**AP Biology- Unit 3: Ch 8 Name \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Photosynthesis Study Guide**

Intro and 8.1

1. Label the diagram below.


2. Use the diagram to label and identify the two broad stages of photosynthesis.


8.2 Reading

1. What is a photon?
2. Why are leaves green?
3. What is the difference between an absorption spectra and action spectrum?
4. What happens to chlorophyll when it is hit by light? How does this relate to potential energy?
5. Identify the following:
	1. Photosystem 2 –

* 1. Photosystem 1 –
	2. Reaction center --
1. How is *noncyclic* electron flow the same **AND** different from cyclic flow?
2. Compare **AND** contrast chemiosmosis in mitochondria and chloroplasts.
3. Label the diagram below to summarize the activities in the light reactions of photosynthesis.



Section 8.3
4. Explain the purpose of the Calvin cycle.

1. Describe each step listed below:

	1. Carbon fixation
	2. Reduction
	3. Regeneration
2. Why did plants need to evolve adaptations for hot, arid climates?
3. What is the enzyme that starts the Calvin cycle and how does it work?

Section 8.4

1. Why is *photorespiration* such a “waste”?

1. What are CAM plants and what is their “advantage”?
2. Use the diagram below to summarize the activities of photosynthesis.

