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# Pretest

Grade 4 • Science



Student Test Booklet

**FOCUS**curriculum

Publishing to Indiana's Content Standards

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## Grade 4 Science Pretest

Indiana's Academic Standards for Science Tested with Answers

| Item | Standard | Answer   |
|------|----------|--|
| 1    | 4.1.1    | heat   |
|      | 4.1.1    | thermometer  |
|      | 4.1.2    | Electrical energy was changed to heat energy. The heat from the hair dryer was transferred to the water.   |
| 2    | 4.1.3    | A  |
| 3    | 4.1.5    | B  |
| 4    | 4.1.4    | B  |
| 5    | 4.2.1    | A  |
| 6    | 4.2.2    | Sand dunes are formed when wind transports sand and deposits it in another location and it begins to pile up.  |
| 7    | 4.2.3    | Landslides pull large amounts of soil, rock and other material down a hill. The land slide causes a depression or crater at the top of the hill and mounds it at the bottom of the hill. |
| 8    | 4.2.4    | D  |
| 9    | 4.2.5    | B  |
| 10   | 4.2.6    | D  |
| 11   | 4.3.1    | C  |
| 12   | 4.3.2    | D  |
| 13   | 4.3.3    | A  |
| 14   | 4.3.4    | D  |
| 15   | 4.4.1    | gravity and magnetism  |
| 16   | 4.4.2    | C  |
| 17   | 4.4.3    | The ball will move faster and farther.   |
| 18   | 4.4.4    | Jason should Identify possible solutions to the problem  |
|      | 4.4.4    | Jason should design an experiment to test his possible solutions.  |
|      | 4.4.4    | Jason should measure and record the speed of the soap box derby before he tries a solution. Then measure and record the speed after the change.  |
|      | 4.4.4    | Jason should reevaluate and try another solution.  |

**Print Pages 4 through 12 for the Students Test Booklet.**

# GRADE 4

# 4

## SCIENCE PRETEST

**Student Name** \_\_\_\_\_

**School Name** \_\_\_\_\_

Print your name and the name of your school on the lines above.

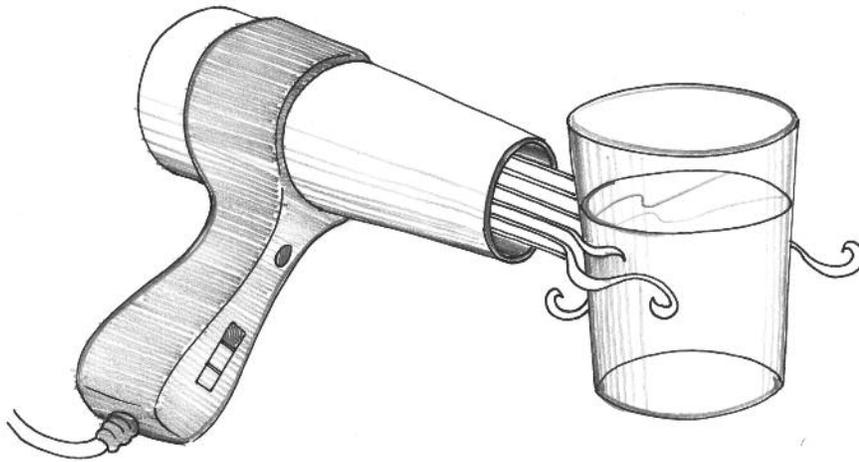
This test contains 12 multiple-choice questions. Record your answers to these questions on the separate answer sheet. Use only a No. 2 pencil on your answer sheet.

This test consists of 6 extended response items. Write your answers to these on the lines provided in the test booklet.

You will have as much time as you need to answer the questions.

**DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

1. Jody turns on a hair dryer and holds it next to a glass of water. The water slowly becomes warmer.



What is the hair dryer a source of?

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What tool did Emily use to determine the water was warming?

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Explain why the water became warmer.

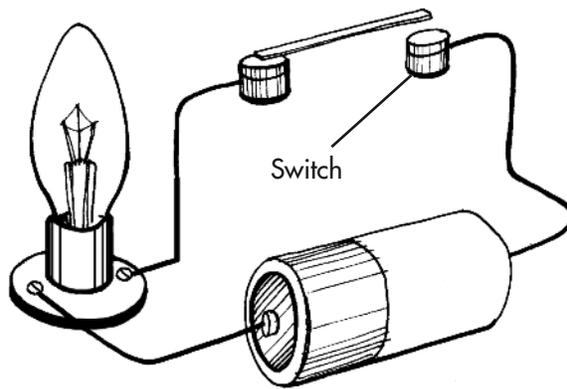
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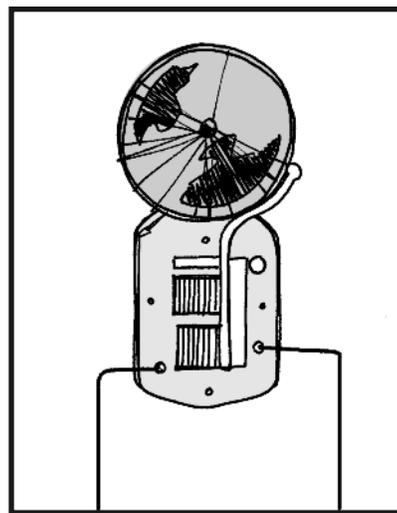
2. The diagram below shows an electric circuit.



