

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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1. In Colonial America, people used ice to help keep foods fresh. They cut the ice from lakes and ponds during the winter and stored the ice in icehouses. They sometimes used hay as an insulator to prevent the ice from melting.

If you wanted to build an icehouse today, which of the following would be the **best** material to use as an insulator?

- A. dried leaves
- B. foam blocks
- C. plastic wrap
- D. rock salt

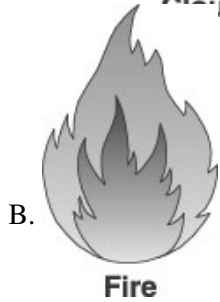
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2. What happens to the liquid inside the thermometer when the temperature increases?

- A. It expands and gets taller.
  - B. It contracts and gets shorter.
  - C. It changes into a gas.
  - D. It changes into a solid.
-

3. What makes the most heat energy?



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4. Bob is in the kitchen making dinner. Heating water will help him to

- A. cool the drinks.
- B. make ice cubes.
- C. cook noodles.
- D. clean the vegetables.

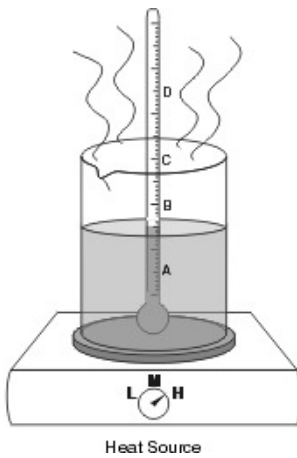
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5. Ellie's grandmother asked her to stir hot soup cooking on the stove. Which spoon should she use to be safe?

- A. a metal spoon
  - B. a wooden spoon
  - C. a plastic spoon
  - D. an iron spoon
-

6.

Use the picture below to answer this question.



Morgan is doing a science experiment. When the water in the beaker is heated, the thermometer reading will go from

- A. A to B to C to D.
  - B. D to B to A to C.
  - C. C to A to B to D.
  - D. B to C to D to A.
- 

7. Vern is doing an experiment to measure the heating effect of the Sun. He needs to use a small dish of water, a clock, and a

- A. light meter.
  - B. hydrometer.
  - C. pH meter.
  - D. thermometer.
- 

8. When one end of a steel rod is held in a flame, the other end also gets hot. This happens because steel

- A. makes its own heat.
  - B. is a good conductor of heat.
  - C. makes the flame hotter.
  - D. keeps cold away from the flame.
- 

9. Which is a source of heat energy?

- A. rain
  - B. fire
  - C. wind
  - D. water
-

10. May stirs her glass of iced lemonade with a spoon. At first the spoon feels warm but soon it feels as cold as the lemonade. Which tells what happens?

- A. The spoon loses heat to the lemonade until they are both the same temperature.
  - B. The lemonade loses heat to the spoon until they are both the same temperature.
  - C. The spoon and the lemonade get colder because they use May's energy from stirring.
  - D. The spoon and the lemonade get colder because they both lose heat to the glass.
- 

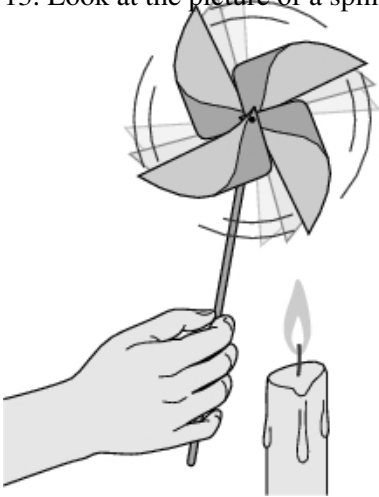
11. Estelle put hot water in a cup. When she picked up the cup, the handle was very hot. Which tells why the handle was hot?

- A. Heat moved from the handle to the air.
  - B. Heat moved from the hot water to the handle.
  - C. Heat moved from Estelle to the handle.
  - D. Heat moved from the air to the handle.
- 

12. Ammon was at the beach and walked from his blanket onto the sand. He felt his feet burning on the sand and ran back to his blanket. What heated the sand?

- A. his feet
  - B. the Sun
  - C. the Earth
  - D. his blanket
- 

13. Look at the picture of a spinning pinwheel held over a lit candle.



Which of these BEST explains why the pinwheel is spinning?

