

7th Grade Science Quiz

Fifteen questions about genetics, chemical reactions, forces, and ecosystems. Can you pass 7th gr...

Name / Team:

Score:

1 What molecule carries genetic information in all living things?

- A. RNA
- B. Protein
- C. DNA
- D. Glucose

2 What is the difference between a physical change and a chemical change?

- A. Physical changes are bigger
- B. A chemical change creates a new substance; a p...
- C. There is no real difference
- D. Physical changes require heat

3 What force keeps the Earth orbiting the sun?

- A. Magnetism
- B. Friction
- C. Gravity
- D. Inertia

4 What are the building blocks of proteins?

- A. Nucleotides
- B. Amino acids
- C. Fatty acids
- D. Glucose molecules

5 What causes earthquakes?

- A. Volcanic eruptions
- B. Underground water pressure
- C. Movement of tectonic plates
- D. Changes in air pressure

6 What is Newton's First Law of Motion?

- A. Force equals mass times acceleration
- B. For every action there is an equal and opposite re...
- C. An object at rest stays at rest unless acted on by ...
- D. Energy cannot be created or destroyed

7 What are the two types of reproduction?

- A. Fast and slow
- B. Mitosis and meiosis
- C. Sexual and asexual
- D. Internal and external

8 What is the chemical formula for water?

- A. CO₂
- B. NaCl
- C. H₂O
- D. O₂

9 What body system is responsible for breaking down food into nutrients?

- A. Respiratory system
- B. Circulatory system
- C. Digestive system
- D. Nervous system

10 What layer of the Earth is made of molten rock and causes tectonic plates to move?

- A. The crust
- B. The inner core
- C. The mantle
- D. The outer core

11 What is an ecosystem?

- A. A single animal and its food
- B. A community of living things interacting with their...
- C. A group of the same species
- D. A type of biome

12 What happens during mitosis?

- A. A cell dies
- B. A cell divides into two identical daughter cells
- C. A cell absorbs nutrients
- D. A cell changes shape

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(continued)

13 What is the relationship between predator and prey called?

- A. Mutualism
- B. Parasitism
- C. Predation
- D. Commensalism

14 What type of energy transformation occurs when you turn on a light bulb?

- A. Light to electrical
- B. Chemical to thermal
- C. Electrical to light (and heat)
- D. Nuclear to light

15 What is a dominant trait in genetics?

- A. A trait that is always better
- B. A trait that masks or overrides a recessive trait
- C. A trait that appears in every generation
- D. A trait that is more common

7th Grade Science Quiz — Answer Key

1. C DNA

DNA (deoxyribonucleic acid) contains the instructions for building and maintaining an organism. It is found in the nucleus of every cell.

2. B A chemical change creates a new subst...

In a physical change (like melting ice), the substance stays the same. In a chemical change (like burning wood), a new substance is created and the change is usually irreversible.

3. C Gravity

Gravity pulls the Earth toward the sun while Earth's forward motion (inertia) keeps it moving in a curved orbit rather than falling straight in.

4. B Amino acids

Proteins are made of chains of amino acids. There are 20 different amino acids, and the order they appear in determines the protein's function.

5. C Movement of tectonic plates

Earthquakes occur when tectonic plates shift along fault lines, releasing stored energy as seismic waves. The point underground where the earthquake starts is called the focus.

6. C An object at rest stays at rest unles...

Newton's First Law (Law of Inertia) states that an object will stay at rest or keep moving at constant speed unless acted upon by an unbalanced force.

7. C Sexual and asexual

Sexual reproduction involves two parents and creates genetically unique offspring. Asexual reproduction involves one parent and creates genetically identical offspring (clones).

8. C H₂O

H₂O means each molecule of water contains 2 hydrogen atoms and 1 oxygen atom. CO₂ is carbon dioxide, NaCl is table salt, and O₂ is oxygen gas.

9. C Digestive system

The digestive system breaks food down mechanically (chewing) and chemically (stomach acid, enzymes) into nutrients the body can absorb and use.

10. C The mantle

The mantle is a thick layer of semi-molten rock beneath the crust. Convection currents in the mantle drive the movement of tectonic plates on the surface.

11. B A community of living things interact...

An ecosystem includes all living organisms (biotic) and non-living components (abiotic, like water, soil, and sunlight) in a specific area, and how they interact.

12. B A cell divides into two identical dau...

Mitosis is cell division that produces two genetically identical daughter cells. It is how organisms grow and repair damaged tissue.

13. C Predation

Predation is the relationship where one organism (predator) hunts and eats another (prey). It helps regulate population sizes in ecosystems.

14. C Electrical to light (and heat)

A light bulb converts electrical energy into light energy and heat energy. In incandescent bulbs, about 90% of the energy becomes heat rather than light.

15. B A trait that masks or overrides a rec...

A dominant allele masks the expression of a recessive allele. For example, if brown eyes (B) are dominant over blue eyes (b), a person with Bb will have brown eyes.