

YEAR 8 SCIENCE SELF ASSESSMENT TEST



“Test yourself or your child at home, and reach out to us only if you need extra help. Otherwise, give yourself or your child a pat on the back and best of luck for the future!”

Instructions: Answer all questions. All questions are multiple-choice. Some questions require calculations. Calculators may be used where appropriate.

1. Which statement best explains why metals are good conductors of electricity?

- A. Metal atoms are tightly packed and cannot move
 - B. Metals contain free electrons that can move through the lattice
 - C. Metals have high melting points
 - D. Metals contain positive ions that flow easily
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2. A force of 10 N acts on an object with a mass of 2 kg. What is the acceleration of the object?

- A. 2 m/s²
 - B. 5 m/s²
 - C. 10 m/s²
 - D. 20 m/s²
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3. Which change would most likely increase the rate of evaporation of water?

- A. Lowering the temperature
 - B. Decreasing the surface area
 - C. Increasing air movement above the water
 - D. Adding more water to the container
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4. In the particle model, solids have a fixed shape because their particles:

- A. Move freely past one another
 - B. Are far apart with weak forces
 - C. Vibrate around fixed positions
 - D. Have no kinetic energy
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5. Which statement correctly describes the role of decomposers in an ecosystem?

- A. They produce food using sunlight
 - B. They hunt and consume other organisms
 - C. They break down dead organisms and recycle nutrients
 - D. They store energy for higher-level consumers
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6. Why does increasing the length of a wire increase its electrical resistance?

- A. The voltage across the wire increases
 - B. The current becomes constant
 - C. Electrons collide more frequently within the wire
 - D. The wire produces more electrical energy
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7. Which separation technique is best suited to separate sand from salt dissolved in water?

- A. Filtration only
 - B. Evaporation only
 - C. Filtration followed by evaporation
 - D. Distillation followed by condensation
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8. Which statement about energy transformations is correct?

- A. Energy can be created but not destroyed
- B. Energy is destroyed when friction is present
- C. Energy can be transformed from one form to another
- D. Energy always changes into kinetic energy only

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- 9.** A food chain shows:
- A. All the organisms in an ecosystem
 - B. The movement of matter and energy through an ecosystem
 - C. Only predator–prey relationships
 - D. How nutrients are lost from ecosystems
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- 10.** Which factor has the greatest effect on the strength of gravitational force on Earth?
- A. The object's colour
 - B. The object's mass
 - C. The object's temperature
 - D. The object's shape
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- 11.** When a gas is heated in a sealed container, the pressure increases because:
- A. Gas particles become larger
 - B. Gas particles move faster and collide more often with the walls
 - C. Gas particles turn into liquid
 - D. Gas particles stop moving randomly
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- 12.** Which statement best explains why fertilisers can cause algal blooms in waterways?
- A. Fertilisers reduce oxygen levels directly
 - B. Fertilisers increase water temperature
 - C. Fertilisers add excess nutrients that increase algae growth
 - D. Fertilisers kill decomposers in the water
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- 13.** Which of the following is an example of a chemical change?
- A. Melting ice
 - B. Dissolving sugar in water

- C. Rusting of iron
 - D. Crushing a can
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- 14.** Why are scientific investigations repeated by different scientists?
- A. To make results more interesting
 - B. To reduce the need for evidence
 - C. To check reliability and validity of results
 - D. To change the original hypothesis
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- 15.** Which statement best describes the relationship between producers and consumers?
- A. Producers rely on consumers for energy
 - B. Consumers make their own food
 - C. Producers provide energy that consumers depend on
 - D. Consumers always outnumber producers