**Mung Bean Lab**

**Materials:**

|  |  |
| --- | --- |
| * Volumetric
 | * Distilled water
 |
| * Weighing boat
 | * Balance
 |
| * Spatula
 | * Parafilm
 |
| * Table salt (sodium chloride)
 | * Petri dishes
 |
| * Paper towel
 | * Scissors
 |
| * 5 mL pipet – colour coded
 | * 10 mL pipet – colour coded
 |
| * 2 Small beakers
 | * Mung Beans
 |
| * 5 test tubes
 | * Test tube rack
 |

**Part 1: Making Soln**

**i)** Make 50. mL of a 48 g/L soln from scratch

**Math**

**Procedure** (step by step how to make the soln)—bullets!

ii) Serial dilute the 48 g/L solution.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test tube 1** | **Test tube 2** | **Test tube 3** | **Test tube 4** | **Test tube 5** |
| **24.0 g/L** | **12.0 g/L** | **6.0 g/L** | **3.0 g/L** | **1.5 g/L** |

**Math**   **C1V1 = C2V2**

 C1 is the original concentration

 V1 is the volume you are to use i.e. to pipet out of the original soln

 C2 is the diluted concentration

 V2 is the final volume you are making

**Sketch Math**

**Procedure**

**Part 2:**

**Purpose**

* to determine the concentration at which salt solns become toxic to Mung Beans

**Variables:**

**Independent** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dependent** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Controls**

**Procedure:** Labeled Sketch

**Questions**

1. What are the genus and species of Mung beans?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. What is meant by germination?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What is a toxicity threshold?

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Determine the toxicity threshold of a salt soln on Mung bean germination:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Back up your answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. What is an LD50?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Determine the LD50 for salt solutions on Mung bean germination: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Back up your answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_