**Aerobic Cellular Respiration Review**

1. What are the 3 phases of the cellular respiration process?
2. Where in the cell does the glycolysis part of cellular respiration occur?

1. Where in the cell does the Krebs (Citric Acid) cycle part of cellular respiration occur?

1. Where in the cell does the electron transport part of cellular respiration occur?

1. How many ATP (net) are made in the glycolysis part of cellular respiration?

1. How many ATP are made in the Kreb’s cycle part of cellular respiration?

1. How many ATP are made in the electron transport part of cellular respiration?

1. In which phase of cellular respiration is carbon dioxide made?

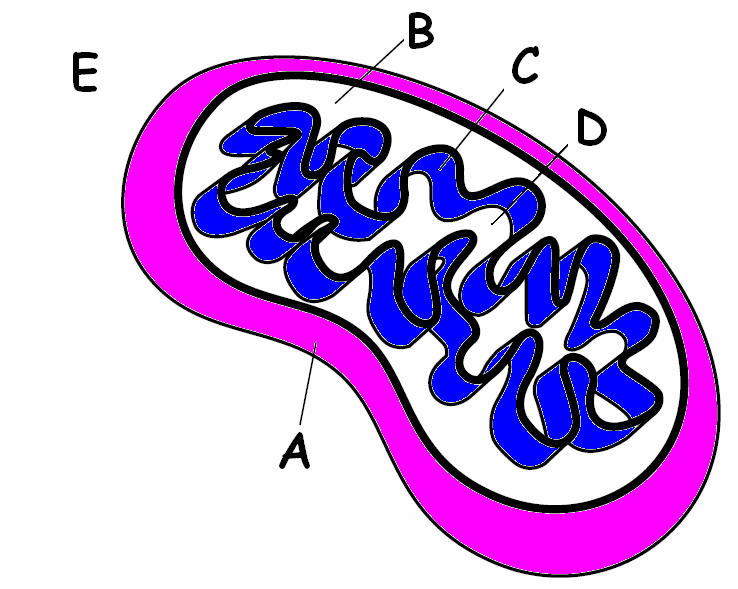
1. In which phase of cellular respiration is water made?

1. In which phase of cellular respiration is oxygen a substrate?

1. In which phase of cellular respiration is glucose a substrate?

1. What would happen to the cellular respiration process if the enzyme for one step of the process were missing or defective?

1. Only a small part of the energy released from the glucose molecule during glycolysis is stored in ATP. How is the rest of the energy released? (HINT: It is a product in the overall reaction for cellular respiration.)
2. Write the complete overall chemical equation for cellular respiration using chemical symbols instead of words:
3. Compare this reaction to the one used for PHOTOSYNTHSIS:

\_\_\_**\_\_\_** Place where glycolysis happens

\_\_\_\_\_\_ Place where enzymes for the Electron

Transport Chain are located

**\_\_\_\_\_\_** Place that fills with H+ ions as electrons move down the Electron transport chain

**\_\_\_**\_ Place where ADP and P join to make ATP

**\_\_\_** \_\_ Place where oxygen acts as the final electron

acceptor to make water

**CELLULAR RESPIRATION VOCABULARY REVIEW**

1. **\_\_\_\_\_\_\_\_\_\_** is a 6 carbon molecule that is produced first when acetyl-CoA joins with a 4 carbon molecule to enter the Krebs cycle.
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_** is the process of splitting a glucose molecule into 2 pyruvic acid molecules.
3. The molecule used by cells to store and transfer energy is **\_\_\_\_\_\_\_\_\_\_\_**
4. Glycolysis happens outside the mitochondria in the **\_\_\_\_\_\_\_\_\_\_** of the cell.
5. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** happens when oxygen is present and includes glycolysis, Krebs cycle, and Electron transport.
6. This describes a process that requires oxygen = **\_\_\_\_\_\_\_\_\_\_\_**
7. This atmospheric gas is required for aerobic respiration = **\_\_\_\_\_\_\_\_\_\_\_**
8. This describes a process that does NOT require oxygen; it means “without air”
   1. = **\_\_\_\_\_\_\_\_\_\_\_\_**
9. The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** breaks down pyruvic acid into carbon dioxide and produces NADH, FADH2, and ATP.
10. The NADH and FADH2 produced during the Krebs cycle pass their electrons down the

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** chain to produce ATP.

1. The passage of H+ ions through **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** causes it to spin and produce ATP.
2. This 3 carbon molecule is produced during glycolysis when glucose splits in half
   1. =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Cell organelle which acts as the cell’s power plant to burn glucose and store energy as ATP
   1. = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. This molecule has the formula C6H12O6 and is split in half during glycolysis

=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The carbon atoms in pyruvic acid end up as **\_\_\_\_\_\_\_** in the atmosphere following the Krebs cycle.
2. The folded inner membranes inside a mitochondrion are called **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. This molecule reacts with pyruvic acid to release C02, produce NADH, and acetyl-CoA.
   1. = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** forms when Coenzyme A attaches to two carbons from pyruvic acid.
5. The area inside the cristae where the Krebs cycle happens is the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**