Fermentation, Photosynthesis, Osmosis, Essay, Research Paper

This paper is on the processes of fermentation, cellular respiration,

photosynthesis, diffusion, osmosis, and enzyme activity. What do these

six processes have in common?

Fermentation is a chemical process that breaks down organic

materials. This process is carried out by such microbes as bacteria,

molds, and yeasts. For example, molds or fungi act upon mixtures of

molasses and mineral salts to produce penicillin. Yeast breaks down

sugar gotten from malted grain into ethyl alcohol and carbon dioxide gas

for use in beer. Sugar from grape juice is broken down in the same way

for use in wine. Fermentation also is essential in the production of

bread, cheese, and yogurt. In some cases, fermentation can be

unhealthy. For example of fermentation being unhealthy is that

fermented milk turns sour. You can get sick from sour milk.

Cellular respiration is when oxygen is used in chemical reactions

within the cells. These reactions release energy and produce carbon

dioxide and water as waste products. Cellular respiration is the source of

energy used to maintain life. energy in respiration is released, and

reactants of respiration is glucose. Two products of respiration are

CO2., and H2O.

Photosynthesis is a food making process that forms in green plants.

Photosynthesis is the chief function of leaves. The word photosynthesis

means putting together with light. Green plants use energy from light to

combine carbon dioxide and water to make food. All our food comes

from this important energy-converting activity of green plants. Light

energy is converted to chemical energy and is stored in the food that is

made by green plants. Animals eat the plants, and we eat animal

products as well as plants. In photosynthesis energy is stored, and

reactants of photosynthesis are CO2, and H2O. Glucose is produced by

photosynthesis.

Diffusion is the mixing of the atoms or molecules of one substance

with those of another. It is caused by the natural movements of atoms

and molecules. Diffusion occurs readily in gases and liquids because of

the constant and random motion of their atoms and molecules. The

process takes place more rapidly in gases than in liquids. Molecules of

gases are farther apart and collide less frequently than those of

liquids–and collisions among molecules hinder diffusion. In solids, the

molecules are arranged in rigid patterns and move very little. Therefore,

diffusion does not occur in solids except under special conditions.

Diffusion uses energy non-stop. The use of energy is used a lot in all of

these processes.

Osmosis is the movement of liquid from one solution through a

special membrane into a more concentrated solution. The process is

essential for the survival of living things. For example, plants absorb

most of their water by osmosis. In animals, osmosis helps regulate the

flow of water and nutrients between body fluids and cells. Industries

reverse osmosis for such purposes as water purification and food

preservation.

An enzyme is a molecule that speeds up chemical reactions in all

living things. Without enzymes, these reactions would occur too slowly or

not at all, and no life would be possible. All living cells make enzymes,

but enzymes are not alive. Enzyme molecules function by altering other

molecules. Enzymes combine with the altered molecules to form a

complex molecular structure in which chemical reactions take place.

The enzyme, which remains unchanged, then separates from the product

of the reaction. Because of this, all enzymes serve as catalysts. Catalysts

are single enzyme molecules that can perform its entire function a

million times a minute. The human body has thousands of kinds of

enzymes. Each kind does one specific job. Without enzymes, a person

could not breathe, see, move, or digest food. Photosynthesis in plants

also depends on enzymes.

In conclusion, these are six processes in life that prove that life

could not exsist wothout them.