

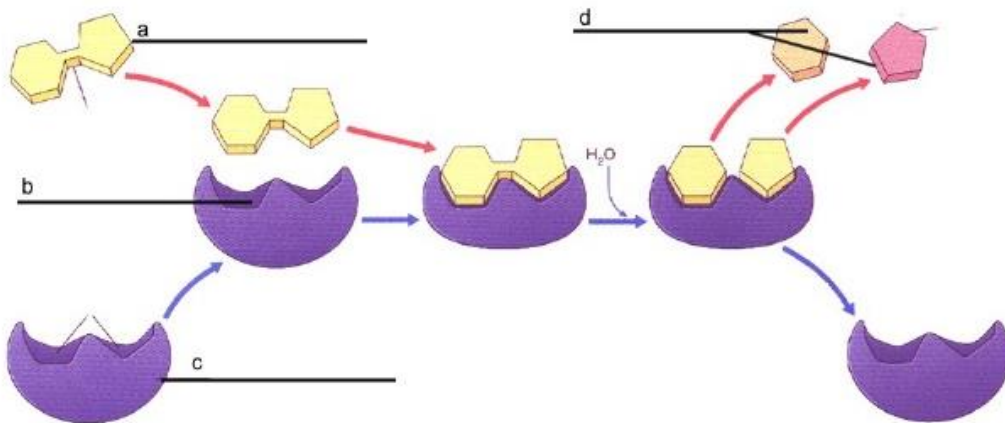
Guided Notes: Enzymes, Photosynthesis, and Respiration

Enzymes

- Most **enzymes** are _____
- Act as a _____ to speed up a chemical _____ by helping molecules react with each other faster
- Enzymes are...
 - _____
 - _____ for what they _____ (speed up)
 - End in _____

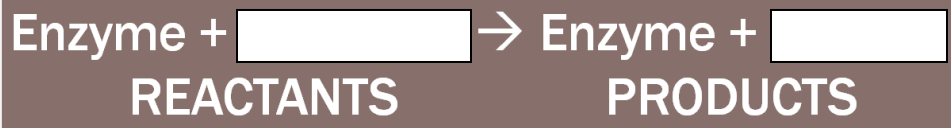
Think about it: Explain why people lacking the enzyme lactase cannot digest milk.

- Enzyme Reactions:



- **The Lock and Key Model:** _____


- Specific _____ for each specific _____
- Chemical Reaction:



- Enzymes work by weakening _____, which lowers _____!
 - **Activation Energy**= _____
- Enzymes are affected by:
 - Temperature →
 - pH →
 - **Denaturing**= _____

Photosynthesis

- **Photosynthesis** is the process which uses the _____ to make _____
- Performed in: _____
- Occurs in the _____ of plant cells

PHOTOSYNTHESIS FORMULA: 

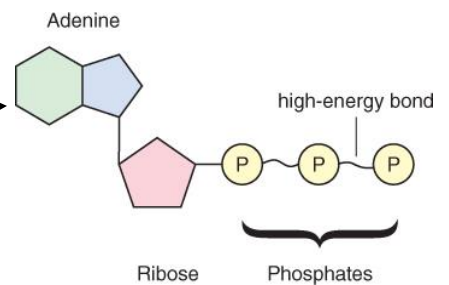
- The rate at which photosynthesis occurs depends on:
 - # of reactants →
 - Temperature and pH →
 - Light →

Cellular Respiration

- **Cellular respiration** is the process where molecules of _____ are broken down to make CO₂, water, and _____
- Occurs in the _____ of eukaryotes

RESPIRATION FORMULA: 

- The point of cellular respiration is to make _____.
 - ATP is _____!
 - Parts of an ATP molecule



PHOTOSYNTHESIS VS. CELLULAR RESPIRATION		
	PHOTOSYNTHESIS	RESPIRATION
WHERE?		
WHEN?		
INPUT		
OUTPUT		
ENERGY SOURCES		
ENERGY RESULT		

Aerobic vs. Anaerobic Respiration

- **Aerobic Respiration** takes place in the presence of _____
- This is the most efficient means of energy-can produce _____ per glucose!!!
- Carried out in the _____

- **Anaerobic Respiration**, like fermentation, occurs when oxygen is _____ present
- Less efficient means of energy-only _____ produced!
- Occurs in _____
- Carried out in the _____

ANAEROBIC RESPIRATION: FERMENTATION	
ALCOHOLIC FERMENTATION	LACTIC ACID FERMENTATION

Think about it: Explain why your muscles may cramp up during exercise.

