WATER
Survey/Posttest

Name
Date

1. • What happens to the level of the water in the straw when the water in the bottle is *heated*?

(Circle the one best answer.)

A. The water level goes down.

B. The water level stays the same.

C. The water level goes up.

• Why does this happen?

_____

_____

2. • Which of these processes is involved in causing rain?

(Circle the one best answer.)

A. evaporation

B. condensation

C. both evaporation and condensation

• Explain your answer.

_____

_____

_____

_____

Name _____

3. Jack and Jill went up the hill to fetch a pail of water.
Jack fell down and broke his crown,
And Jill came tumbling after.

If the pail of water spilled on the hill, which direction did the water flow?

_____

4. Shanna stuck one end of a clear straw into a ball of clay. She filled the straw part way with water and marked the water level. She then placed the straw setup in the freezer.

- Which statement describes the level of the water (ice) in the straw after it froze?

  (Circle the one best answer.)

  A. The water level went down when the water froze.

  B. The water level stayed the same when the water froze.

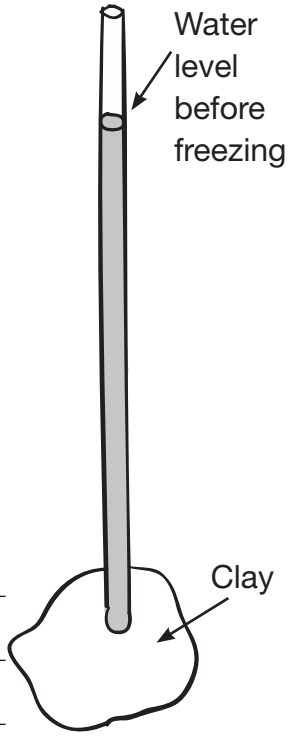
  C. The water level went up when the water froze.

- Explain why you chose that answer.

_____

_____

_____



Name

5. What is precipitation?

6. Look at the two pictures of drops on a flat, waterproof surface. The drop on the left is soapy water, and the drop on the right is plain water.

Soapy water Plain water

a. What causes the plain water to look like it does?

b. What causes the soapy water to look like it does?

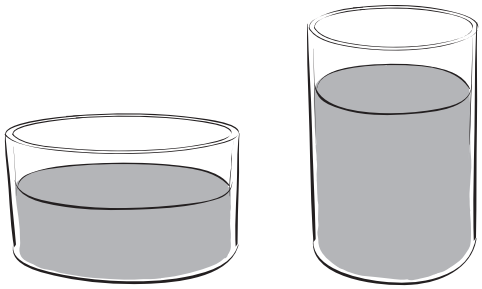
7. On a rainy day, Juan noticed that some raindrops moved down the window more rapidly than others.

Drops 

- Put an X through the drop you think moved the slowest.
- Circle the drop you think moved the fastest.

Name _____

8. Ted poured the *same amount of water* into two small containers, X and Y. He placed them together where they would not be disturbed.



After several days, all of the water had evaporated from one of the containers. The other container still had some water.

- Which container, X or Y, was empty? _____

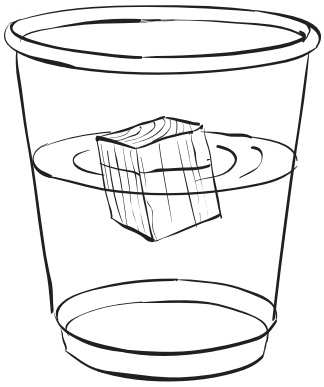
- Explain why the water in that container evaporated more quickly than the water in the other container.

_____

_____

_____

9. Look at the picture of a block of wood in a cup of water.



- Which statement below is true?

  (Circle the one best answer.)

  A. The block of wood is less dense than the water.

  B. The block of wood is the same density as the water.

  C. The block of wood is denser than the water.

- What is your evidence?

_____

Name

10. a. Draw and label a picture of the general water cycle. Be sure to label all changes.

b. Name three places that a water particle can be found on Earth other than in a body of water such as a lake, river, or ocean.

