

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

## Photosynthesis #2

### 2 Major Steps (reactions) of Photosynthesis:

1. Light Dependent Reactions-
2. Light Independent Reactions-

The ATP & NADPH<sub>2</sub> accumulate &

ATP is a

NADPH<sub>2</sub> is a

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Plant pigments are organized as photosystems (

Each pigment absorbs a different wavelength of light & transfers its energy to the reaction center which in turns energizes an electron.

**Only the chlorophyll that is**

The energized electron is then

Photosystem I (PS I) -

Photosystem II (PS II) -

### Two Main Parts of the Light Dependent Reactions:

A. Cyclic Photophosphorylation:

B. Noncyclic Photophosphorylation:

a.

b.

c.

### **Photophosphorylation:**

**Chemiosmosis:** Use of  $H^+$  gradient (high to low) to create ATP during LDR. Hydrogen pump transports  $H^+$  into the thylakoid.  $H^+$  also made by photolysis.  $H^+$  diffuses through thylakoid membrane via protein channel.

**ATP Synthase** takes energy