

Chap 9: Cellular Respiration and Fermentation

Chap 9

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.