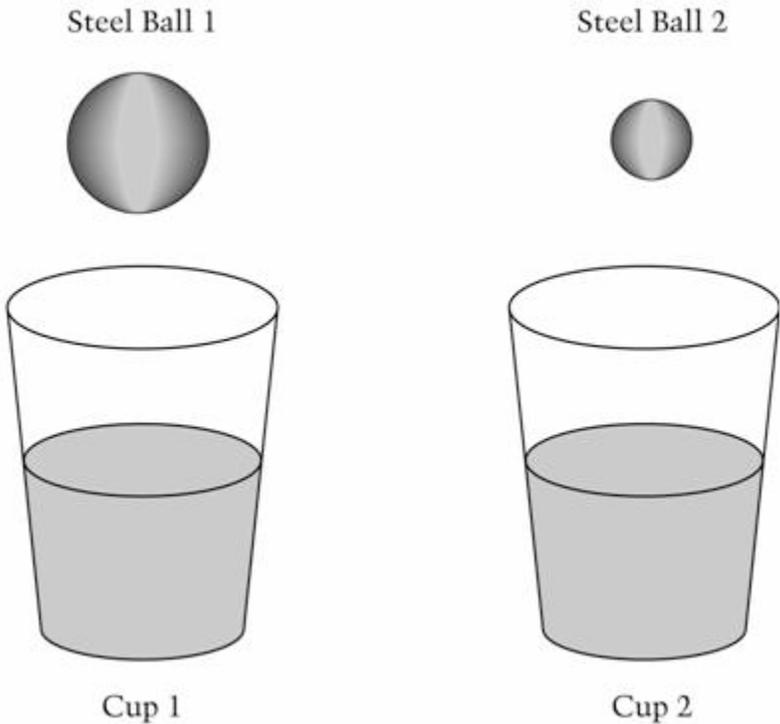
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As shown in the picture below, Christina has two identical cups that are filled to the same level with water. She also has two solid steel balls.



7. Christina has another ball that is the same size as ball 2, but this ball is made of wood and is hollow. If she put this hollow ball in one of the cups, do you think the water level would rise more or less than it would if ball 2 were put in the cup?

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Tell why you think so.

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8. Where does water in a lake get most of its energy to evaporate?

- A) The sun heating the lake
- B) Green plants living in the lake

- C) Streams entering the lake
- D) Cold springs under the lake

The table below shows information about the weather in four cities on the same day.

	City 1	City 2	City 3	City 4
High Temperature	65° F	80° F	48° F	25° F
Low Temperature	56° F	66° F	38° F	10° F
Precipitation— Rain or Snow (inches)	2 in	0 in	1 in	1 in

9. In which city did snow most likely fall at some time during the day?

- A) City 1
- B) City 2
- C) City 3
- D) City 4

The table below shows information about the weather in four cities on the same day.

	City 1	City 2	City 3	City 4
High Temperature	65° F	80° F	48° F	25° F
Low Temperature	56° F	66° F	38° F	10° F
Precipitation— Rain or Snow (inches)	2 in	0 in	1 in	1 in

10. In which city could children wear just T-shirts and shorts and be most comfortable playing outside all day?

- A) City 1
- B) City 2
- C) City 3
- D) City 4

11. After a volcano erupts, new types of rock can form. Explain how this happens.

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12. List four ways that the Earth is different from the Moon.

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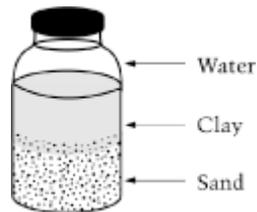
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13. A green tree frog lives in a forest. How does the frog's green color help it to survive?

- A) By helping the frog find other frogs
- B) By keeping the frog cool
- C) By making the frog hard to see when sitting on leaves
- D) By allowing the frog to make its own food



