



SOUTH DAKOTA STATE
UNIVERSITY EXTENSION

Level:
1st-3rd
Grades



SUPER SEEDS

Overview: In this lesson, youth will explore the many types of seeds that are eaten or grown and how they travel and grow.

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GROW GETTERS

1st-3rd Grades

Activities in this Lesson

- **Science Activity:** Traveling Seeds
- **Nutrition Activity:** Super Seed Energy Balls
- **Physical Activity:** Yoga: From Seed to Plant

South Dakota Educational Standards

- **Health:**
 - **8.2.1** Communicate health needs to promote personal health.
- **Physical Education:**
 - **Standard 3 Nutrition:** Recognizes the good health balance of good nutrition with physical activity.
- **Science:**
 - **2-LS2-2:** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

Book

Books may be available at school or community libraries.

Oh, Say Can You Seed? All About Flowering Plants by Bonnie Worth

Cat in the Hat, Thing 1, and Thing 2 explore flowering plants, teaching readers about plant biology like parts of seeds and seed dispersal.

- Purchase the book: [Oh, Say Can You Seed](#)
- Watch: “[Oh, Say Can You Seed](#)” Read aloud by House Bytown
- Consider these follow-up questions:
 - How are plants useful for me and you? Ex. paper for books; cloth for plants; grains, fruits, and veggies we eat; ingredients for medicine and vitamins/supplements.
 - What do roots do? Spread below the ground, hold the plant in place, and take up water and minerals.
 - What are some ways seeds travel? Blow in the breeze, fly through the wind, or travel on clothes or animals.

Vocabulary:

- **Seed:** A flowering plant's unit of reproduction, capable of developing another such plant.
- **Embryo:** The baby plant inside a seed.
- **Cotyledon:** The first leaf of the plant embryo.
- **Seed Coat:** Hard outer covering that protects the embryo and stored plant.
- **Stem:** The above-ground part of the plant that bears the flowering buds and stems.
- **Roots:** The part of the plant that is underground and anchors it in place.
- **Photosynthesis:** The process in which green plants use sunlight to make their own food.

TRAVELING SEEDS

Science Activity
1st-3rd Grades

In this activity, students will demonstrate how seeds travel by wearing tape around their ankles while walking outside and spreading bubbles.

Time:

Prep: 20 minutes

Activity: 45 minutes

Materials

- Masking tape
- Disposable pans
- Household items such as fly swatters or slotted spoons
- Bubble solution (purchased or homemade)

Instructions:

Ahead of the activity, collect or purchase all the materials and fill the disposable pans with bubble solution.



1. Wrap masking tape around the students' ankles with the sticky side facing out.
2. Go for a walk in the grass or a in a park.
3. After the walk, tell students to look at what stuck to their tape. Explain to the students that seeds travel in similar ways, getting kicked up or moved around on animals.
4. Next, have the students dip the fly swatters or slotted spoons in the bubble solution and spread the bubbles.
5. Discuss how seeds are like bubbles, too, and blow through the air to other places and land in another area.

Guiding Questions:

Before the Activity:

- Ask: Where are places seeds can be found?
 - Answer: For example, in vegetables and fruits, plants (sunflowers, flax), pea pods, and dandelions.

During the Activity:

- Ask: What do you see around you that could carry seeds from place to place? What are other ways that seeds could travel?
 - Answer: Wind, water, insects, birds, other animals (dogs, cats), and people

After the Activity:

- Ask: When seeds move to a new location, what conditions do they need to grow?
 - Answer: Appropriate sunlight, water, air, and warm temperature

Modification Notes

- **Extension:** Encourage the students to explore their own backyard or outside near their homes to identify different plants.

SUPER SEED ENERGY BALLS

Nutrition Activity
1st-3rd Grades

In this activity, students will make energy ball snacks while recognizing different seeds.

Time:

Prep: 20-30 minutes

Activity: 30 minutes

Materials

- 1 ½ cups oats
- ¾ cup peanut butter (can substitute any nut butter)
- ¼ cup flaxseed meal (or ground flaxseeds)
- ¼ cup chia seeds
- 1 ½ tsp vanilla extract
- ½ cup honey
- Optional: other seeds or ground nuts (pumpkin seeds, chopped almonds or cashews, etc.), chocolate chips, coconut flakes
- Measuring cups and spoons, mixing bowl, whisk or mixing utensils, spoons



Instructions:

Teacher tip: Grind or chop whole nuts to avoid choking.

1. Instruct the students to wash their hands.
2. Combine all ingredients in a large mixing bowl. Assign each student a job (measuring, mixing, pouring, etc.) for more participation.
3. Using spoons or a small cookie scoop, portion the mixture into ~1oz (1 inch) balls. The students can help scoop and roll the mixture.
4. Eat right away or refrigerate and then eat.

Guiding Questions:

Before the Activity:

- Ask: What nutrition do seeds provide for our bodies? (How are they healthy for us?)
 - Answer: Protein, fiber, and healthy fats
- Ask: Why is fiber good for us?
 - Answer: Fiber helps with digestion and bowel movements (it keeps your tummy feeling good). It also helps with keeping away diseases, especially as we get older.

During the Activity:

- Ask: What kind of seeds are we using in this recipe?
- Ask: What do you notice about the seeds? How are they different?
 - Answers will vary. Mention that peanut butter (or other nut butter) also comes from seeds (peanuts, almonds, and cashews all qualify as seeds).

