Photosynthesis Notes

Sun's Radiant Energy
A form of _____ energy

Travels by _____ or _____

Makes life on Earth possible

Moves through _____

Can be absorbed, transmitted, or _____

Visible light energy is vital for plants to make their own _____.

Why are Plants Green?
Plants' cells have _____, which contain the pigment _____.

Chlorophyll _____most of the colors of the visible light spectrum except green, which is _____.

Notice that red is reflected from the flower and _____ from the leaf.

Three Reactants are Needed for a Green Plant to Make its Own Food
1. _____ from the Sun
2. _____ and nutrients from the soil
3. _____(CO_2) from the air

This food-making process is called _____. This only occurs during the _____ hours. Let's investigate further into how this process works.

Light Energy
The Sun or light from another source hits the leaves.

The pigment chlorophyll (found in the chloroplasts) allows the plant to absorb the _____.

Only occurs in _____ leaves

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Water and Nutrients
Two types of _____ tissues:

_____ – transports water and nutrients from the roots to the leaves

_____ – transports food from the leaves to the rest of the plant

These are found in vascular plants.

Carbon Dioxide
CO_2 enters the leaf through small openings called the _____ (plural: stomata)

On either side of the stoma are _____, which control the opening and closing of the stoma.

Green plants remove tons of _____ from the atmosphere.

Equation
The ingredients for making food in a green plant can be written in a _____.

The first part of the photosynthesis equation is written below. These ingredients are called the _____ because they cause a chemical reaction.

Write the equation_____

Two Products are made during Photosynthesis

1. _____ (in the form of glucose)

2. _____ (Yay! Just what we need!)

In a chemical equation these two things are the _____ of the chemical reaction.

Glucose (sugar)

Transported around the plant as soluble _____

Plants can turn glucose into starch for _____.

Cells walls in plants are made of _____.

Plants also use starches as a source of _____.

Photosynthesis Notes

Oxygen
Oxygen is a _____ released during photosynthesis.

The O_2 moves out of the plant through the _____.

The process of photosynthesis puts tons of _____ back into our atmosphere.

Law of Conservation of Mass
Mass in an isolated system is neither _____by a chemical reaction.

The mass of the _____ must equal the mass of the _____.

(The number of _____ on both side of the arrow must be equal.)
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Balancing the Photosynthesis Equation – (write the equation below)

In order to make this equation balanced (same number of atoms on the reactants side of the arrow as the products side), we have to add _____ (the large numbers in this equation).

_____– 6 carbon, 12 hydrogen, and 18 oxygen atoms

_____– 6 carbon, 12 hydrogen, and 18 oxygen atoms

No mass is _____during this chemical reaction.

Respiration
To unlock the energy in the _____ produced by photosynthesis, green plants need to _____.

Respiration creates energy for _____, _____, and other _____.

Unlike photosynthesis, respiration happens both _____.