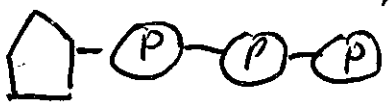
Cell Energy Review Sheet

1. Organisms need a way of storing energy because a cell can't always immediately use all the energy it gets.

2. Draw and identify the parts of an ATP molecule.



ATP - tri (3) Phosphate

fully charged 100% - check

3. What is the function of the ATP molecule?

stores energy (stores in P)

4. Energy is released from ATP when the bond is broken between the phosphate

5. How is ATP and ADP related? - both have phosphates

ATP - 3 P's ADP - 2 P's

store energy → released energy

6. List the photosynthesis equation. ← add P.

$CO_2 + H_2O + light \rightarrow C_6H_{12}O_6 + O_2$

7. List the respiration equations (aerobic and anaerobic).

(w/ oxygen) Aerobic - $C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + 36ATP$

(w/o at oxygen) Anaerobic $C_6H_{12}O_6 \rightarrow$ (ethanol or lactic acid) $+ CO_2 + 2ATP$

8. What is chlorophyll and why are plants green?

~~Chlo~~ chlorophyll - in chloroplast (pigment)

- absorbs sunlight - (red + blue)

- Reflects green (why plants are green)

9. Identify the reactants, products, and waste of the photosynthesis process.

Reactants	Products
CO_2, H_2O, sunlight	$C_6H_{12}O_6$, O_2

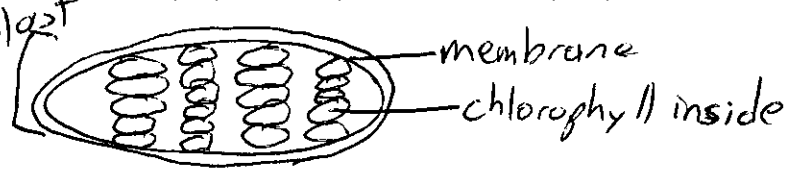
10. Identify the reactants, products, and waste of the respiration process.

Reactants	Products
O_2, $C_6H_{12}O_6$	$H_2O + CO_2 + 2ATP$ (Ethanol or Lactic acid)

11. How do plants gather the sun's energy?

Energy is absorbed by the chlorophyll inside the chloroplast.

12. Draw and identify the parts of a chloroplast and describe its role in photosynthesis.



13. Explain the difference between aerobic and anaerobic respiration.

Aerobic - w/ oxygen - makes 36 ATP

Anaerobic - w/o at oxygen - makes 2 ATP

14. Cellular respiration produces how many molecules of ATP from one molecule of glucose?

36 ATP - aerobic + 2 ATP = 38.

2 ATP anaerobic

15. What of the two main types of fermentation?

Latic acid - Animals (produces latic acid)

Alcoholic - Plants + bacteria (produces ethanol (alcohol))