Salinization Lab

**Purpose:**

To determine how the concentration of salt in water affects the germination rate of seeds.

**Background Information:**

*You must conduct your own background research in order to determine how the concentration of salt in water affects the germination rate of seeds. Use the following prompts to help guide your research:*

1. *Is salt buildup a problem for farmland in the United States? The world? (why or why not)*
2. *Describe salinization and its impact on crops*
3. *Compare salinity of various bodies of water to the solubility of NaCl*
   1. *How does this relate to the independent variable?*

**Hypothesis:**

*Write an if/then statement relating the independent variable to the dependent variable*

**Materials:**

* Zip-loc bags, paper towels ▪ Scale
* Serial dilutions of NaCl concentrations ▪ Volumetric flasks or beakers
* Graduated cylinders ▪ Radish seeds

**Procedure:**

1. Using a scale, weigh out the following amounts of salt: 0.0, 0.5, 1.0, 1.5, 2.0 grams

2. Measure 100 mL of water for each amount of salt used.

3. Mix the water with the salt and stir until completely dissolved.

4. Cut paper towels into 10cm x 10cm squares.

5. Place 10 Radish Seeds on each paper towel.

6. Carefully fold the towel in half and place it inside the Zip-loc bag.

7. Using a graduated cylinder, measure 20 mL of the desired salt solution and add to the labeled plastic bag.

8. Remove excess air and seal the bag to prevent evaporation.

9. Complete steps 4-8 until all salt concentrations have been used. Record all data in the data table

10. Place the bags in the same location around the classroom to ensure they will receive the same amount of sunlight until the next class period.

11. Check the status of your seeds during the next class period, recording your information.