CHAPTER 7 – CELLULAR RESPIRATION

Reading guide, quiz

Objectives:

1. Understand the importance of electrons
2. Explain the steps of cell respiration
3. Understand the goal of glucose oxidation
4. Understanding how chemiosmosis works

Reading guide:

1. Energy coupling in living things
   1. ATP:
      1. Production
      2. hydrolysis
   2. Redox reactions:
      1. Oxidation
      2. Reduction
      3. Example
      4. Electron carriers
2. Cellular respiration steps:
   1. Steps are:
   2. Localization:
   3. Reactants & products:
3. Products of glucose oxidation:
   1. CO2:
   2. ATP:
   3. Electron carriers:
4. Oxidative phosphorylation:
   1. Oxidation of ................. is coupled to reduction of ……………
      1. ETC:
         1. Components
         2. role
      2. oxygen role
   2. Phosphorylation
      1. Definition
      2. ATP-synthase
   3. Chemiosmosis:
      1. Definition
      2. PH
      3. phosphorylation

Post-Quiz cellular respiration:

1. What is the correct order of the cellular respiration steps:
   1. Glycolysis, citric acid cycle, pyruvate processing, oxidative phosphorylation
   2. Glycolysis, pyruvate processing, citric acid cycle, oxidative phosphorylation
   3. Pyruvate processing, glycolysis, citric acid cycle, oxidative phosphorylation
   4. Pyruvate processing, citric acid cycle, glycolysis, oxidative phosphorylation
2. Which two steps of cellular respiration make the CO2 that we exhale:
   1. Pyruvate and glycolysis
   2. Pyruvate and citric acid cycle
   3. Citric acid cycle and oxidative phosphorylation
   4. Glycolysis and oxidative phosphorylation
3. At the end of the Electron Transport Chain the electrons are transferred to:
   1. Oxygen to make water
   2. ATP-synthase to make 25 ATP
   3. Hydrogen to make H+
   4. Back to NADH and FADH2
4. Most of our energy, ~25 ATP molecules, is made by:
   1. Electron Transport Chain (ETC)
   2. ATP-synthase
   3. NADH
   4. FADH2