14. A student put some sand, clay, and water into a bottle and shook the bottle. Then he put the bottle down.

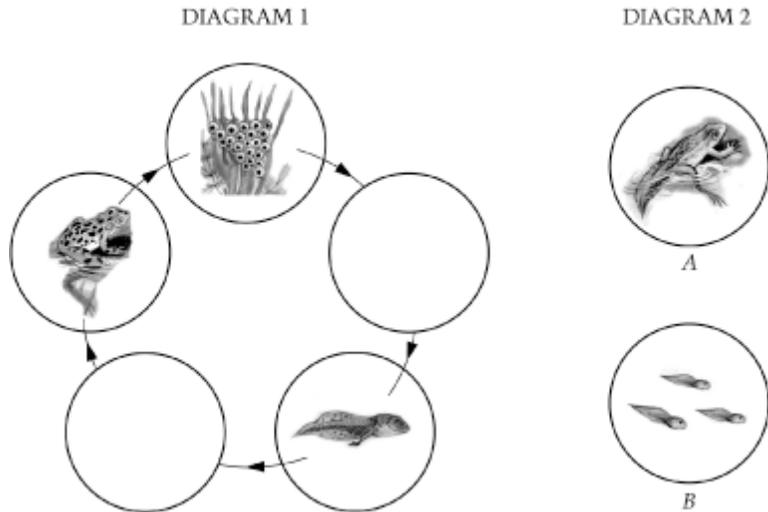
After two hours, the bottle looked like the drawing above. What can the student conclude based on what he sees in the bottle?

- A) The water is heavier than the grains of clay and the grains of sand.
- B) The grains of clay are heavier than the grains of sand and the water.
- C) The grains of sand are heavier than the water and the grains of clay.
- D) The water, grains of clay, and grains of sand are all of equal weight.

15. **Diagram 1** shows a frog's life cycle with two missing stages. **Diagram 2** shows the two stages

that are missing from the frog's life cycle in diagram 1. They are labeled *A* and *B*.

Complete the frog's life cycle in **Diagram 1** by writing *A* in the empty circle where stage *A* belongs and *B* in the empty circle where stage *B* belongs.



Explain why you placed the letters *A* and *B* where you did.

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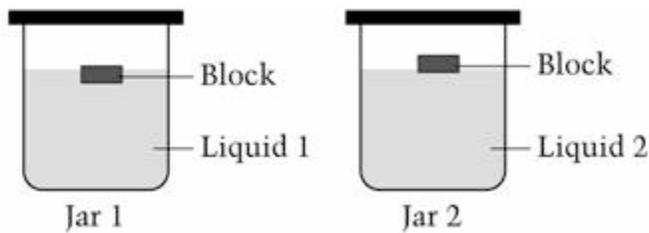
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16.

Look at the two pictures below. They show what happened when two solid blocks were each put in a jar containing a liquid. Based just on what you can see in the pictures, what can you say about the blocks and the jars?



- A) The liquid in the jars must be water.
- B) The block in jar 1 weighs more than the block in jar 2.
- C) The block in jar 1 is floating lower in its liquid than is the block in jar 2.
- D) The block in jar 1 must be made of metal and the block in jar 2 must be made of wood.

17. In your body, what two organs work together to make sure that oxygen gets to all the other

organs of your body?

- A) Lungs and kidneys
- B) Heart and lungs
- C) Brain and kidneys
- D) Heart and liver

18. Is a hamburger an example of stored energy? Explain why or why not.

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19. If you breathe on a mirror, part of the mirror clouds up. What are you actually seeing when you see the mirror cloud up?

- A) Water droplets that formed from cooled water vapor in your breath
- B) Carbon dioxide that you are breathing out from your lungs
- C) Oxygen that you are breathing out from your lungs
- D) Cooled nitrogen in the air around you

20.

Suppose you are riding in a car along the highway at 55 miles per hour when a truck pulls up along the side of your car. This truck seems to stand still for a moment, and then it seems to be moving backward.

Tell how the truck can look as if it is standing still when it is really moving forward.

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Tell how the truck can look as if it is moving backward when it is really moving forward.

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21. Right before Anna was about to run in a long race, she drank a large glass of orange juice to get energy. Tell how the energy that was in the orange juice actually came from the Sun.

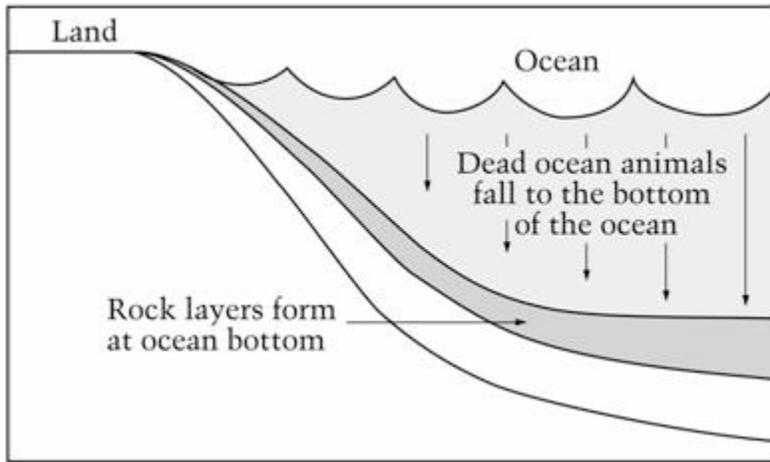
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22. The picture below shows how a type of rock forms at the bottom of the ocean. What type of rock is this?



