Introduction to Photosynthesis & Respiration

Do Now:



Most autotrophs use the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to capture the energy they need from \_\_\_\_\_\_\_\_\_.

Heterotrophs must take in energy from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that they take in.



Photosynthesis definition: Photosynthesis uses the energy of \_\_\_\_\_\_\_\_\_ to combine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ to make \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_

The process of photosynthesis has two main steps:

 1. In the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the energy of light is captured, and \_\_\_\_\_\_\_\_\_\_\_ is split into \_\_\_ and \_\_\_.

 2. In the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, CO2 from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is used to build \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The cell part where photosynthesis takes place in eukaryotic cells is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The Carbon Cycle of Life

**The Light Reaction**

Labeled Drawing of a chloroplast: label stroma and thylakoids

Big Ideas:

The function of the light reactions is to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and store it in chemicals such as \_\_\_\_\_\_\_\_.

The chemical that captures light is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 How the light reactions happen



Light Reactions: How they happen:

1

2

3

4

5

6

7

8

**Calvin Cycle (“Dark Reactions”) Basics** (more later):

 The Calvin Cycle builds \_\_\_\_\_\_\_\_\_\_ from \_\_\_\_\_\_\_. This is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 The energy for the process comes from \_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ made during the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 This process also happens in the chloroplast (specifically, the \_\_\_\_\_\_\_\_\_\_).

**Important Calvin Cycle Details**

 3 Main Phases: \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 What is RuBP, and why does it matter? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 The enzyme RuBisCo: What does it do, and why does it matter? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the actual product of the Calvin Cycle? Hint, it’s NOT glucose. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Energy inputs

required per glucose made: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Calvin Cycle (Light-Independent Reactions)



SUPER IMPORTANT PHOTOSYNTHESIS DIAGRAM