(1) _____

(2) _____

(3) _____

Name

11. Explain why, when water freezes, the ice floats on water instead of sinking.

12. Joanna's glasses "steamed up" when she went into the bathroom after her sister finished her shower.

- What was the "steam"? _____
- What caused the "steam" to form on her glasses?

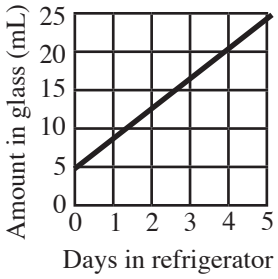
13.
- Does water do the same thing on all surfaces? _____
- Explain your answer.

Name

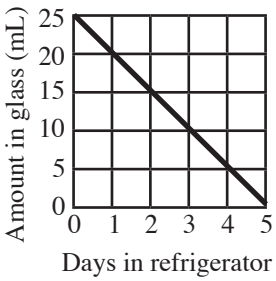
14. Mei put an uncovered glass of water in the refrigerator. Each day she measured and recorded the water left in the glass. Which graph shows what probably happened?

(Circle the one best answer.)

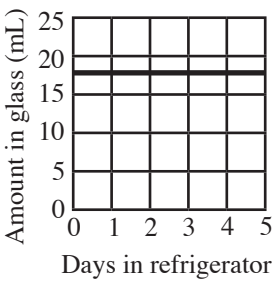
A



B



C



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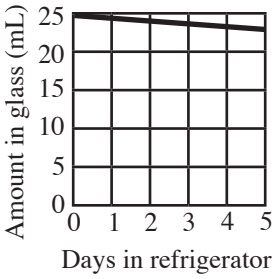


15. Hanna did an investigation to find out if adding salt to water would change the time it takes water to freeze. Her data table is shown below.

	Time to freeze (minutes)	
Solution	Trial 1	Trial 2
100 mL water	55	52
100 mL water + 10 g salt	75	70
100 mL water + 20 g salt	115	120

According to the table,

(Circle the one best answer.)

A. water cools at a rate of 4°C per minute.

B. water takes less time to freeze when salt is added.

C. the more salt added, the longer the solution takes to freeze.

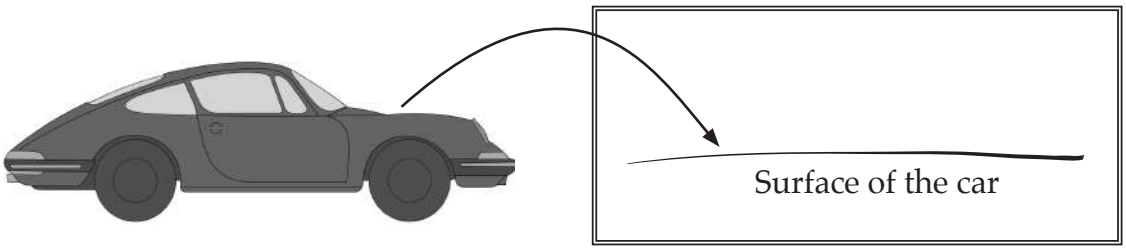
D. the time for freezing water does not change no matter how much salt is added.

I-CHECK
Investigation 1—Water Observations

Name
Date

16. Pam sprayed water on her mother's car. The water drops looked just like those she had seen on other surfaces that do not absorb water.

    a. In the box to the right, draw a side view of a water drop on the surface of the car.



    b. What property of water causes the drop to be shaped that way?

_____

_____

17. Ron covered his notebook with waxed paper. Then he placed a small drop of water in the middle of the notebook as shown in the picture. Even though the drop was on a slope, the drop stayed where he placed it.

