



pennsylvania
DEPARTMENT OF EDUCATION

The Pennsylvania System of School Assessment

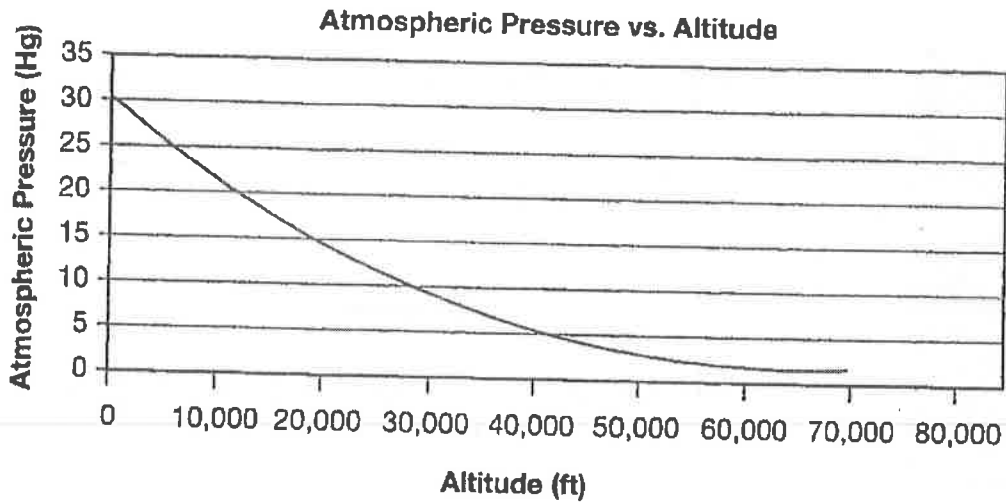
Science Item and Scoring Sampler



2015–2016
Grade 8

MULTIPLE-CHOICE QUESTIONS

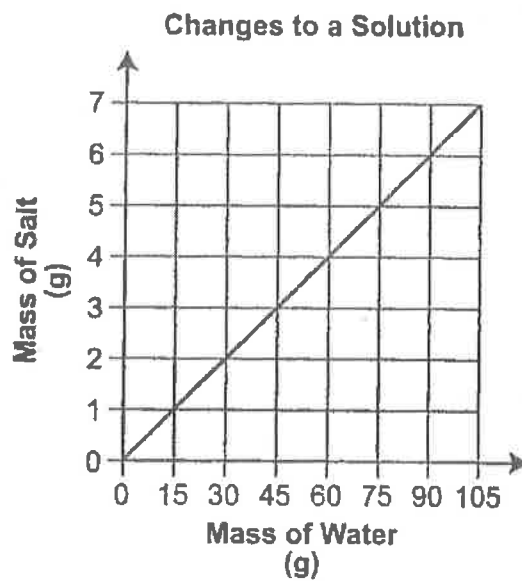
Use the graph below to answer question 1.



1. Based on the graph, which statement **best** describes the relationship between atmospheric pressure and altitude?
- A. Atmospheric pressure controls altitude.
 - B. Atmospheric pressure is equal to altitude.
 - C. Atmospheric pressure increases as altitude increases.
 - D. Atmospheric pressure decreases as altitude increases.

2. In 1901, the SS *Port Morant* became the world's first refrigerated banana ship. It was equipped with carbon dioxide refrigeration. It could carry 23,000 bunches of bananas from Jamaica to England at a controlled temperature. What impact did cargo ship refrigeration systems have on the banana industry?
- It made transportation of bananas to overseas markets quicker.
 - It made bananas ripen by the time they arrived at their destination.
 - It made bananas sweeter than bananas transported without any cooling.
 - It made shipment of bananas to faraway ports possible with little spoilage.

Use the graph below to answer question 3.



3. The graph shows the relationship between two characteristics of a saltwater solution. Which ratio describes the changes in these two characteristics?
- 1:7
 - 90:7
 - 1:15
 - 105:15

PSSA SCIENCE GRADE 8

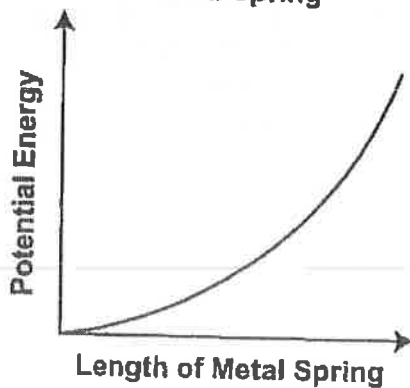
Use the data table below to answer question 4.