- A. heat energy from the candle
  - B. solar energy from the candle
  - C. heat energy from the pinwheel
  - D. wind energy from the pinwheel
-

14. Sarah knows that she can warm her hands by rubbing them together. What causes them to get warmer?

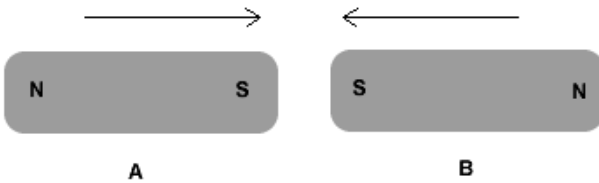
- A. electricity
  - B. fire
  - C. friction
  - D. gravity
- 

15.

Which of these will a magnet attract?

- A. aluminum
  - B. brass
  - C. copper
  - D. iron
- 

16.



As the two magnets in the image are brought closer to one another, what is likely to happen next in this image, and why?

- A. The magnets will get closer because the parts that make up the magnet are aligned.
  - B. The magnets will get closer because the two magnets have opposite ends.
  - C. The magnets will move apart because the two magnets have the same ends.
  - D. The magnets will move apart because the two magnets have opposite ends.
- 

17.

Which of these is true about magnets?

- A. All magnets are the same size.
  - B. Magnets can attract all metals.
  - C. Magnets can attract other magnets.
  - D. Small objects will attract to magnets.
- 

18.

Which method describes a way to create friction?

- A. Place a plate in soapy water.
  - B. Burn a piece of paper in a fire.
  - C. Connect a battery to a remote control.
  - D. Smooth a piece of wood with sandpaper.
-

19.

Two houses are identical in every way except one. House A has styrofoam insulation behind every wall, beneath the floor, and above the ceiling. House B has empty space (air) behind every wall, beneath the floor, and above the ceiling.

Which statement is true?

- A. The family in House A will spend more to cool the house during the summer.
  - B. The family in House B will spend less to heat the house during the winter.
  - C. The family in House A will spend less to warm the house during the winter.
  - D. The families in Houses A and B will spend equal amounts to cool and heat the house.
- 

20.

What purpose does a bear's fur have in a cold environment?

- A. keeps him cool
  - B. helps the bear blend in
  - C. prevents bears from drowning
  - D. insulates bears against the cold weather
- 

21.

Temperature is measured in what kind of units?

- A. pounds
  - B. degrees
  - C. kilograms
  - D. centimeters
- 

22.

This is an experiment that could be done in science class.

Place a thermometer in a glass of warm water. Record the temperature. Place a thermometer in a glass of cold water. Record the temperature.

Which answer explains how you would determine the difference in temperature between the two glasses of water?

- A. multiply the two temperatures
  - B. add the two temperatures together
  - C. subtract the lower temperature from the higher temperature
  - D. You will not be able to determine a difference with the data.
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23.



**The picture shows some ring magnets on a pencil. A student pushed the magnets together, but they came apart as soon as the student let go. The magnets stay apart from each other because the —**

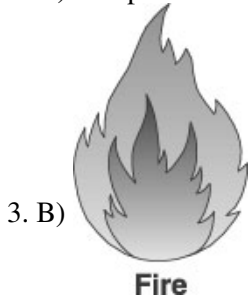
- A. magnets are too weak to stay together
- B. materials that make up the magnets are not magnetic
- C. same poles of the magnets are facing each other
- D. pencil stops the force of the magnets

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**Answer Key**

1. B) foam blocks

2. A) It expands and gets taller.



4. C) cook noodles.

5. B) a wooden spoon

6. A) A to B to C to D.

7. D) thermometer.

8. B) is a good conductor of heat.

9. B) fire

10. A) The spoon loses heat to the lemonade until they are both the same temperature.

11. B) Heat moved from the hot water to the handle.

12. B) the Sun

13. A) heat energy from the candle

14. C) friction

15. D) iron

16. C) The magnets will move apart because the two magnets have the same ends.

17. C) Magnets can attract other magnets.

18. D) Smooth a piece of wood with sandpaper.

19. B) The family in House B will spend less to heat the house during the winter.

20. D) insulates bears against the cold weather

21. B) degrees

22. C) subtract the lower temperature from the higher temperature



23. C) same poles of the magnets are facing each other