Describe two ways Ron can make the water move down the notebook without pushing the drop, blowing on it, or shaking the notebook.

a. _____

_____

b. _____

_____

I-CHECK

Investigation 1—Water Observations

Name

18. A needle, which would normally sink in water, can stay on the surface of water if placed very carefully.

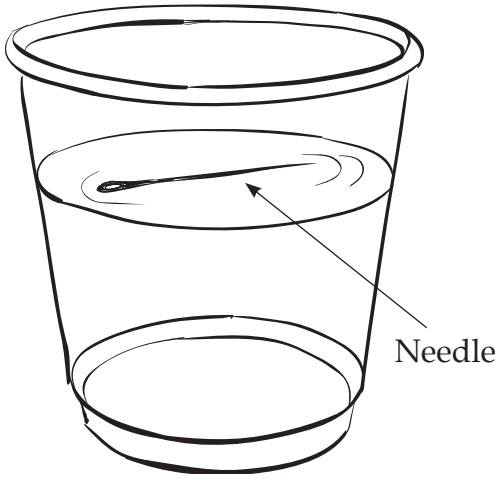
    a. What property of water makes this possible?

    (Circle the one best answer.)

    A. surface temperature

    B. surface area

    C. surface tension



    b. How could you make the needle sink to the bottom of the container without touching the needle or the container?

    (Circle the one best answer.)

    A. Add more water to the container.

    B. Add soap to the water.

    C. Add salt to the water.

Name

19. Dr. Moreno was studying a river. She recorded her observations once a week for three years. Her observations included how fast the water was running, the water level, and how much silt was mixed in with the water.

Scientists keep detailed records of their observations so they

(Circle the one best answer.)

A. have pictures of the places they study to include in their reports.

B. can prove that scientists spend a lot of time working.

C. can write books about science that people will want to read.

D. have evidence that can be used to support their explanations.

20. Kenji put 25 drops of water on a penny. He recorded his observations in his science notebook. Which sentence below describes an inference that Kenji could make from his observations?

(Circle the one best answer.)

A. The drops of water are dome-shaped.

B. If I put bigger drops on the penny, it would take fewer to cover it.

C. When two drops touched, they formed into one bigger drop.

D. When I put the 25th drop of water on the penny, it spilled onto the table.

I-CHECK

Investigation 2—Hot Water, Cold Water

Name
Date

21ab. List the following types of water in order, from least dense to densest.

warm water cold water ice

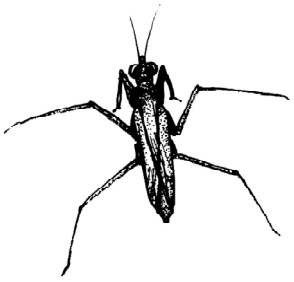
least dense _____

_____

densest _____

22. Water striders are insects that are able to "stand" on water, move about, and capture prey without sinking. What property of water allows water striders to stay on top of water?

_____



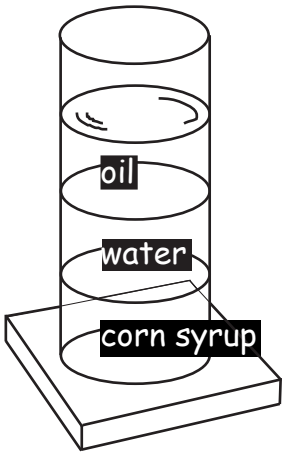
23. What science word describes what happens when water soaks into another material like a paper towel? _____

I-CHECK

Investigation 2—Hot Water, Cold Water

Name

24. Oil, water, and corn syrup are layered in a tall, thin container. All are at the same temperature.



- What does the layering tell you about the density of the oil compared to the corn syrup?

- Describe the evidence that supports your answer.

25. Matthew's mother left two plastic bottles in the trunk of their car. One was full of water, and the other was empty. The temperature dropped below 0°C that night. When his mother opened the trunk the next afternoon, she discovered the bottle with the water had cracked.

Explain why the bottle with the water cracked but the empty bottle did not.

I-CHECK

Investigation 2—Hot Water, Cold Water

Name

26. Pete put a marble in a cup of water as shown in the picture.

- Which statement about the marble and the water is true?

  (Circle the one best answer.)

  A. The marble is less dense than the water.

  B. The marble has the same density as the water.

  C. The marble is denser than the water.

- What is your evidence?

_____

_____

27. - What happens to the level of the water in the straw when the water in the bottle is *cooled* (but *not frozen*)?

