

Biology and Physics Educational Material

1. The mitochondria is often called the powerhouse of the cell. It produces energy in the form of ATP through cellular respiration.
2. Photosynthesis is a process used by plants to convert light energy into chemical energy. It occurs in the chloroplasts using sunlight, carbon dioxide, and water.
3. Newton's First Law: An object at rest stays at rest and an object in motion stays in motion unless acted upon by an external force.
4. Newton's Second Law: The force on an object is equal to its mass times its acceleration ($F = ma$).
5. Newton's Third Law: For every action, there is an equal and opposite reaction.
6. The human heart has four chambers: two atria and two ventricles. It pumps oxygenated blood throughout the body.
7. The circulatory system transports nutrients, gases, and wastes to and from cells.
8. Ohm's Law states that voltage equals current times resistance ($V = IR$). It describes the relationship between electric current, voltage, and resistance.
9. The periodic table organizes chemical elements based on atomic number. Elements in the same group have similar properties.

10. The water cycle involves processes like evaporation, condensation, precipitation, and collection. It's essential for replenishing Earth's freshwater.

These facts form the foundation of several high school-level science subjects.