Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Per\_\_\_\_\_

**Seeds and Soil Lab**

Soil samples taken from different places can have very different qualities. Some soil is very dark in color and full of dead leaves and plants while other soil is lighter and feels more like the sand on a beach. Every type of plant has a kind of soil that is grows best in. In this lab we will testing pea seeds to see what kind of soil they grow best in.

Question: What kind of soil causes plants to grow the fastest?

Hypothesis:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Materials**

1 piece of filter paper

3 plant pot

Potting soil

Sand

9 peas

Tape for labeling your pot

75%

50%

25%

**Procedure**

|  |  |  |
| --- | --- | --- |
| Pot # | Amount of potting soil | Amount of sand |
| 1 | 75% | 25% |
| 2 | 50% | 50% |
| 3 | 25% | 75% |

1. Label your pot with your initials, the pot number and your period Add your potting soil to your pot

2. Add your sand to your pot

3. Carefully mix your potting soil and sand together.

4. Plant your 3 peas in the pot.

5. Water them with 100 mL of water

6. Use little pieces of tape to give each seed a number around the outside edge of the pot

7. Place your pots under the grow light.

**Data Table**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Pot #1 | Pot #2 | Pot #3 |
| Day | Seed #1 | Seed #2 | Seed #3 | Ave. | Seed #1 | Seed #2 | Seed #3 | Ave. | Seed #1 | Seed #2 | Seed #3 | Ave. |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |  |

**Class Data**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Pot #1 | Pot #2 | Pot #3 |
| Day | Group #1 | Group #2 | Group #3 | Group #4 | Ave. | Group #1 | Group #2 | Group #3 | Group #4 | Ave. | Group #1 | Group #2 | Group #3 | Group #4 | Ave. |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Analysis**

**Graph**

Using a different color for each pot, graph the average plant height per day. Use graph paper, and work with Ms. Grant to make the title, axis titles and key!

**Conclusion:** Answer the questions below **in complete sentences**

1. What is the answer to the experimental question?
2. What evidence from your data table or graph supports your hypothesis?
3. How does this data support your conclusion?
4. Why do you think this happened?
5. What kind of mistakes could have affected your results?
6. What could you do differently next time to correct these mistakes?
7. There are nutrients stored inside the rocks that plants and animals need to grow and be healthy. How does the process of mechanical weathering help these plants and animals?