  (Circle the one best answer.)

  A. The water level goes down.

  B. The water level stays the same.

  C. The water level goes up.

- Why does this happen?

_____

_____

I-CHECK

Investigation 2—Hot Water, Cold Water

Name

28. Donna put two cups of water in the freezer. There was 50 mL of water in cup 1 and 25 mL of water in cup 2. Which sentence below describes what will be the *same* for both cups?

(Circle the one best answer.)

A. The temperature at which the water freezes.

B. The time it takes for the water to freeze.

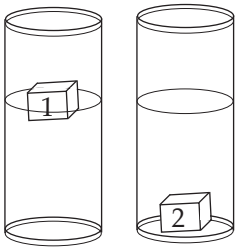
C. The volume of frozen water in each of the cups.

D. The mass of the frozen water in each of the cups.

29. Mateo had two blocks that were the same size. He dropped each block into a container of water.

Why did block 1 float and block 2 sink?

(Circle the one best answer.)



A. Block 1 contained more air bubbles than block 2.

B. Block 2 absorbed more heat than block 1.

C. Block 1 weighed more than block 2.

D. Block 2 is made of a different material than block 1.

I-CHECK
Investigation 3—Water Vapor

Name
Date

30. Where does water go when it changes to water vapor?

(Circle the one best answer.)

A. into clouds

B. onto cool surfaces

C. into the air

31. • Does water flow faster moving down a mountain or through a valley?

_____

• Explain your answer.

_____

_____

_____

32. Anna spilled half of her cup of water on the kitchen floor. The other half was still in the cup. When she came back hours later, all of the water on the floor had evaporated, but most of the water in the cup was still there. (Anna knew that no one had wiped up the water on the floor.)

Explain to Anna why the water that spilled on the floor had all evaporated, but most of the water in the cup had not.

_____

_____

_____

Name

33. Maria weighed a small, wet sponge. It weighed 38 grams. She left the sponge on the balance.

The next day the sponge weighed 22 grams.

Why did the mass change?

34. Johnny drove to the store with his father one cold night. They had only driven a short distance when the windows fogged up on the inside.

- What was the "fog"? _____

- What was it about the windows that caused the "fog" to form on them?

35. Angie wrote in her science notebook,

Evaporation only happens when water is heated to high temperatures.

Explain why you agree or disagree.

I-CHECK
Investigation 3—Water Vapor

Name

36. Which of the following is true when ice melts?

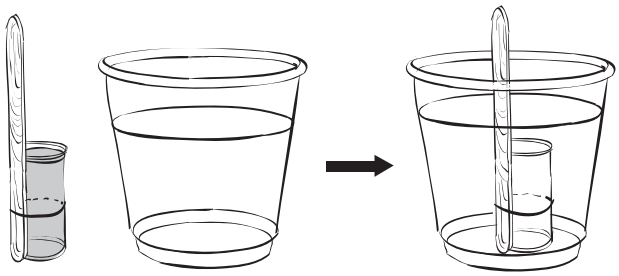
(Circle the one best answer.)

A. The meltwater takes up less space than the ice.

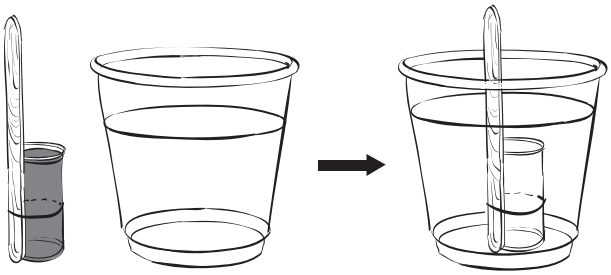
B. The meltwater takes up more space than the ice.

C. The meltwater takes up the same amount of space as the ice.

37. • Draw a picture of what happens when you lower a vial of hot water into a cup of room-temperature water.



• Draw a picture of what happens when you lower a vial of cold water into a cup of room-temperature water.



• Which is denser, *hot* water or *cold* water? _____

• How does what happens in the cups help you answer which is denser?

