CP Biology Classes: Quarterly Topics to Review Chapters 7-8-9

Chapter 7

What are the 4 organic compounds? Carbohydrates, fats (lipids) proteins & nucleic acids

What 4 elements make up most of these organic compounds? _____

Carbon hydrogen oxygen nitrogen

- CHONPS? What does it represent? _____

CHON (above) phosphorous & sulfur

Digestion:

What is it?

breaking down of food into a usable form

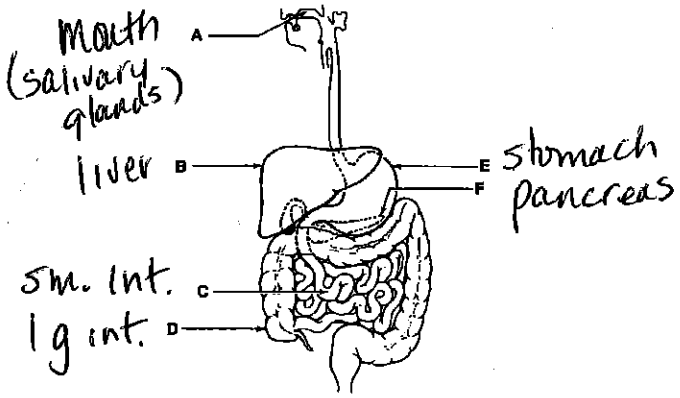


Figure 10-1

C 27. where most digestion occurs small intestine

F 28. Pancreas

B 29. makes bile (liver)

D 30. large intestine

E 31. makes an acid (stomach)

F 32. makes three enzymes (pancreas)

E 33. stomach

A 34. where carbohydrates are first chemically change (mouth)

Molcule:	Carbohydrates	Fats (lipids)	Proteins	Nucleic Acids
Building Block:	monosaccharides	glycerol + fatty acids	amino acids	nucleotides
Needed For:	• quick energy • structural support	• store energy • padding / protection	• structural component of cells • carry out chemical reactions • pump small molecules	• codes for proteins

Chapter 8:

What are enzymes? proteins that help reactions take place (with less energy / at the right time)

What does "specificity" mean when talking about enzymes? Enzymes only work with one substrate or one reaction - lock + key puzzle piece

What does "denature" mean? What happens when an enzyme denatures? enzyme looses its shape + will no longer be able to catalyze a reaction. (does not "fit")

The energy in molecules is stored in the chemical bonds. The more chemical bonds, the more energy.

What is ATP? energy storage molecule created during cellular respiration (break down glucose)

What is aerobic respiration? O_2 required Anaerobic? no O_2 required

	Cellular Respiration	Photosynthesis
Chemical Formula	$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O +$ ATP	$6CO_2 + 6H_2O +$ sunlight $\rightarrow C_6H_{12}O_6 + 6O_2$
Words	glucose + oxygen → Carbon dioxide + water + energy	Carbon dioxide + water + sun → glucose + oxygen
Which organisms perform?	all living things	some plants, some bacteria, some protists
What cell part(s) are involved?	mitochondria	chloroplast

What is fermentation? process that allows glycolosis to continue to make ATP → without O_2.

Lactic Acid Fermentation performed in animal muscle cells (anaerobic)

Alcoholic Fermentation process where yeasts convert pyruvic acid to alcohol + CO_2

Chapter 9

Abiotic non-living parts of environ. examples: water, air, soil

Biotic living parts of environ. examples: plants, animals, bacteria

What are the parts of a food chain/give an example and label: Autotroph, heterotroph; know how to identify a producer, herbivore, carnivore, predator, prey, detrivore and decomposer

Autotroph → heterotroph → heterotroph

* plant → mouse → owl

producer → primary consumer → secondary consumer

What is a food web? connected food chains

What are niches? job or role of an organism

What is biodiversity? different species - environment with more biodiversity is more stable.

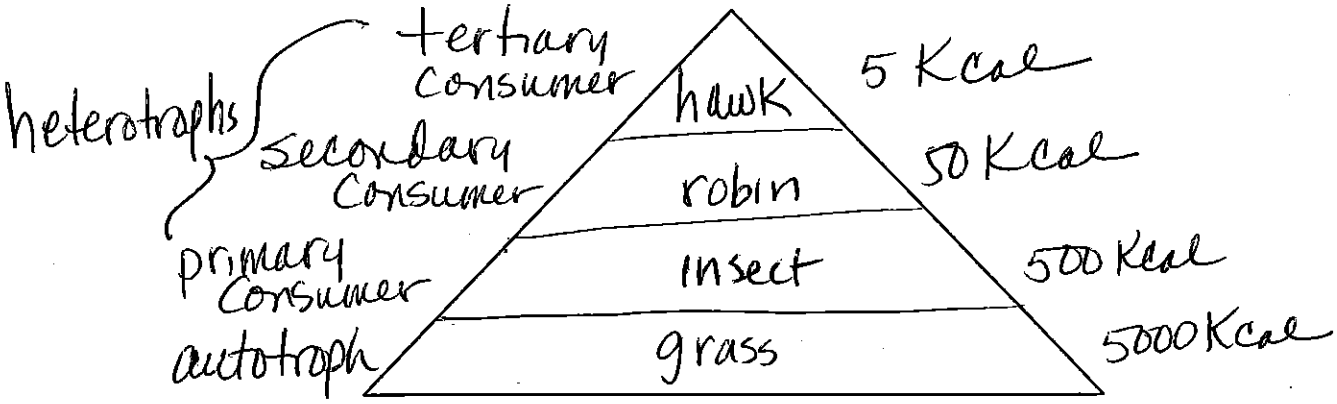
Symbiotic Relationships:

	Who benefits?	Example
Mutualism	both benefit	oxpecker bird - rhino; bee - flower
Commensalism	one benefits, other - no harm, no help	orchid in a tree
Parasitism	one benefits, one harmed	tick or flea on dog (host)
Predation	one benefits, one killed	fox kills rabbit (fox → predator, rabbit → prey)

Ecological Successions:

Beginning Community is called? pioneer Last, stable community? climax

Label the energy pyramid below. It starts with 5,000 Kcal, fill in the other 3 levels. Put an example of an organism at each level. Identify each example as a producer, primary or secondary consumer.



Which organisms in an energy pyramid have the most energy? grass The least amount of energy? hawk

How much energy goes on to the next level? 10%

What happened to the other 90% of the energy? (2 things) lost as heat used for life processes

What is pollution? anything that harms the environment

What are some causes of pollution? smog, CO_2 levels, pesticide runoff

What is acid rain? rain that has a pH of between 1-5.5