

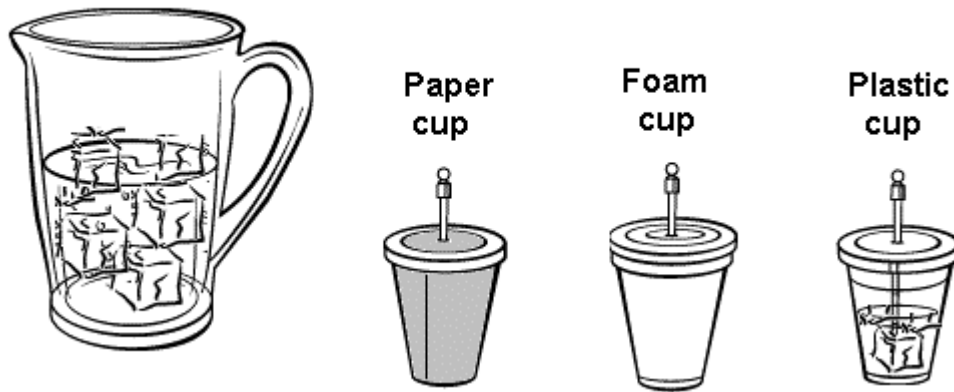
**McGraw-Hill Science © 2000, Texas Edition
TAKS Practice Test**

**Grade 3, Chapter 6
Energy**

Name _____

Date _____

Use the text, illustration and your knowledge of science to answer Questions 1 to 4.



The illustration shows the set-up for an experiment. Each cup contains ice cubes in water, and a thermometer. The temperature inside each cup is 2°C .

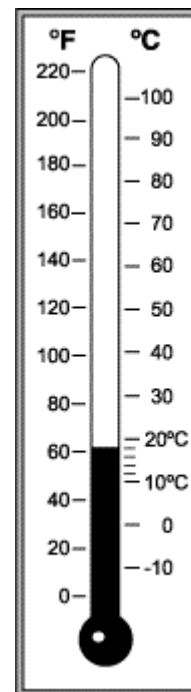
A student runs the experiment in his classroom. He observes the cups and the temperatures every 5 minutes for one hour.

- 1 What hypothesis does this experiment test?
- Ice is colder than liquid water.
 - Foam insulates heat better than plastic or paper.
 - Foam freezes more slowly than plastic or paper.
 - Cups should be made of foam, not plastic or paper.
- 2 How will the temperature change inside the paper cup?
- The temperature will rise to 50°C .
 - The temperature will rise to 40°C .
 - The temperature will rise to the temperature of the classroom.
 - The temperature will lower to 0°C , and stay there.

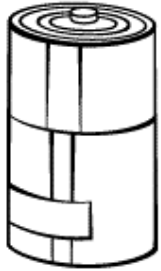
- 3 Does heat travel through any of the cups? If so, how does it travel?
- Yes, heat travels from the outside to the inside of each cup.
 - Yes, heat travels from the inside to the outside of each cup.
 - Yes, heat travels from the paper and plastic cups to the foam cup.
 - No, heat does not travel through the cups.

- 4 What is the temperature shown here, in degrees Celsius? Round your answer to the nearest degree. Fill the bubble grid with the correct number.

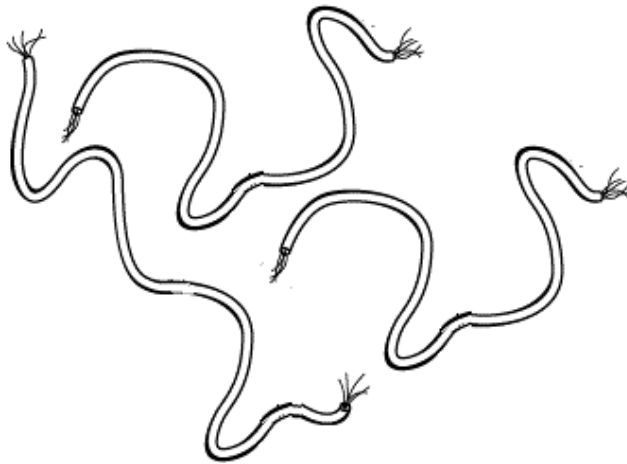
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Use the information below and your knowledge of science to answer Questions 5 and 6.



D cell



3 wires



Light bulb

- 5 How many wires would you need to join the D cell and light bulb into a circuit?
- none of the wires
 - 1 wire
 - 2 wires
 - 3 wires
- 6 What is a D cell?
- A source of electrical energy
 - A source of light energy
 - A source of heat energy
 - Any hard, round, metal object

- 7 Which of these objects is opaque?
- Alligator
 - Window
 - Water
 - Air

- 8 What happens to light when it reflects off a mirror?
- Light travels through the mirror.
 - Light disappears into the mirror.
 - Light bounces off the mirror.
 - Light scatters away from the mirror.

