**Chap 9: Cellular Respiration and Fermentation**

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**Explain** what OILRIG stands for, and **Explain** how this acronym helps with your understanding of oxidation and reduction.

**State** the equation for cellular respiration.

**Diagram** and **Label** the structures of a mitochondrion.

**Describe** the main purpose of Cellular Respiration and/or Fermentation.

**List** and **Describe** the 3 stages of Cellular Respiration.

**Describe** where glycolysis take place, and **Explain** if this stage is aerobic or anaerobic.

**Explain** the process of substrate level phosphorylation.

Estimate and **State** much energy is made in glycolysis.

**Describe** the molecules that start the process of glycolysis, and which ones come out.

**Explain** why glycolysis is considered an ancient energy pathway.

**Explain** where the citric acid/Krebs cycle takes place.

**State**, on average, how much energy is made in the CA/Krebs cycle.

**Describe** the molecule(s) that go into the CA/Krebs cycle, and which ones come out.

**Describe** the location where the Electron Transport Chain (ETC) is located for oxidative phosphorylation.

**State**, on average, how much energy is made by the ETC.

**Describe** the molecule(s) that go into the ETC in a mitochondrion, and which ones come out.

**Explain** where the electrons that are used to power the ETC come from.

**Describe** where the H+ ions get pumped to during oxidative phosphorylation in mitochondria.

**State** which enzymes make ATP. (know the mechanical functioning of these molecules)

**State** which molecule is the final electron acceptor in oxidative phosphorylation.

**Explain** whether fermentation is an aerobic or anaerobic process.

**Contrast** how fermentation is different than oxidative phosphorylation in terms of energy.

**Compare** the two main types of fermentation.