***SS 1 Biology***

***TOPIC: Energy Transformation In Nature***

Energy from the sun is in the form of light or solar energy, it is transformed to chemical energy by photosynthetic organisms. This chemical energy is transformed to mechanical energy and heat energy during metabolic activities in the cells of living organisms. The heat energy is lost to the environment.

***Laws Governing Energy Transformation From One Form To Another***

These laws are called laws of thermodynamics

***First Law Of Thermodynamics:*** States that energy cannot be created or destroyed but may be transformed or converted from one form to another.

***Application Of The First Law***

It is applied in the transformation of solar energy to chemical energy by plants during photosynthesis and transformation of chemical energy to heat energy during metabolic activities.

***Second Law Of Thermodynamics:*** States that no energy transformation is 100 percent efficient since some are lost in form of heat.

***Application Of The Second Law***

In food chain, the transfer of energy between trophic levels is not 100 percent, that is, successive levels have less energy and support fewer animals. The primary producers (plants) have the highest energy.

***Energy Loss In The Ecosystem***

Energy comes into the earth from the sun in form of solar/ radiant. Almost half of the energy is absorbed in the cloud and ozone layer on it's way to the earth. Out of the remaining amount of energy that enters the ecosystem or biosphere, some fractions of it will be lost through reflection, radiation, and also convection in form of heat energy. Only a very small percentage of this radiant energy falls on the producers and will be absorbed into the plant tissues, the remaining will be lost to the atmosphere through reflection on the leaf surfaces.

***ASSIGNMENT***

What do you understand by

 ( a). Ozone layer

 (b) Reflection

 (c) Radiation

 (d) Convection.

 ***Submit within 3 days at the school’s security post***