Discovery of Cells

**Cell Test: Study Guide**

* History of Cells
  + Who was the first person to see cells?
  + Who was the first person to see living cells?
  + Who was the first to state all plants are made of cells?
  + Who was the first to state all animals are made of cells?
  + Who came up with the cell theory?
* What are the three tenants of the cell theory?

Introduction to Cells

* Why are cells small?
  + What benefits are there to having small cells?
  + What mathematical formula will predict the survivability of a cell?
    - Why does it predict if a cell will live?
* Name three structures that are in all cells.
* Name the two different types of cells
  + Define prokaryote
  + Define eukaryote

Cellular Organelles and Features

* Be able to describe the function of all 12 organelles in your “Organelle Chart”

Passive Transport

* Cell membranes
  + What macromolecules are present in a cell membrane?
    - How are the lipids arranged in a cell membrane?
    - Where are the proteins in a cell membranes?
      * What are their jobs?
  + What objects can diffuse through a cell membrane?
  + What objects cannot diffuse through a cell membrane?
    - Why can’t they diffuse through a cell membrane?

Passive Transport (cont.)

* What are the three types of passive transport?
  + What is diffusion?
  + What is osmosis?
  + What is facilitated diffusion?
* All types of passive transport go from a \_\_\_\_\_\_\_\_\_\_\_\_\_ concentration to a \_\_\_\_\_\_\_\_\_\_\_ concentration.
* All types of cell transport require \_\_\_\_\_\_\_\_\_\_\_ energy
* Give an example of diffusion
* Give an example of facilitated diffusion
* What is a hypotonic solution?
  + What direction would water flow if a cell was placed in a hypertonic solution?
* What is a hypotonic solution?
  + What direction would water flow if a cell was placed in a hypotonic solution?
* What is an isotonic solution?
  + What direction would water flow if a cell was placed in an isotonic solution?

Active Transport

* What are the two differences between active and passive transport?
* What is ATP?
  + How do we get energy from ATP?
* What are the two main types of passive transport?
* What are cell membrane pumps?
  + What is a binding site?
  + Give an example of a cell membrane pump.
    - Describe how it works.
* What is a vesicle?
  + What is endocytosis?
  + What is exocytosis?