Name : _____

Photosynthesis - Advanced Vocabulary

ADP

Adenosine diphosphate is an important organic compound that is essential for the flow of energy in living cells. It is a product of Calvin Cycle formed when ATP is broken.

ATP

Adenosine triphosphate is the main energy-carrying molecule in living cells. It is a complex organic chemical that provides energy required to carry out many processes.

Chlorophyll

Chlorophyll is a green pigment found in the thylakoid, that absorbs light uring photosynthesis. It is ment molecule of chlorophyll etically excited, starting the

Chloroplast

photosynthesis. It is a vital s and algae. It contains t for the production of simple

Carbon dioxide

plants use during the on dioxide from the air omata. It is the main raw to produce glucose.

Stomata

of the leaves in most plants.

Glucose

Glucose is a simple sugar made by plants as an end product of photosynthesis. In plants, glucose is stored as starch and is used when photosynthesis is lacking and also for respiration. It is stored in seeds as lipids and used to make proteins and build cell walls.

Photosystems

Photosystems are the arrangements of chlorophyll and other pigments packed into the thylakoids.

Name : _____

Photosynthesis - Advanced Vocabulary

Photoautotrophs

Organisms that carry out photon capture to acquire energy are called photoautotrophs. They fix their own carbon using the light energy.

Photosynthesis

Photosynthesis is the process of converting light energy into chemical energy. It is the series of chemical reactions that allow plants to harvest sunlight and create carbohydrate molecules. It comprises of two stages, the light-dependent reactions and the dark reactions or the Calvin Cycle. Together these reactions convert carbon dioxide and water to sugar and oxygen.

Light-dependent reactions

y to make the energy storage
NADPH needed for the next
ctions take place in the
chloroplasts.

Calvin Cycle / Dark reactions

s are chemical reactions that
into glucose. These reactions
roplast. Chemical processes
dent reactions - ATP and
, reduction, and regeneration.

Thylakoids

sis. It is the inner membrane
icles are stacked on each
c chemicals.

Granum

roplast. The chloroplast
lled the grana. The
ake place here.

Stroma

Stroma is the colorless fluid surrounding the grana within the chloroplast. The enzymes involved in the conversion of carbon dioxide to simple sugars are found in the stroma.
It is the site for dark reactions.

Photophosphorylation

Photophosphorylation is a process of converting energy from a light-excited electron into the pyrophosphate bond of the ADP molecule.

Name : _____

Photosynthesis - Advanced Vocabulary

Carbon fixation

Carbon fixation is the conversion of inorganic carbon to organic carbon, that happens during the Calvin Cycle or Dark reactions. It is the first stage of the dark reactions.

NADP

Nicotinamide Adenine Dinucleotide Phosphate acts as an electron carrier during the light-dependent phase of photosynthesis and changes from its oxidized state to its reduced state NADPH.

Light harvesting complex

It consists of proteins and photosynthetic pigments. It is used by plants to collect more light than would be captured during a photosynthetic

Thylakoid lumen

ous aqueous phase enclosed
ed here from water during
sis.

Mesophyll cells

und in plant leaves. These

Palisade cells

er part of the leaf. They
sorb the light energy. Their

NADPH

e Hydrogen plays a vital role
g photosynthesis. It is the
d fuels the reactions that

Guard cells

Surrounding each stomata are a pair of guard cells that regulate the opening and closing of the stomata and facilitate the exchange of gases during photosynthesis.

Photolysis

Photolysis is the process of breaking down water molecules into hydrogen and oxygen under the influence of light during the light-dependent reactions of photosynthesis.