

Justin Maxwell

Seeking Out Seeds

NC Standard Course of Study Objectives:

1.06 Observe, describe, and record properties of germinating seeds

Essential Question: What are the properties of seeds?

Time: One 60-minute period

Information to give to students either in the engaging section or exploring section

Seeds can be found in a variety of places such as in flowers, in trees, or on the ground. Seeds have a variety of **properties** such as, size, shape, color, and texture. They store food for young plants and are protected by a **seed coat**. Seed production is dependent upon the type of plant and the size of the seed. Seeds need moisture, air, and warm temperatures in order to grow. When the seeds are in the soil the plants cannot use the energy from the sun so they must depend on the cotyledon to provide them with energy they need in order to grow. Seeds travel in a variety of ways.

Materials:

Per Student:

- hand lens
- ruler
- radish seed
- corn
- bean
- grass
- glue/tape

Process Skills: Classify, Observe, Communicate, Predict, Infer

Preparation:

Create a data table and assign seeds to each sample number ahead of time by gluing a sample below each label in column one. For example, corn = Seed 1, radish = Seed 2, etc. Be sure not to tell students the

names of the seeds. This will prevent students from mislabeling the samples during the investigation.

Engage: Take a ten minute nature walk around your school to observe plants. Ask the students how they think the plants started. Have the students collect evidence for their ideas, i.e. pine cones on the ground. Gather the evidence that students find in order to observe more closely in the classroom.

Explore:

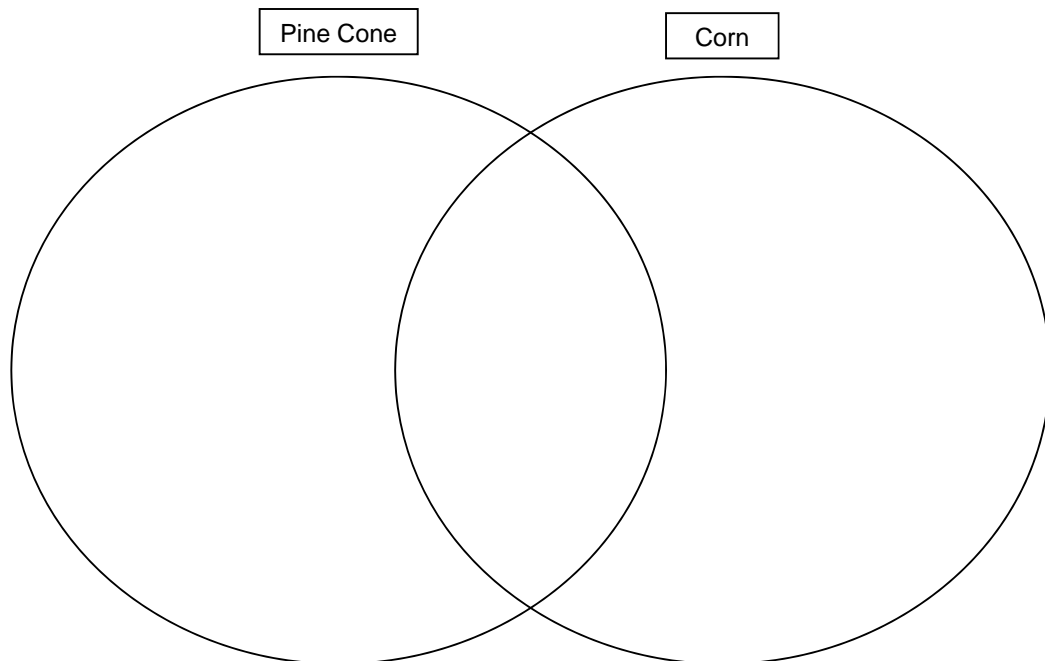
- Have students discuss the samples that they found outside. Ask questions that would lead to the discovery that the samples are seeds.
- Provide students with a variety of seeds such as corn, beans, grass, and radish, without telling them the names of each seed. (If these seeds are not available, then others may be substituted.)
- Students will observe each of the four types of seeds using a hand lens and a ruler. They will record their observations in a data table like the one below. Students can either glue or tape the seed samples below the labels in column one of the data table. The data table should be glued into their science notebooks.

| Seeds | Size | Shape | Color | Texture | Other |
|--------|------|-------|-------|---------|-------|
| Seed 1 | | | | | |
| Seed 2 | | | | | |
| Seed 3 | | | | | |
| Seed 4 | | | | | |

Explain: Have students discuss their findings with the following guiding questions:

1. How many different colors and shapes of seeds did you find?
2. What are the properties of seeds?
3. What did you observe about the properties of the seeds?
4. Did you notice any similarities or differences between the four seed samples?

Elaborate: Students will create a Venn diagram like the sample below that will compare the samples that they collected outside to one of the samples that were provided by the teacher.



Evaluate: Make sure that students have completely filled in all areas of the data table by identifying the properties color, size, shape, and texture. To extend student thinking, encourage them to discover other ways of observing other properties, i.e. floating vs. sinking, magnetism, and mass