Microbiology: Textbook Question Key
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Study Questions: Review -pg 152-154

(1) metabolism - the combined processes of catabolism and anabolism used to break down large molecules to give energy later used to build larger molecules again.

(2) Catabolism - breaks down large, complex molecules to provide smaller molecules + energy (ATP).
- Hydrolysis

Anabolism - uses ATP (energy) to build larger molecules from smaller building blocks
- Dehydration Synthesis

* Both are connected by energy ATP being created & used again.

(13) Amylase - used to break down starch so glucose can enter the cell

DNA ligase - glues together DNA after it is separated

Photolyases } repair DNA after
Excision Repair Enzymes } UV damage

(18) oxidative-reduction - A combined reaction series where one substance is oxidized (↑ # bonds to O) and one is reduced (↓ # bonds to O).

a) aerobic + anaerobic respiration -
aerobic - final e^- acceptor in ETC is O_2
anaerobic - final e^- acceptor in ETC is CO_2 or nitrate.

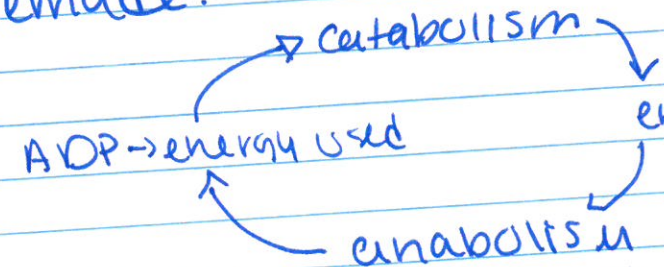
what is used/needed to make energy

(18) b. respiration + fermentation

respiration - A series of reduction reactions ~~used~~ using O_2 to produce ATP (34-36 ATP molecules).

fermentation - O_2 is not required to generate small amounts of ATP (4 ATP molecules) also producing by-products such as lactic acid.

(21) ATP is the intermediate in metabolism because it is constantly being used & remade.



<u>multiple choice</u> - page 154

(4.) C

(6) B.

(7) B

(8) A