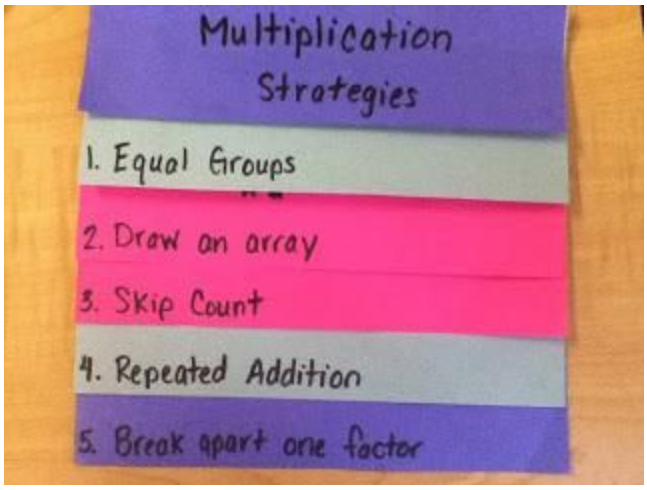
Photosynthesis Foldable
AP Biology
Mrs. Alkire

Name:
Class Period:

Step 1: Construct a foldable that looks like the one below. Your foldable will need a title page and five tabs, just like the one in the picture. Go to **http://tinyurl.com/CRfoldable** for folding instructions.



Step 2: Follow the instructions below for how to complete each section of your foldable.

Tab 1: Chloroplast

- Lower section: **Draw** and **label** a diagram of a chloroplast with a cross section view so as to clearly show the internal structure.
- Upper section: **Describe** the structure AND function of the different parts of the chloroplast.

Tab 2: Light Reactions – Noncyclic Electron Flow

- Lower section: **Draw** and **label** a diagram of the light reactions that clearly shows BOTH photosystems. Be sure to illustrate the noncyclic movement of electrons through both photosystems.
- Upper section: **Explain** electron flow through each photosystem, what the energy in the electrons is used to do, and how each photosystem replaces its lost electrons. Be sure to clearly **identify** the key product of each photosystem. In addition, **explain** why oxygen is produced as a waste product of this process.

Tab 3: Light Reactions – Cyclic Electron Flow

- Lower section: **Draw** and **label** a diagram of the light reactions showing cyclic electron flow.
- Upper section: **Describe** how cyclic and non-cyclic electron flow are different. In addition, **explain** why cyclic electron flow is necessary.

Tab 4: Chemiosmosis

- Lower section: **Draw** and **label** a diagram of chemiosmosis in photosynthesis. Make sure that your drawing shows the electron transport chain and ATP synthase embedded in the thylakoid membrane.
- Upper section: **Describe** how the chemiosmosis mechanism results in the production of ATP. Be sure to include the role of electrons, H+ ions, the thylakoid membrane, and ATP synthase.

Tab 5: The Calvin Cycle

- Lower section: **Draw** and **label** a diagram of the Calvin Cycle. Make sure all input and output molecules are included and clearly labeled.
- Upper section: **Describe** the key events of the Calvin Cycle. Be sure to include the role of each of the following in your response: RuBP, CO_2, rubisco, ATP, NADPH, G3P.