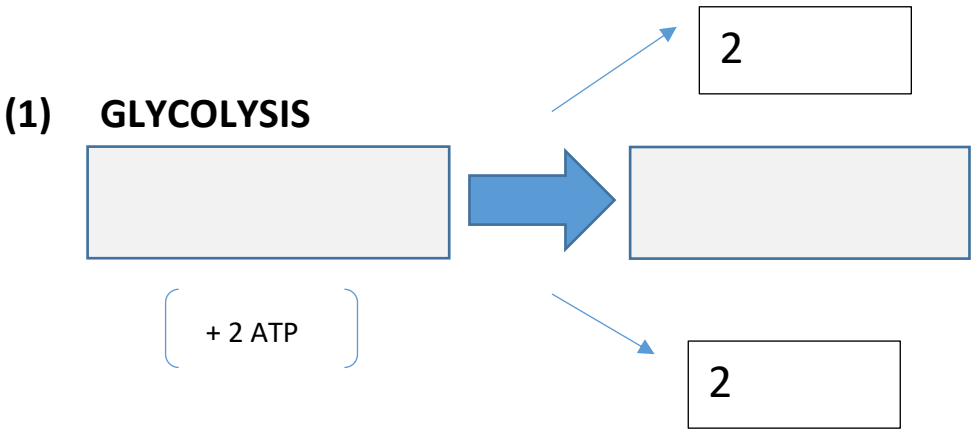
ANTICIPATION GUIDE for CELLULAR RESPIRATION

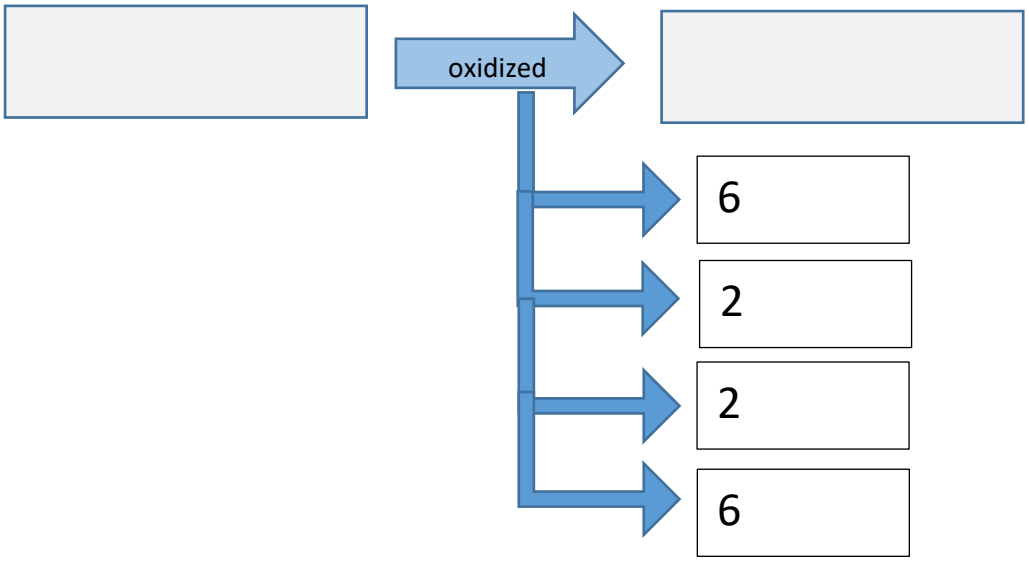
Answer each question as best as you know in "Before" column. At the end of class you will go back and answer all of the questions in the "After" column.

Questions	"Before" Lesson	"After" Lesson
1. To which class of biomolecules does ATP belong?		
2. What kinds of cells/organisms can do aerobic cellular respiration?		
3. What is the equation for aerobic cellular respiration?		
4. Where does glycolysis (the first step in cellular respiration) occur in a cell?		
5. In which cellular organelle does aerobic cellular respiration occur?		
6. What are the 2 main types of fermentation?		

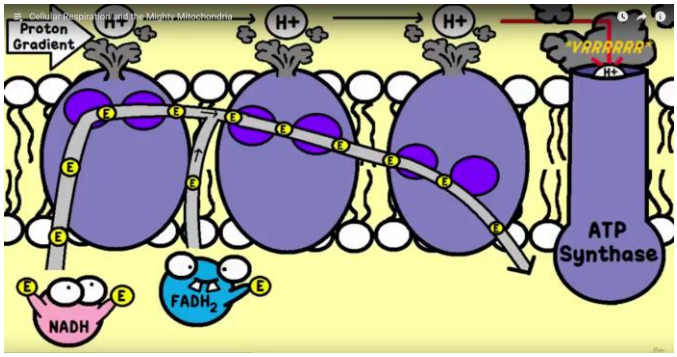
Video #1: Amoeba Sisters- *Cellular Respiration & the Mighty Mitochondria*:



(2) **KREBS CYCLE** (a.k.a. "Citric Acid Cycle")



(3) ETC (ELECTRON TRANSPORT CHAIN)

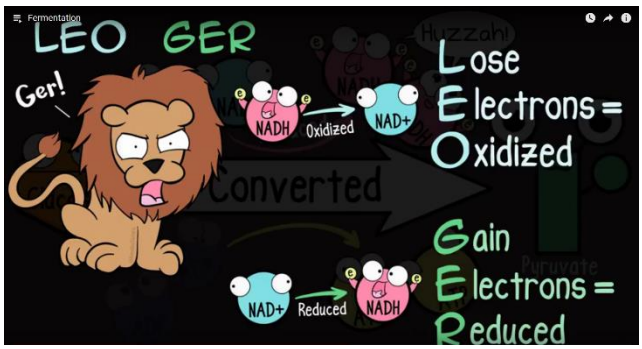


_____ & _____ are electron carriers that create a _____ (H+) gradient. This chain utilizes many proteins with electron carriers in series. Eventually a surplus of H+ builds up on one side of the membrane and flows down their concentration gradient through the enzyme _____. This enzyme pump generates _____ by phosphorylating _____. The final electron acceptor in the ETC is _____. It combines with ____ protons to create _____. *Draw this last step in on the picture above.*

Video #2: Amoeba Sisters – *Fermentation*:

1) Anaerobic respiration does not require _____. It is also called _____.
2) What kinds of organisms perform anaerobic respiration?

3) What are NADH (and FADH2)? What do they do?



4) Alcoholic Fermentation:

5) Lactic Acid Fermentation:

CHECK FOR UNDERSTANDING EXIT QUESTIONS:

Name: _____

<u>Directions</u>: You may use your notes page from today to answer the questions. You may NOT discuss answers with your peers.

1) List the 3 steps of Cellular Respiration in sequence. *(3)*
   1. _____
   2. _____
   3. _____

2) What is the **net** amount **ATP** produced from **glycolysis**? *(1)*

3) Is glycolysis **aerobic** or **anaerobic**, and **what does this mean**? *(2)*

4) Why is **oxygen important** in the **ETC** (electron transport chain)? *(1)*

5) Which step in cellular respiration produces the **most ATP**? *(1)*

6) Which step(s) of the cellular respiration pathway do **alcoholic fermentation and lactic acid fermentation** have in common? *(1)*

7) Give an example/scenario of lactic acid fermentation. *(1)*

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