Biology 1

Metabolism Study Guide (Chapter 6 & 7)

Chapter 6

Know everything about the following parts of the plant & chloroplasts (and their relationship to photosynthesis).

- Chloroplasts
- Thylakoids
- Grana
- Stroma
- Stomata
- Leaves
- Roots
- Pigments including both Chlorophylls and Carotenoids

Know the general equation that summarizes photosynthesis. You should be able to recognize each reactant and product by common name or chemical formula.

This is a short list of things that you should know about the light reactions.

- What goes in?
- What comes out?
- The role of ATP
- The role of NADPH
- The role of water
- The role of chlorophyll (and other pigments)
- Location (including part of chloroplast)

This is a short list of things that you should know about the Calvin cycle.

- What goes in?
- What comes out?
- Location (including part of chloroplast)

Know about the reason for, and the modifications applied by, the following types of plants.

- C4 Plants
- CAM Plants

There are a few factors that greatly influence the rate of photosynthesis. Know how each of these factors changes the rate of photosynthesis in a plant (as graphs).

- Light Intensity
- Carbon Dioxide Levels
- Temperature

Chapter 7

One major factor influences the efficiency of respiration. Know the differences between the following conditions in terms of the processes involved, the reactants/products and the amount of the energy produced per molecule of glucose.

- Anaerobic processes
  - Glycolysis
    - Lactic acid fermentation
    - Alcoholic fermentation
- Aerobic processes
  - Krebs Cycle
  - Electron Transport System

Know the general equation that summarizes aerobic cellular respiration. You should be able to recognize each reactant and product by common name or chemical formula.

This is a short list of things that you should know about the glycolysis.

- What goes in?
- What comes out?
- Location
- Organisms that employ glycolysis for metabolism

This is a short list of things that you should know about the Krebs cycle.

- What goes in?
- What comes out?
- Location (including part of mitochondria)

This is a short list of things that you should know about the Electron Transport System.

- What goes in?
- What comes out?
- The role of NADH/$FADH_2$
- The role of oxygen
- The role of ATP synthase
- Location (including part of mitochondria)

- Organisms that employ Krebs & ETS for metabolism

Consider how we addressed these topics over the last few weeks. You may want to review:

- ***the book sections (Ch 6 & 7)***
- ***your notes***
- ***your colored diagrams***
- ***your Vocab Quizzes***
- ***your Virtual Investigation (@ the book website)***
- ***re-watch Crash Course/other videos*** *(posted on class website)*
- ***have someone quiz you from the sample test at the end of each chapter or from this review guide***