

Student Name: _____

Pretest

Grade 5 • Science



Student Test Booklet

FOCUScurriculum

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Directions:

Today you will be taking a test about science topics. It will help your teacher determine what you already know about these topics. Three different types of questions appear on this test—multiple choice, short answer, and extended response.

When you take this test, remember these important things:

1. Read each question carefully. Think about what is being asked. Look carefully at illustrations, graphs, or diagrams. They provide important information for the questions.
2. When questions ask you to write an answer, use a pencil. Write neatly and clearly in the space provided in the Answer Document. Do not write any answers in the Student Test Booklet, as they will not be counted toward your score.
3. Multiple-choice questions are worth one point. Short-answer questions are worth two points. Extended-response questions are worth four points.
4. For multiple-choice questions, completely shade in the circle next to your choice in the Answer Document. Shade only one answer choice for each question. If you change an answer, erase it completely.
5. If you are stuck on a question, go on to the next question. Return to that question after answering the remaining questions.
6. Check over your work when you are finished.

Science

1. Many objects orbit the sun, including Earth and other planets.
Which does NOT orbit the sun?
 - A. moons
 - B. comets
 - C. asteroids
 - D. galaxies

2. Which would be true if the Earth spun clockwise instead of counterclockwise around its axis?
 - A. The seasons would reverse.
 - B. The tilt of the Earth's axis would shift.
 - C. The sun would appear to rise in the west.
 - D. The sun would no longer appear to move across the sky.

3. Which statement best describes why the sun changes position in the sky during the day?
 - A. Earth turns once every 7 days.
 - B. Earth turns once every 24 hours.
 - C. The sun moves from east to west.
 - D. The sun moves in and out of the clouds.

4. The sun is a medium size star, yet it appears to be much larger than all the other stars in the night sky.

Explain why the sun is a star. Then explain why it appears to be so much larger than the other stars we see at night. (2 points)

5. Which is a tool scientists use to magnify the appearance of objects in the solar system?

- A. telescope
- B. barometer
- C. anemometer
- D. thermometer

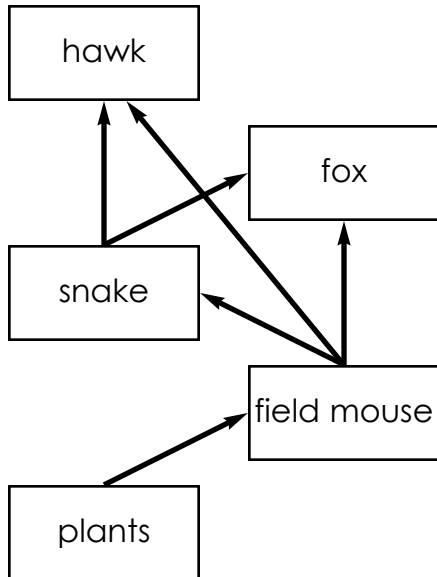
6. What is an organism called that transforms energy from the sun to produce food?

- A. herbivore
- B. consumer
- C. producer
- D. decomposer

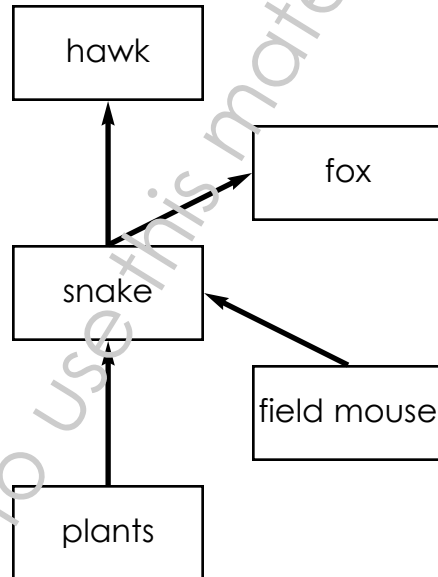
Science

7. Which diagram properly shows a food web that occurs in nature?

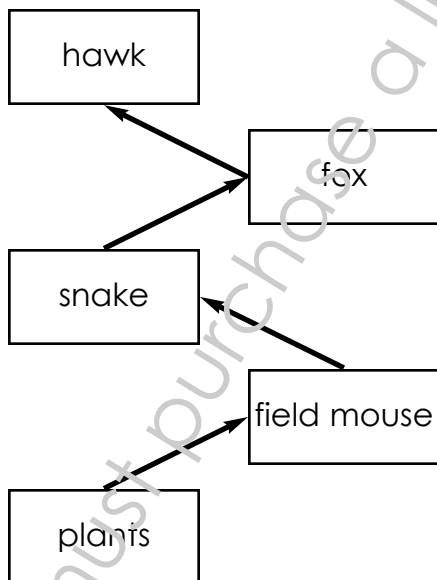
A.