- 9 Why does the spoon look broken or bent?
- The spoon in fact is broken in two pieces.
 - Light bends when it hits a spoon.
 - Light bends when it travels into your eye.
 - Light bends when it travels between air and water.

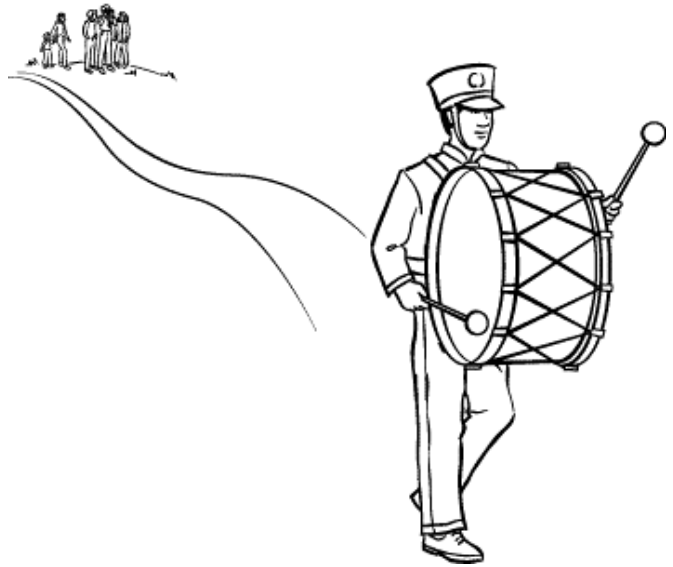


A spoon in a glass of water

- 10 What kinds of materials can light travel through?
- Glass and all other solids
 - Water and all other liquids
 - Air and all other gases
 - Many solids, liquids, and gases, as well as empty space

Use the information below and your knowledge of science to answer Questions 11 and 12.

Students observe a drummer from 300 meters away. First they see the drummer hit the drum. A short moment later, they hear the sound of the drum.



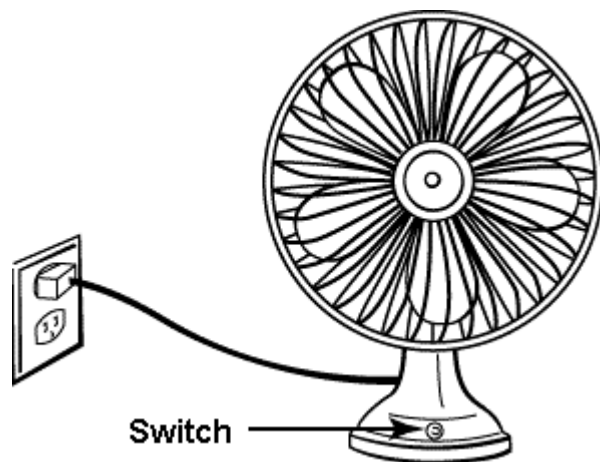
11 What could the students conclude from their observations?

- Light travels 300,000 kilometers per second.
- Light travels faster than sound.
- Light travels faster in warm air than cold air.
- Sound travels faster in warm air than cold air.

12 What do light and sound have in common?

- Both travel at the same speed through air.
- Both travel at the same speed through water.
- Both travel only through liquids or gases.
- Both are forms of energy that travel in waves.

Use the information below and your knowledge of science to answer Questions 13 and 14.



A student uses an electric fan in a science experiment.

- 13 What does the switch do in an electric fan?
- The switch opens or closes an electric circuit.
 - The switch opens or closes a door for air to move through.
 - The switch releases a spring that holds back the blades.
 - The switch acts as a D cell in an electric circuit.
- 14 What safety rule should the student follow when using the fan?
- Keep hands dry.
 - If the cord is frayed, wrap cellophane tape around it.
 - Stick a piece of paper into the fan's blades.
 - Wear safety goggles.

ANSWER KEY and CORRELATIONS:

Question	Answer	TAKS	McGraw-Hill Science Grade 3 textbook
1	Foam insulates heat better than plastic or paper.	5.2A, 5.7A	p. 170
2	The temperature will rise to the temperature of the classroom.	5.7A	p. 166
3	Yes, heat travels from the outside to the inside of each cup.	5.7A	p. 170
4	18	5.4A	p. 166
5	2 wires	5.8C	p. 184
6	A source of electrical energy	5.8A	p. 184
7	Alligator	5.7A	p. 176
8	Light bounces off the mirror.	5.8B	p. 176
9	Light bends when it travels between air and water.	5.8B	p. 177
10	Many solids, liquids, and gases, as well as empty space	5.8A	p. 180
11	Light travels faster than sound.	5.2C, 5.2D	p. 180
12	Both are forms of energy that travel in waves.	5.8A	p. 180
13	The switch opens or closes an electric circuit.	5.8C	p. 185
14	Keep hands dry.	3.1A	p. R4