**Sugar Sausage Cell Transport Lab S17**

**Problem:** What happens to a cell in different types of solutions?

**Background Information:** (Write and insert two paragraphs here about Cell transport, the Selectively Permeable membrane and how a cell maintains homeostasis. Be sure to use the words diffusion, osmosis, hypotonic, hypertonic, and isotonic. Describe if a cell might gain or lose water or even might go through lysis while in each type of solution. Then, remove this prompt.)

**Hypothesis:** If the \_\_\_\_\_\_\_\_\_\_\_\_ Molar sausage (Cell) is in a(n)\_\_\_\_\_\_\_\_\_\_\_Molar Solution/ environment\_\_\_\_\_\_\_\_\_\_ then the sausage/cell will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Materials:** Prepared Sugar solutions ( 0.2, 0.6, and 1.0 Molar) , dialysis tubing, beaker, rubber bands, balance, timer, syringe, paper towels

**Experimental Design:** Prepare a “sugar sausage” using your assigned solution. Put approximately 8 cc of the **assigned** solution in a “sausage” with a syringe and 150 ml of your **assigned** solution in a beaker. Weigh the sausage before you put it in the beaker. Weigh the sausage every 5 minutes for 30 minutes while recording the data. Be sure to wipe off/ dry off your sausage each time so that you are only recording the weight of the contents inside the “cell”. Record your data in the data table below.

 **Group Data** **Time (min)** **Wt. of sausage (g.)**

**When you are done put your group’s data… think general trends…. in the class data table on the board. Put the # of your lab station in the appropriate square. Put an arrow up if the “cell” gained weight, Put an arrow down if the “Cell” lost weight, and Put an arrow side to side if the “cell” maintained the same weight over the course of 30 minutes. Finally, put a smiley face if the experiment did what was expected, Put a frowny face if the experiment did not do as expected, and a question mark if you are unsure and need Mrs. C’s help.**

**Then draw a neat CLASS data table below. … then remove this prompt.**

**Class Data off the board**

**Comprehension Questions**

1. Explain the “pattern” that appears on the **CLASS** data table.
2. Predict what would happen if the sausage had starch in it and it was submerged in Iodine (I2). Explain your answer.
3. Did any substance move in the isotonic solutions? Explain your answer.

**Going Further**….

1. Research IV’s. Explain how IV’s work using the new **vocabulary** from the Background research.
2. Explain why athletic trainers don’t just give their cramping athletes juice and cookies? Use information from the Biomolecules chapter and cell transport in your answer.

**Conclusion:**  Write a conclusion paragraph with the following four components. Was your hypothesis right or wrong? Were there any experimental errors? What did you learn? Did you enjoy the lab? Why or why not.

**OPTIONAL!!** **Extra Credit….5 points! Remember Chemistry??? Stoichiometry???**

Do the calculations of how I measured the Sugar solutions… 0.2 molar, 0.6 molar, and 1.0 molar of Sucrose.