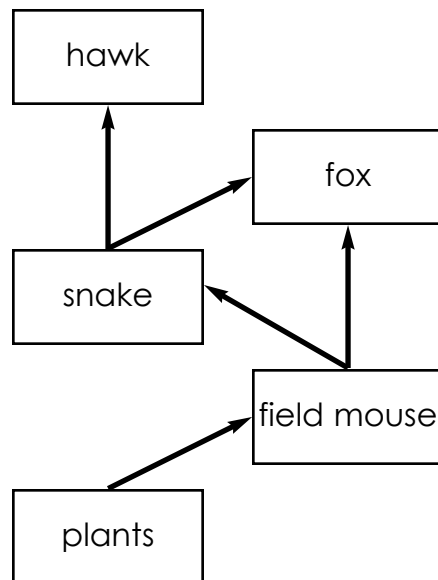
B.



C.

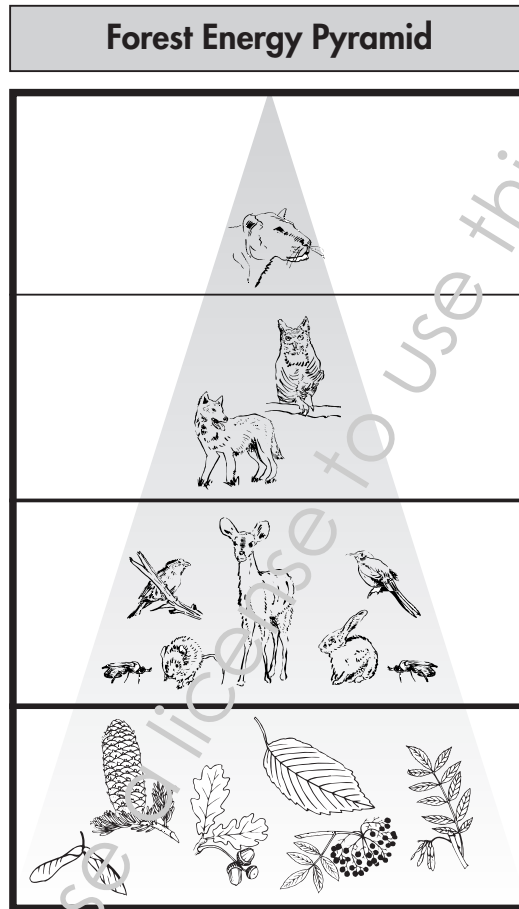


D.



Use the following Forest Energy Pyramid to answer question 8.

8. In this forest energy pyramid, which organism is a herbivore?



- A. fox
- B. deer
- C. plant
- D. cougar

Science

9. A fox eats a rabbit for food. The fox gains energy from that food.

Identify the original source of energy in this food chain. Explain how the energy was passed on to the fox. (2 points)

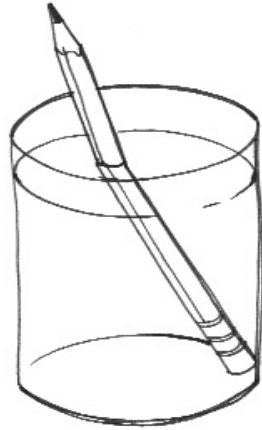
10. Orchids grow on the trunks and branches of trees. They get the light they need and benefit from water that runs along the branch or trunk. The tree is unaffected by the orchid.

What type of relationship is this?

