

## Germination Rate Math

**Grade Level:** 3<sup>rd</sup>

**Title of Lesson:** Germination Rate Math

**Performance Standard(s) Covered:**

MCC3.NF.1 Understand a fraction  $1/b$  as the quantity formed by 1 part when the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts; understand a fraction  $a/b$  as the quantity formed by  $a$  parts of size  $1/b$ .

MCC3.NF.2 Understand a fraction as a number on the number line; as a number on the number line; represent fractions on a number line diagram.

**Essential Question:** What is a fraction?

**Objective:** Students will be able to create fractions to 100% accuracy.

**Key Words and Terms:**

- Fraction
- Germination rate

**Learning Activity**

**Abstract:** Students will plant seeds and figure out the germination rate and use fractions to represent it.

**Materials Needed:**

- Seed trays (enough for each pair of students)
- Soil (enough to fill each tray)
- Seed packets (enough seeds for each pair of students to plant about 20 or more seeds)
- A sunny place to place seeds (greenhouse or large window)
- A garden (to plant the sprouts in once done with activity)

**Procedure:**

1. Begin by teaching students about what a fraction is.
2. Explain that you will be planting seeds and determining the germination rate, meaning how many seeds grow to become plants.
3. Divide the students into pairs and give each group a seed tray full of soil and allow them to count out a specific number of seeds (it can be however large you would like)
4. Have the students plant the specific number of seeds, water them, and place them in the windowsill.
5. Continue to care for the seeds on a daily basis and record observations.
6. After a few days, have students count the number of seeds that have sprouted and write out the fraction of the germination rate.

7. Compare the germination rate fractions of each group to each other and plot them on a number line.
8. Ask some of the possible questions below –
  - a. Why do you think your germination rate was what it was?
  - b. How could you have increased your germination rate?
  - c. Is there another way to represent your germination rate besides in fraction form?  
Or in another fraction form?