

Seed Tasting

Purpose: This lesson introduces students to the functions of seeds. Observations and recording information are skills that students practice in this lesson. If the teacher chooses, it can also be used to learn about Minnesota agriculture commodities.

Time: 60 minutes

Level: 2-3

Materials:

- At least four different edible seeds. Examples: pumpkin seeds, soybean seeds, sunflower seeds, kidney beans, navy beans, pinto beans, peas, and many others.
- Bowls (one for each type of seed)
- Rulers
- Seed observation and taste testing chart

OPTIONAL

- *Minnesota Ag in the Classroom Commodity Cards Available FREE at <http://www.mda.state.mn.us/kids/commoditycards.aspx>*
- *Minnesota Ag in the Classroom online story featuring a soybean farm (1 min, 35 seconds) <http://www.mda.state.mn.us/kids/videostories/feeds.aspx>*



Minnesota Math Standards and Benchmarks

2.3.2.2 Demonstrate an understanding of the relationship between length and the numbers on a ruler by using a ruler to measure lengths to the nearest centimeter or inch.

Minnesota Science Standards and Benchmarks

- 2.2.1.1.1 Describe objects in terms of color, size, shape, weight, texture, flexibility, strength and the types of material in the object.
- 2.4.1.1.1 Describe and sort plants into groups in many ways, according to their physical characteristics and behaviors
- 3.1.3.4.1 Use tools, including rulers, thermometers, magnifiers and simple balance, to improve observations and keep a record of the observations made.
- 3.4.1.1.1 Compare how the different structures of plants and animals serve various functions of growth, survival and reproduction.

Minnesota/Common Core Language Arts Standards and Benchmarks

2.6.8.8 Recall information from experiences or gather information from provided sources to answer questions.

Background

Seeds are important to the life of a plant because they allow for growth and reproduction. Seeds are an important part of the agriculture plant production process because producers (AKA farmers) plant seeds for most crops in the spring. These seeds germinate (sprout) and then grow throughout the summer with the moisture, sunlight and soil provided by our Minnesota climate. In the fall the mature plant produces seeds that are harvested. These seeds are used in a variety of different ways depending on the crop. However, many seeds are used as food for livestock animals and humans.

Procedure

1. Before class begins, collect at least four different kinds of edible seeds. Purchase these from a grocery store so you are sure they are safe to eat. Place each seed type in a different bowl.
2. Display these seeds and ask students:
 - a. What are these?
 - b. Where do you think they came from?
 - c. How come they don't all look the same?
 - d. What are they used for?
3. Record student's responses on your whiteboard or poster paper. Use the student responses to explain that you have displayed examples of seeds. Seeds are produced by a plant once it is fully grown. Seeds are used to grow new plants – they allow plants to reproduce.
OPTIONAL - Use the Minnesota Agriculture in the Classroom on-line story featuring a soybean farm (see Materials) to illustrate the process of planting seeds to produce plants. Tell students to also watch and listen for other ways the soybean seeds are used. Discuss these uses at the end of the video.
4. Help students understand that there are many other uses of seeds, some examples include: crushed and used for oil, ground into "meal" for animals and humans, eaten whole by animals and humans, processed into fuels like ethanol and biodiesel.

5. Show the students your seed samples once again. If you purchased seeds from the examples listed in the Materials, tell students that all of these seeds are grown by Minnesota farmers. Use the Minnesota Ag in the Classroom Commodity Cards (see Materials) to share facts and explain the plants that grow the seeds. Help students realize that plants do not all look the same and seeds also are different in appearance and uses. Tell the students that today they will get to investigate four different types of seeds and make observations about their appearance and also how they taste.
6. Hand out the Seed Observation and Taste Testing Chart. Use a sample seed to model how to complete each column. For example: Use a corn kernel
 - a. Size – use a ruler to measure the corn kernel to the nearest cm
 - b. Color – golden color with a white tip
 - c. Texture – smooth but sharp at the point
 - d. Smell – dusty, earth smell similar to dirt
 - e. Taste – too hard to taste! Assure students that all seeds they will be using will be safe to eat.
 - f. Which seed? Instruct students to take their best guess (using the information from the commodity cards and previous experience) at which plant each seed is from. Their choices are listed on the top of the chart.
7. If you have enough rulers, hand out one to each student or have them share rulers.
8. Hand out the seeds one at a time to each student. Have the students place the first seed in the box on their chart that is labeled “seed 1”. Hand out the second seed and instruct the students to place it in the box labeled “seed 2”. Continue for seed 3 and 4. Once everyone has the seeds in the appropriate box, tell the students to begin taking their observations and completing the chart. Assist students whenever needed.
9. Ask students to share their guesses about which seed is which. Share the actual results and compare student guesses.
10. Review the purpose of seeds with the students. (plant reproduction, food, misc. uses)
11. Continue with any additional activities if desired.

Additional Activities

- Use the students’ observations and seed guesses to create charts and/or graphs.
- Fill small pots or cups with holes in the bottom for drainage with soil. Give each student or teams of students a packet of seeds. Have them plant the seeds according the seed packet directions. Provide light and water and watch the seeds grow!
- Gather a wide variety of seeds and have students use these to make a mosaic masterpiece!
- Have students save seeds from fruits and vegetables they eat. Have the students draw a picture of the item and then glue the seed(s) in the appropriate place(s). Create a class seed book by organizing these drawings in a book format.
- Create a seed matching game. For example, a card with soybean seeds glued on it would be matched to a card with a picture of a soybean plant.

- Organize a “seed snack day.” Each snack must contain edible seeds. Examples: corn bread, granola, popcorn, peanut butter.
- Have students examine the various ways seeds promote their own dispersal. For example, some seeds get caught in fur while others are carried by the wind.

Resources





- The book *Seed, Soil, Sun Earth’s Recipe for Food* by Cris Peterson is a great book for 1-3 graders to understand the process a seed follows from planting to harvesting.
- The book *SOYBEANS in the story of agriculture* is a great read-aloud book or it can be used by the teacher for additional background information on soybeans.
<http://www.mda.state.mn.us/kids/childrens-lit-bundle.aspx>
- Agriculture By-Products Placemats show the many uses of seeds and other agricultural products grown in Minnesota. These are available FREE from Minnesota Agriculture in the Classroom.
<http://www.mda.state.mn.us/kids/teachresources/byproducts.aspx>

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651/201-6000. TTY users can call the Minnesota Relay Service at 711 or 1-800-627-3529. The MDA is an equal opportunity employer and provider.

Name _____

Seed Observation and Taste Testing Chart

Complete the chart using the four seed samples. In the final column, you need to guess which seed is the **soybean seed, pumpkin seed, sunflower seed, and pinto bean seed.**

			
Seed 1	Seed 2	Seed 3	Seed 4

Seed	Size	Color	Texture	Smell	Taste	Which seed?
1						
2						
3						
4						