- A. predation
 - B. parasitism
 - C. mutualism
 - D. commensalism
11. Which are forces that can effect the motion of an object without the object touching anything?
- A. gravity and friction
 - B. collision and friction
 - C. magnetism and collision
 - D. gravity and magnetism

12. What will happen to an object if a force is applied in the same direction of the object's motion?
- A. The object will stop.
 - B. The object will speed up.
 - C. The object will slow down.
 - D. The object will not change speed.
13. What are the two factors required to determine the speed of an object?
- A. time and weight
 - B. weight and force
 - C. time and distance
 - D. distance and force
14. The same force is applied to a small, light ball and a large, heavy ball. In your answer document, identify which ball will likely travel farther. Then explain what would need to happen for the other ball to travel the same distance. (2 point)

15. A pencil is placed in a glass of water.



Which statement explains why the pencil looks broken at the surface of the water?

- A. Light is blocked as it moves from air to water.
 - B. Light is reflected as it moves from air to water.
 - C. Light is absorbed as it moves from air to water.
 - D. Light is refracted as it moves from air to water.
16. A rubber band was stretched slightly and plucked. It created a low-pitch sound.

What caused the sound to be a low pitch?

- A. The rubber band vibrated slowly.
- B. The rubber band vibrated quickly.
- C. The sound was reflected off a solid surface.
- D. The sound was refracted off a solid surface.

Science

17. Light can pass through materials in different ways.

In your answer document, identify two types of materials that light can pass through. Explain what happens to the light when it passes through each material. (4 points)

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Grade 5 • Science



Answer Document

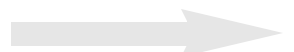
Science

1. (A) (B) (C) (D)

2. (A) (B) (C) (D)

3. (A) (B) (C) (D)

4. Write your response to question 4 in the space below.



5. (A) (B) (C) (D)

6. (A) (B) (C) (D)

7. (A) (B) (C) (D)

8. (A) (B) (C) (D)

9. Write your response to question 9 in the space below.



Science

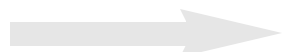
10. (A) (B) (C) (D)

11. (A) (B) (C) (D)

12. (A) (B) (C) (D)

13. (A) (B) (C) (D)

14. Write your response to question 14 in the space below.



15. (A) (B) (C) (D)

16. (A) (B) (C) (D)

17. Write your response to question 17 in the space below.



Pretest

Grade 5 • Science



Answer Key and
Content Statements Covered



Question 1 • Grade 5: Earth and Space Science
Multiple Choice

Content Statement: The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.

Correct Response: D. galaxies

Question 2 • Grade 5: Earth and Space Science
Multiple Choice

Content Statement: Most of the cycles and patterns of motion between the Earth and sun are predicatable.

Correct Response: C. The sun would appear to rise in the west.

Question 3 • Grade 5: Earth and Space Science
Multiple Choice

Content Statement: Most of the cycles and patterns of motion between the Earth and sun are predicatable.

Correct Response: B. Earth turns once every 24 hours.



Question 4 • Grade 5: Earth and Space Science
Short Answer

Content Statement: The sun is one of many stars that exist in the universe.

Scoring Guidelines

Points	Student Response
2 pts	<p>The answer explains the characteristics of a star and explains that the sun is the closest star to Earth.</p> <p>Exemplar Response The sun is a star because it is a mass of hot glowing material which gives off heat and light. The sun appears to be larger than other stars because it is the closest star to Earth. All other stars are much farther away from Earth than the sun.</p>
1 pt	<p>The answer explains why the sun is a star but not why it appears to be larger or visa versa.</p>
0 pts	<p>Neither correctly explains; leaves blank or states, "I don't know."</p>

Question 5 • Grade 5: Earth and Space Science
Multiple Choice

Content Statement: The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.

Correct Response: A. telescope



Question 6 • Grade 5: Life Science
Multiple Choice

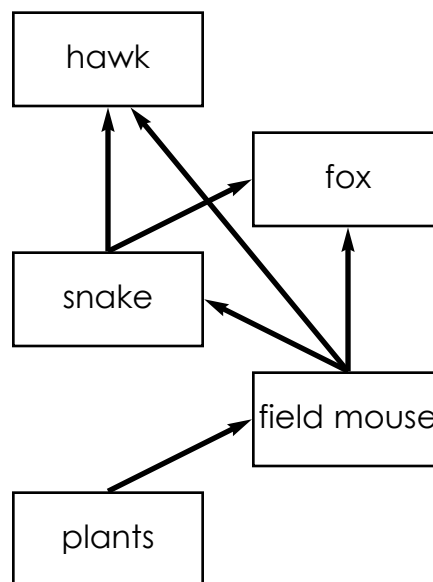
Content Statement: Organisms perform a variety of roles in an ecosystem.