What must occur for the light bulb to light up?

- A. The switch must be closed
- B. There must be a second battery
- C. The switch must be replaced with a wire
- D. There must be a second circuit

3. The diagram below shows a classroom bell connected to electric wires.



Electricity is being transformed into what other form of energy?

- A. light
- B. sound
- C. heat
- D. mechanical

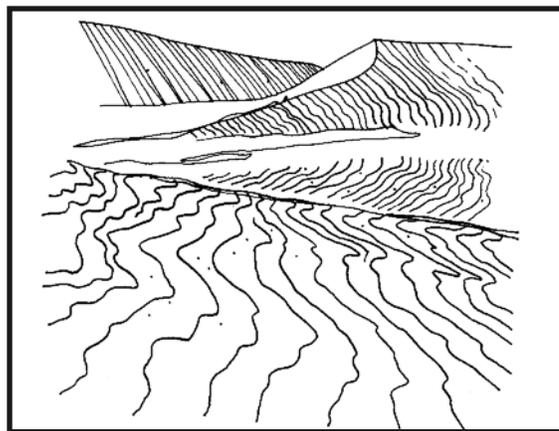
4. Which material is the best conductor of electricity?

- A. plastic
- B. copper
- C. rubber
- D. wood

5. Rain beating down on a cliff over thousands of years can wear down the rock. This process is called

- A. erosion.
- B. deposition.
- C. evaporation.
- D. condensation.

6. Below is an illustration of sand dunes in a desert. Explain how the sand dunes formed.



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7. Explain how a landslide suddenly changes the shape of land.

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**8. Which of the following natural resources is limited by supply?**

- A. air
- B. water
- C. soil
- D. fossil fuels

**9. Which of the following is an example of how people extend the use of natural resources?**

- A. Adding compost to soil in gardens.
- B. Building cars that use less gasoline.
- C. Building dams on rivers.
- D. Burning coal in power plants.

**10. Which statement is an example of humans changing the natural environment?**

- A. Earthworms dig tunnels in the soil.
- B. A tornado destroys homes.
- C. Winds move seeds to new places.
- D. Factories release gases into the air.

**11. Sharks have large, sharp teeth to help them catch and eat prey. The offspring of sharks are likely to have**

- A. flat teeth for grinding food.
- B. good hearing to avoid predators.
- C. sharp teeth for catching prey.
- D. smaller rather than larger teeth.

**12. Which physical structure would best help a rabbit hide from a fox during a winter in Indiana**

- A. strong hind legs
- B. sharp eyesight
- C. claws for digging
- D. white fur

**13. Animals hibernate when**

- A. the season changes to winter.
- B. new predators move nearby.
- C. they get hungry.
- D. it is time to migrate.

**14. Many kinds of whales swim down the Pacific coast in the winter. They have their babies in warmer water before heading back to the north in the spring. This is an example of a behavior for survival called**

- A. dormancy.
- B. camouflage.
- C. hibernation.
- D. migration.

15. Name TWO forces that can affect the motion of an object without touching it.

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**16. Which instrument would be useful to determine the speed of a moving object?**

- A. barometer
- B. thermometer
- C. tape measure
- D. balance scale

17. Alice is dribbling a soccer ball down the field. As she approaches the goal, she kicks the ball hard. What are TWO effects the kick will have on the ball.

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18. Jason is building a soap box derby that he wants to race down a hill. He does not think the soap box derby is fast enough to win the race. He is trying to determine ways to make it go faster. What would be a good first step to help Jason solve the problem?

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What should Jason do next?

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How could Jason determine if the soap box derby was faster than before?

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Jason tried one approach to make the soap box derby go faster, but it did not work. What should he do next?

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# Answer Sheet

1. Extended Response
2. (A) (B) (C) (D)
3. (A) (B) (C) (D)
4. (A) (B) (C) (D)
  
5. (A) (B) (C) (D)
6. Extended Response
7. Extended Response
8. (A) (B) (C) (D)
  
9. (A) (B) (C) (D)
10. (A) (B) (C) (D)
11. (A) (B) (C) (D)
12. (A) (B) (C) (D)
  
13. (A) (B) (C) (D)
14. (A) (B) (C) (D)
15. Extended Response
16. (A) (B) (C) (D)
17. Extended Response
18. Extended Response