

Name _____ Date _____ Period _____

THE CELL - ASSIGNMENT #3

Cellular Respiration/Metabolism

(pp. 48-50)

1. Cellular _____ includes all the _____ that occur in the cell. Metabolic pathways are carried out by _____ that insure that the reactions occur in the _____ order. The _____ in one reaction creates the _____ for the next reaction until it reaches the _____. Each reaction in a _____ requires a specific _____.

2. Enzymes _____ reactions. The reactant that binds with the enzyme is called _____. This binds with the enzyme in the _____ where the substrates are either _____ or _____. Enzymes can be used _____.

3. Define each of the variables in the following reactions.



E: _____ S: _____ P: _____

4. What do coenzymes do? _____ Give an example and describe it's function _____

5. Cellular respiration creates _____ for the cells. The entire process requires _____ steps or pathways all going at the same time. Several systems in the body function to make this possible. The _____ system breaks down carbohydrates, and as a result, _____ molecules enter the blood vessels and are taken into the cell. This begins the first step of cellular respiration called _____. This step occurs in the _____ of the cell. This step is called an anaerobic process because there is no _____ used. This step produces _____ molecules of ATP. The third pathway is called the _____ and it occurs in the _____ of the mitochondria of the cell. By this time _____ has entered the lungs of the _____ system and has been transported to the cell. This pathway begins with NAD, a _____ that carries most of the hydrogen to the chain until they are finally passed on to oxygen. This third step produces _____ ATP. Following ATP production, two waste products are formed, _____ and _____. One of the waste products is expelled through the _____ of the respiratory system and the other through _____ and _____.

6. Diagram enzymatic action (page 48). Use colored pencils and label: active site, substrate(s), enzyme, enzyme-substrate complex, and product(s).