- A) Lava
- B) Igneous
- C) Sedimentary
- D) Metamorphic

23. There are many different kinds of human-made satellites orbiting the Earth. List three things that these satellites are used for.

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24. Which is an example of water condensing?

- A) A puddle disappearing on a hot summer afternoon
- B) Sweat forming on your forehead after you do a lot of exercise
- C) Ice cubes melting when you put them out in the sun
- D) Dew forming on plants during a cold night

25. Lightning and thunder happen at the same time, but you see the lightning before you hear the thunder. Explain why this is so.

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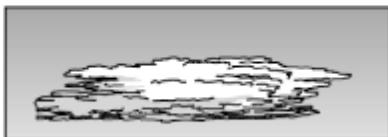
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26. Which type of cloud is most likely to produce heavy rain, lightning, and thunder?

A) Tall and dark



B) Low and gray



C) High and broken



D) High and wispy



27. It is a cloudless, sunny day. A student measures the temperature of the air outside every hour. She collects the following data.

Time	Air Temperature
8:00 A.M.	18°C
9:00 A.M.	19°C
10:00 A.M.	21°C
11:00 A.M.	23°C

What will the air temperature outside most likely be at 12:00 noon?

- A) 18°C
- B) 21°C
- C) 25°C
- D) 32°C

28. Which of the following best explains why the Sun appears to move across the sky every day?

- A) The Sun rotates on its axis.
- B) Earth rotates on its axis.
- C) The Sun orbits around Earth.
- D) Earth orbits around the Sun.

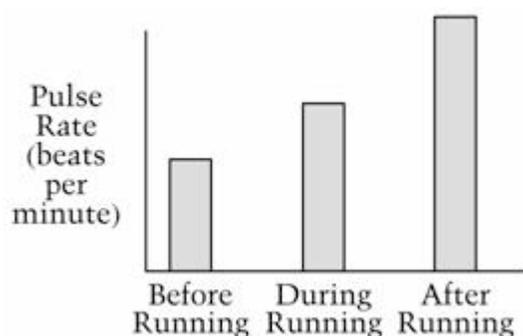
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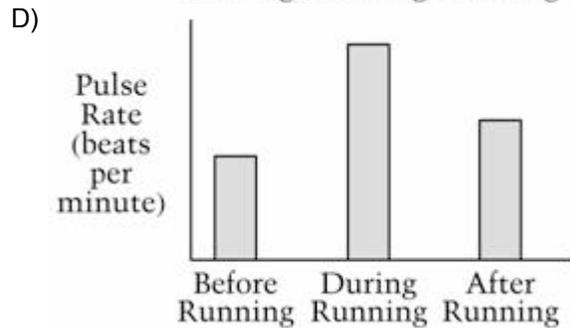
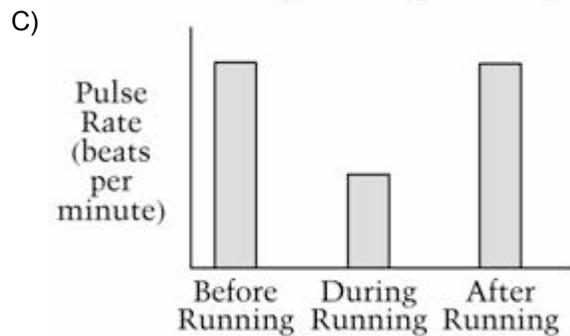
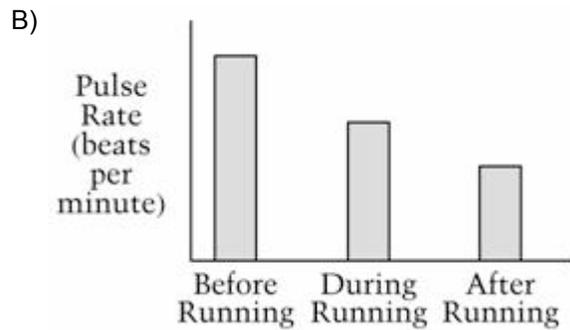
A farmer thinks that the vegetables on her farm are not getting enough water. Her son suggests that they use water from the nearby ocean to water the vegetables. Is this a good idea?

