**Ch. 21: Cellular Respiration**

**Notes**

Essential Question: What is cellular respiration and how does it work?

1. Respiration: process by which cell get energy from glucose (sugar) by breaking down simple food molecules and releasing stored energy. \* not the same as breathing
   1. Equation

C6H12O6 + 6 O2  6CO2 + 6H2O + ATP (energy)

Glucose oxygen carbon dioxide water

Comes from Comes from

**Notice:** equation is OPPOSITE that of photosynthesis

The food we eat the air or water

1. Stages of Cellular Respiration
   1. Stage 1:
      1. In the cytoplasm, glucose is broken down into smaller molecules;
      2. Oxygen is NOT involved
      3. Only a small amount of energy is released
   2. Stage2:
      1. Takes place in mitochondria where molecules are broken down further by chemical reactions
      2. Chemical reactions require O2
      3. A great deal of energy is released
      4. CO2 and H2O are also released
      5. In most animals these two products leave the body by exhaling