Correct Response: C. producer

Question 7 • Grade 5: Life Science
Multiple Choice

Content Statement: Organisms perform a variety of roles in an ecosystem.

Correct Response: A.





Question 8 • Grade 5: Life Science
Multiple Choice

Content Statement: Organisms perform a variety of roles in an ecosystem.

Correct Response: B. deer

Question 9 • Grade 5: Life Science
Short Answer

Content Statement: All of the processes that take place within organisms require energy.

Scoring Guidelines

Points	Student Response
2 pts	The answer identifies the original source of energy as the sun and explains how the sun's energy is passed along the food chain. Exemplar Response The sun is the original source of energy. The sun provides plants with light energy which the plant uses to produce food. Some animals then eat plants to obtain energy. The fox eats animals that ate plants to acquire its energy.
1 pt	The answer describes the sun as the original source but does not describe how the energy is passed along to the fox.
0 pts	Neither correctly identifies or explains; leaves blank or states, "I don't know."



Question 10 • Grade 5: Life Science
Multiple Choice

Content Statement: Organisms perform a variety of roles in an ecosystem.

Correct Response: C. mutualism

Question 11 • Grade 5: Physical Science
Multiple Choice

Content Statement: The amount of change in movement of an object is based on the weight of the object and the amount of force exerted.

Correct Response: D. gravity and magnetism

Question 12 • Grade 5: Physical Science
Multiple Choice

Content Statement: The amount of change in movement of an object is based on the weight of the object and the amount of force exerted.

Correct Response: B. The object will speed up.

Question 13 • Grade 5: Physical Science
Multiple Choice

Content Statement: The amount of change in movement of an object is based on the weight of the object and the amount of force exerted.

Correct Response: C. time and distance



Question 14 • Grade 5: Physical Science
Short Answer

Content Statement: The amount of change in movement of an object is based on the weight of the object and the amount of force exerted.

Scoring Guidelines

Points	Student Response
2 pts	<p>The answer identifies the smaller ball as travelling farther and explains that more force would have to be exerted on the large ball for it to move the same distance.</p> <p>Exemplar Response The small, light ball will travel the farthest distance. In order for the larger, heavier ball to travel the same distance, more force would have to applied to it.</p>
1 pt	<p>The answer identifies the small, lighter ball, but does not explain how the other ball could move the same distance.</p>
0 pts	<p>Neither correctly identifies or explains; leaves blank or states, "I don't know."</p>



Question 15 • Grade 5: Life Science
Multiple Choice

Content Statement: Light and sound are forms of energy that behave in predictable ways.

Correct Response: D. Light is refracted as it moves from air to water.

Question 16 • Grade 3: Life Science
Multiple Choice

Content Statement: Light and sound are forms of energy that behave in predictable ways.

Correct Response: A. The rubber band vibrated slowly.



Question 17 • Grade 5: Physical Science
Extended Response

Content Statement: Light and sound are forms of energy that behave in predictable ways.

Scoring Guidelines

Points	Student Response
4 pts	<p>The answer correctly identifies transparent and translucent material and describes how light passes through each.</p> <p>Exemplar Response Transparent and translucent material allow light to pass through them. Transparent materials allow light to pass through without mixing or bouncing the light. Translucent material lets light pass through but mixes up the light rays slightly.</p>
3 pts	<p>Answer correctly identifies transparent and translucent material, but only correctly describes how light passes through one of them.</p>
2 pts	<p>Answer correctly identified both materials, but does not correctly describe how light passes through either -OR- correctly identifies and describes only one.</p>
1 pt	<p>Answer correctly identifies one material, but does not correctly explain how light passes through it.</p>
0 pts	<p>Answer shows a complete lack of understanding; leaves blank or states, "I don't know."</p>



Answer Key—Grade 5 Pretest

Multiple choice answers are 1 point

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