- A) Yes, because there is plenty of ocean water.
- B) Yes, because ocean water has many natural fertilizers.
- C) No, because ocean water is too salty for plants grown on land.
- D) No, because ocean water is much more polluted than rainwater.

30. Julio wanted to know how his pulse rate changed when he ran very fast. He measured his pulse rate before he started running, while he was running, and two minutes after he stopped running. Which graph best shows how Julio's pulse rate changed?

A)





31. How do most fish get the oxygen they need to survive?

- A) They take in water and break it down into hydrogen and oxygen.
- B) Using their gills, they take in oxygen that is dissolved in water.
- C) They get their oxygen from the food they eat.
- D) They come to the surface every few minutes to breathe air into their lungs.

32. Pat has two kinds of plant food, "Quickgrow" and "Supergrow." What would be the best way for Pat to find out which plant food helps a particular type of houseplant grow the most?

- A) Put some Quickgrow on a plant in the living room, put some Supergrow on a plant of the same type in the bedroom, and see which one grows the most.
- B) Find out how much each kind of plant food costs, because the more expensive kind is probably better for growing plants.
- C) Put some Quickgrow on a few plants, put the same amount of Supergrow on a few other plants of the same type, put all the plants in the same place, and see which group of plants grows the most.

D) Look at the advertisements for Quickgrow, look at the advertisements for Supergrow, and see which one says it helps plants grow the most.

33. Maria has one glass of pure water and one glass of salt water, which look exactly alike. Explain what Maria could do, without tasting the water, to find out which glass contains the salt water.

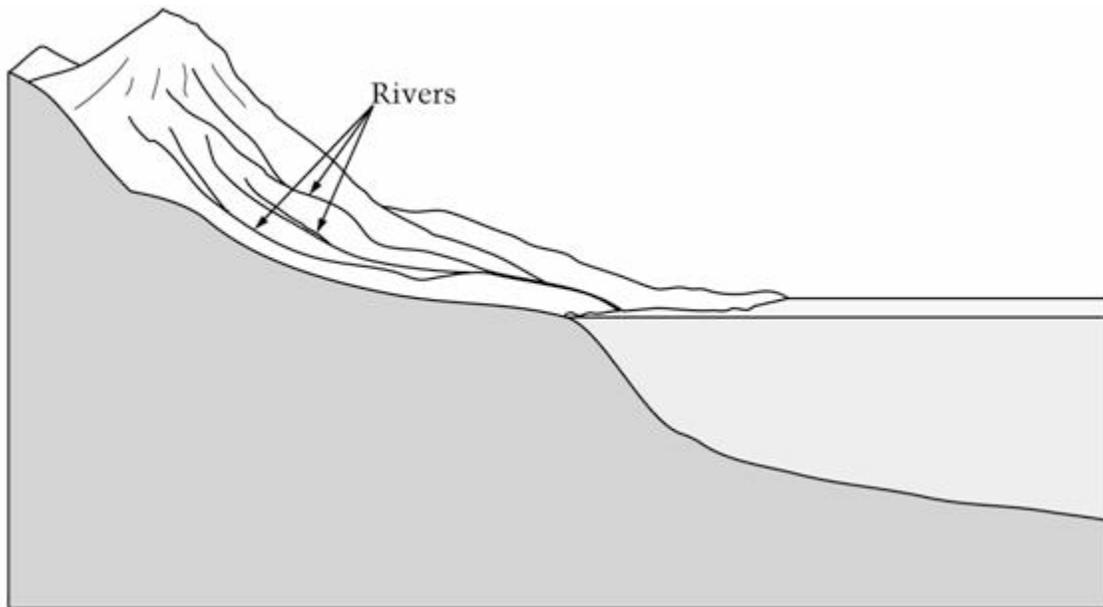
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34. The picture below can be used to show how sandstone can form along the edge of a large lake. Draw and write on the picture to show the two main processes of sandstone formation.



35. On steep slopes along the sides of new roads, highway department workers often grow plants to prevent the soil from being eroded. Describe two ways that these plants keep the soil from eroding.