After the Activity:

- Ask: What are other ways we can eat seeds?
 - Answer: In oatmeal, yogurt, smoothies, and salads; nut milks, nut butters; or granola bars.
- Ask: What are other types of seeds we can eat by themselves?
 - Answer: Sunflower seeds, pumpkin seeds, some nuts such as cashews and almonds, beans (ex. Black beans, kidney beans), hemp seeds, chickpeas

Modification notes:

- **Extension:** Brainstorm with students and/or find more recipes using seeds to send home with students to make with their parents or guardians.

YOGA: FROM SEED TO PLANT

Physical Activity
PreK-3rd Grades

In this activity, students will complete a series of yoga stretches that represent the germination process from seed to plant.

Time:

Prep: 10 minutes

Activity: 15-20 minutes

Materials

- Mats (optional)

Instructions

Teacher tip: See the yoga pose images for reference.

1. Stand in front of the group of students and have them spread out to find their own spot. Tell them to be at least an arm's length away from each other.
2. Start by reviewing the process of a seed growing into a plant with the students.
3. Explain to them that they will be doing stretches and to think about how the stretches represent the plant growth process. Ask the students what they think happens next in the plant growth process as you complete the stretches and discuss what is happening.
4. Have everyone sit crisscross-applesauce with their hands resting on their knees. This is called the Easy Pose. Have them take deep breaths in and out as they focus on relaxing for about 30 seconds to 1 minute. Explain that this pose represents the seed, and it is taking in water until it cracks open.
5. Have the students transition into the Child's Pose. Tell them to reach with their arms and wiggle their fingers. Describe this as the roots developing and searching for water. Hold for 30 seconds to 1 minute, focusing on deep breathing.
6. Transition into Downward Dog. Have the students pedal their feet. Do this stretch for 30 seconds to 1 minute. This stage can be described as the seed breaking open more and the shoot beginning to develop.
7. Stand up a little more into the Rag Doll Pose. Hold for 30 seconds to 1 minute. You can describe this stretch as the shoot growing a little more.
8. Move into Warrior 1 Pose. Hold for 30 seconds to 1 minute. This stretch can be described as the shoot rising above ground, and the roots growing further.
9. Next, transition into Warrior 2 Pose. Hold for 30 seconds to 1 minute. This pose can be described as the first leaves developing.
10. Do the Tree Pose. Hold for 30 seconds to 1 minute. This pose can be described as a mature plant that has both leaves (leg position) and a flower (arms position).
11. Next, have the students start moving their arms slowly back and forth in the air as if they are blowing in the wind. Do this for about 30 seconds. Then have the students twirl and move about the room/location as if they are seeds being spread in the wind.
12. Have the students find a new location and get into the Savasana Pose. Describe this position as the seed resting over winter. Stay resting for 30 seconds to 1 minute.



13. If desired, repeat the process as if the students are new seeds that spread to a new location and are ready to grow in the next year.

Guiding Questions:***Before the Activity:***

- Ask: What is the name of the process of a plant growing?
 - Answer: Germination
- Ask: What are some steps in the germination process?
 - Answer: Seed swelling with water, roots developing, shoot sprouting upward, first leaves developing

During the Activity:

- Ask: What do you think this pose represents/what step is next? (Ask for each step)

After the Activity:

- Ask: What will happen once the new seed travels somewhere else?
 - Answer: If conditions are right, it will become a new plant and start the cycle over again.

Modification Notes:

- **Extension:** Discuss the importance of staying active to be healthy. In this discussion, include the topic of being active outside and its benefits (fresh air, sunlight, decreased stress).



Easy Pose



Child's Pose



Downward Dog



Ragdoll Pose



Warrior 1



Warrior 2



Tree Pose



Savasana Pose

Additional Resources

If you liked this lesson, you may also like these other educational materials from SDSU Extension.

Nutrition and Physical Activity

- [Pick it! Try it! Like it! Preserve it!](#) materials are filled with tips for selecting, preparing, and preserving a wide variety of fruits and vegetables. Colorful fact sheets, recipe cards, and educational videos provide educators and families with fun, engaging tools to enhance any dietary curriculum!
- [Growing Active Readers](#) is a series of book-based lessons to help young children understand the benefits of making healthy decisions involving nutrition and physical activity.
- [South Dakota Farm to School Resource Guide](#) walks through the basics of starting farm to school programs in South Dakota, including local food selling/purchasing, school gardens, and in-class education.
- [Preservation](#) this page provides a suite of educational materials and programs offered by SDSU Extension related to food preservation.
- [Physical Activity](#) View all SDSU Extension physical activity content.

Horticulture

- [Garden and Yard](#) this page provides easy access to all the educational materials and programs related to garden and yard by SDSU Extension. This frequently updated landing page includes sections for fruits, vegetables, problems and solutions, master gardener volunteer program, garden hour, and more.
- [Vegetable Gardening in South Dakota](#) this booklet will help you with basic vegetable gardening information and tips to get started.
- [Fertilizing Gardens in South Dakota](#) this booklet by SDSU Extension provides information on soil testing, types of fertilizers, and methods of application.
- [An Identification Guide to Native Pollinator Plants of South Dakota for Managed Landscapes](#) In this guide, learn about the perennial plants native to South Dakota that attract pollinators and can be incorporated in to gardens.
- [Tree Pest Alert](#) stay updated and informed with this weekly resource for selecting, planting, and caring for trees and shrubs all year round.

