1. Photosynthesis: Photosynthesis is the process by which green plants, algae, and some bacteria convert light energy, usually from the sun, into chemical energy stored in glucose. This process occurs in chloroplasts within plant cells and involves the conversion of carbon dioxide and water into glucose and oxygen, using light energy and the pigment chlorophyll. Importance in the ecosystem: Photosynthesis is crucial for the ecosystem as it is the primary means by which energy enters the food chain. Plants are autotrophs, meaning they can produce their own food through photosynthesis, and they form the base of most terrestrial and aquatic food chains. Additionally, photosynthesis releases oxygen into the atmosphere, which is essential for the survival of most living organisms, as it is used in cellular respiration.

2.Newton's Third Law of Motion: Newton's Third Law states that for every action, there is an equal and opposite reaction. This means that whenever one object exerts a force on a second object, the second object exerts an equal and opposite force back on the first object.Everyday Example\*\*: Consider the action of walking. When you walk, you push against the ground (action). As a result of this action, the ground exerts an equal and opposite force on you (reaction), propelling you forward. This is why you move forward when you walk.

3. Law of Conservation of Energy: The law of conservation of energy states that energy cannot be created or destroyed, only transformed from one form to another. In a closed system, the total energy remains constant over time.Example: Imagine a swinging pendulum. At the highest point of its swing, it has maximum potential energy because of its height above the ground. As it swings downward, this potential energy is converted into kinetic energy (energy of motion). At the lowest point of its swing, it has maximum kinetic energy but minimal potential energy. Throughout the pendulum's motion, the total energy (potential + kinetic) remains constant, illustrating the conservation of energy.

4. Role of Enzymes in Biological Reactions: Enzymes are biological catalysts that speed up chemical reactions by lowering the activation energy required for the reaction to occur. They do so by binding to reactant molecules and facilitating their interaction, thereby increasing the rate of the reaction. Enzymes are highly specific, each catalyzing a particular chemical reaction. Without enzymes, many vital biological processes would occur too slowly to sustain life.

5. Electric Current: Electric current is the flow of electric charge through a conducting medium, such as a wire or a circuit. It is typically measured in amperes (A). Unit of Measurement: The unit of measurement for electric current is the ampere (A), named after the French physicist André-Marie Ampère. One ampere is defined as the flow of one coulomb of charge per second. In simple terms, if one coulomb of electric charge passes through a point in a circuit in one second, the current flowing through that point is one ampere.