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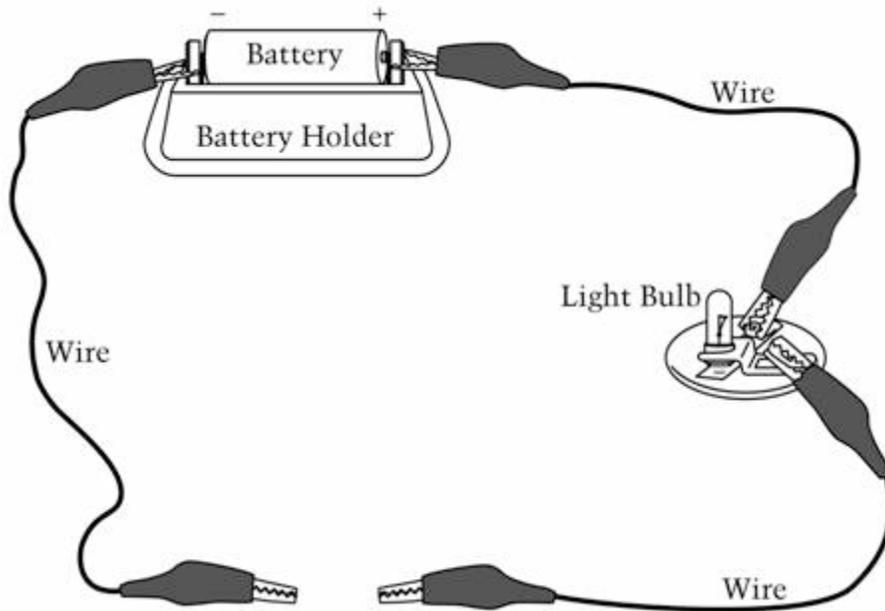
/U> refer to the way electricity is conducted.

36. Look at each item in the list below. Decide if it conducts electricity or does not conduct electricity. Put an X in the box to show what you decided.

Item	Conducts Electricity	Does Not Conduct Electricity
House Key		
Rubber Band		
Coin		
Wooden Toothpick		
Metal Fork		
Plastic Spoon		
Aluminum Foil		

/U> refer to the way electricity is conducted.

37. The picture shows a way you could hook up a battery, three wires, and a light bulb.



Explain how you could use these things to test an item to see if it is a conductor of electricity.  
How could you tell?

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38. Julie had four bottles. She wanted to know which bottle could hold the most water.

Julie found the mass of each bottle when it was empty. Then she found the mass of each bottle when it was full of water. She recorded the following results.

Bottle	Mass of Empty Bottle (grams)	Mass of Full Bottle (grams)
1	100	800
2	100	600
3	500	900
4	700	900

Which bottle held the most water?

- A) 1
- B) 2
- C) 3
- D) 4

39. Rocks and Earth and on the Moon are made of similar materials. What does this observation most likely suggest?

- A) Both the Moon and Earth split off from the Sun.
- B) Life must have existed on the Moon at one time.
- C) The Moon was probably formed from material from Earth.
- D) The whole solar system is made up of the same kinds of rocks.

	 Mineral A	 Mineral B	 Mineral C
Mineral A scratches:	--	no	no
Mineral B scratches:	yes	--	yes
Mineral C scratches:	yes	no	--

40. The table above shows whether or not each mineral can scratch the other minerals. Based on the table, which mineral is the hardest? Fill in only one oval.

- A) Mineral A
- B) Mineral B
- C) Mineral C

Explain your answer.

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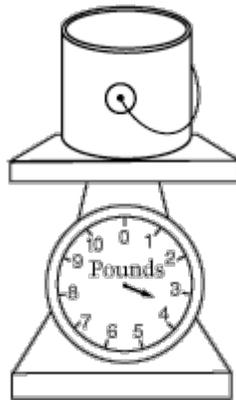
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41. What does the can shown in the diagram weigh?

- A)  $1\frac{3}{4}$  pounds
- B)  $2\frac{3}{4}$  pounds
- C)  $3\frac{1}{2}$  pounds
- D)  $4\frac{1}{4}$  pounds



Bird



Gorilla



Grasshopper



Fox



Frog



Dolphin

42. Look at the animals pictured above. (Note: pictures not drawn to scale.)

Which three of the animals pictured above reproduce by laying eggs?

- A) Bird, gorilla, grasshopper

- B) Gorilla, grasshopper, frog
- C) Fox, frog, dolphin
- D) Bird, grasshopper, frog