_____

_____

_____

Name

38. Which of the following is an example of water vapor condensing?

(Circle the one best answer.)

A. Water leaking from a garden sprinkler.

B. Water melting when it is heated.

C. Water in a puddle changing to gas as the day grows warmer.

D. Water beads forming on tree leaves on a cool morning.

39. The energy source that causes water in the ocean to change into water vapor is

(Circle the one best answer.)

A. underwater earthquakes.

B. clouds in the sky above the ocean.

C. the Sun.

D. a reaction between the water and the animals that live in it.

I-CHECK
Investigation 4—The Water Cycle

Name
Date

40. a. In order for water vapor to leave the atmosphere, it must first change to liquid water, that is, it must _____ .

b. The water might then fall to Earth as rain, hail, sleet, or snow. Each of these is a type of _____ .

c. If the water falls into a river, it might then _____ into the ocean.

d. From the ocean, the water might _____ and return to the atmosphere.

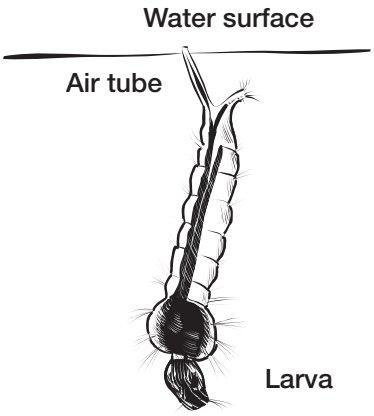
41. Surface tension allows mosquito larvae to hang by their air tubes at the surface of a pond.

Describe what could be done to stop the larva from being able to hang from the surface.

_____

_____

_____

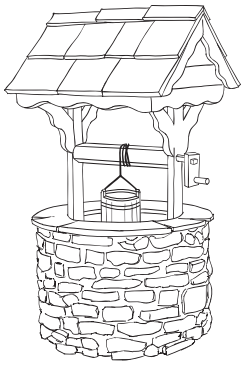


I-CHECK

Investigation 4—The Water Cycle

Name

42. Why does a coin sink in the water when you throw it into a wishing well?



43. Which changes are involved in the water cycle?

(Circle all that apply.)

ice to water

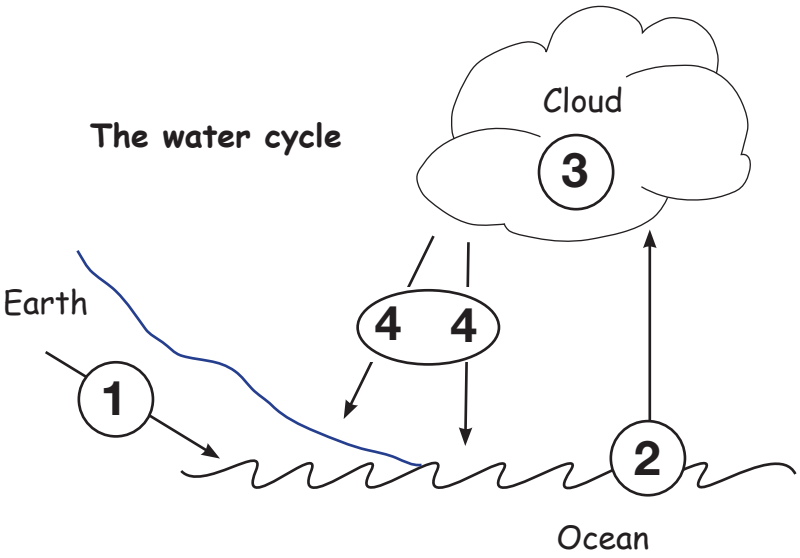
water to ice

water to water vapor

water vapor to water

Name

44. Answer questions 44a and 44b based on the diagram of the water cycle you see here.



a. Which process is happening at ④?

(Circle the one best answer.)

A. condensation

B. flow (or runoff)

C. evaporation

D. precipitation

b. Which process is happening at ②?

(Circle the one best answer.)

A. condensation

B. flow (or runoff)

C. evaporation

D. precipitation