Trial	Time (seconds)		
	Mouse 1	Mouse 2	Mouse 3
1	58	52	67
2	54	50	65
3	53	49	61
4	47	48	57
5	42	46	55

4. A researcher placed three mice in a maze and recorded the time it took each mouse to complete the maze. Which relationship is **best** supported by the data collected by the researcher?
- A. More practice resulted in faster maze completion times for each mouse.
 - B. More practice had no effect on the maze completion times for each mouse.
 - C. More practice had the greatest effect on Mouse 3's final maze completion time.
 - D. More practice reduced each mouse's maze completion time by more than 10 seconds.

Use the graph below to answer question 5.

Length vs. Potential Energy
in a Metal Spring



5. Which statement best describes the relationship between the length of a metal spring and its potential energy as shown in the graph?
- A. Increased potential energy in the spring forces it to extend.
 - B. Increased potential energy in the spring forces it to contract.
 - C. As the length of the spring increases, its potential energy increases.
 - D. As the length of the spring increases, its potential energy decreases.

6. Which measurements are required to calculate the average speed of a car driving on a road?
- A. time and distance
 - B. time and direction
 - C. mass and distance
 - D. mass and direction

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7. Which part of a farm system is directly improved by the use of fossil-fuel-based fertilizers?
- A. air quality
 - B. water purity
 - C. soil temperature
 - D. nutrients and minerals

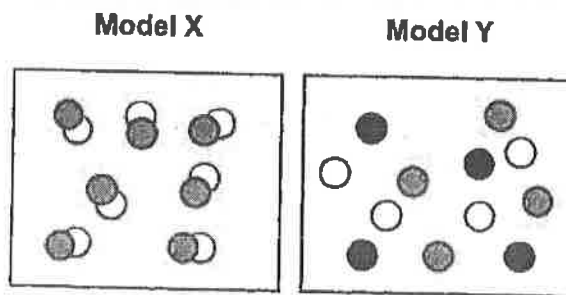
Use the list below to answer question 10.

- | Organism Traits | |
|-----------------|------------------------|
| 1. | Good night vision |
| 2. | Good depth perception |
| 3. | Very sensitive hearing |
| 4. | Fast, silent flight |
| 5. | Sharp talons |
| 6. | Hooked beaks |

10. Which word **best** describes the organism's role in its ecosystem?

- A. mutualist
- B. parasite
- C. predator
- D. producer

Use the diagrams below to answer question 11.



11. Which statement **best** describes the model that shows a compound?

- A. Model X shows a compound because there are two different types of atoms.
- B. Model X shows a compound because two different atoms are chemically bonded together.
- C. Model Y shows a compound because there is more than one type of atom.
- D. Model Y shows a compound because each pair of matching atoms can form a chemical bond.

Use the chemical equation below to answer question 12.

Formation of Carbon Dioxide

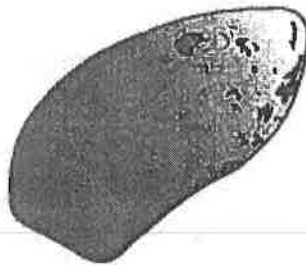


12. Which statement **best** describes the chemicals in the reaction?
- A. C and O₂ are reactants, and CO₂ is a product.
 - B. C and O₂ are products, and CO₂ is a reactant.
 - C. C and CO₂ are products because they contain carbon.
 - D. C, O₂, and CO₂ are all reactants because they are involved in a reaction.
13. Which example is a nonrenewable source of chemical energy?
- A. biofuel
 - B. windmill
 - C. gasoline
 - D. solar panel
14. Which statement **best** explains the importance of fossils to scientists?
- A. Fossils show how animals viewed their surroundings, so scientists know more about past animals.
 - B. Fossils show what color animals once were, so scientists know more about what they ate.
 - C. Fossils show where animals once lived, so scientists know more about the environment and how it has changed.
 - D. Fossils show that animals lived in the same location today as they once did, so scientists know more about today's environment.

15. The cycling of water from ocean surfaces to the atmosphere mainly depends on which process?
- A. evaporation caused by the Sun
 - B. precipitation caused by the Sun
 - C. evaporation caused by warm ocean currents
 - D. precipitation caused by warm ocean currents

Use the drawing below to answer question 16.

951 Gaspra



16. The drawing shows the asteroid 951 Gaspra as seen by the Galileo spacecraft as it passed through the asteroid belt. How is this asteroid different from a moon?
- A. Unlike a moon, Gaspra has a gravitational force.
 - B. Unlike a moon, Gaspra is made of solid materials.
 - C. Gaspra would be classified as a moon if it were close to a planet.
 - D. Gaspra would be classified as a moon if it began orbiting a planet.

Albert Einstein



WBTE Preview

Question 18



Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1.

2.



