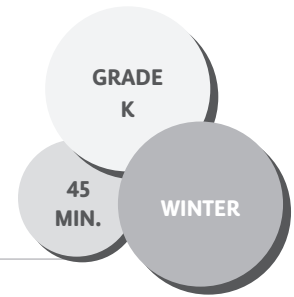


# Bean Buddies

**THEME:** GROWING AND ACCESSING HEALTHY FOOD



## ESSENTIAL QUESTION

*How do we make a seed sprout?*

## LEARNING OBJECTIVES

- ✓ Students will be able to identify what a plant needs to grow and thrive.
- ✓ Students will be able to prepare a seedling and make predictions about its growth.

## LESSON DESCRIPTION

In this lesson, students learn about the optimal conditions for a bean seed to germinate by listening to a story and then making Bean Buddies in zip lock bags. Students draw pictures and make predictions about their seed's growth.

## MATERIALS

**For each student:**

- Bean seeds
- Zip lock bags
- Paper towels
- Observation Log (p. 214)
- Permanent marker
- 2 Spray bottles
- Crayons
- Paper and pencils
- *One Bean* by Anne Rockwell

## PREPARATION

- › Soak beans overnight for better germination.
- › Photocopy the Observation Log for each student.

- › Make your own bean buddy beforehand to troubleshoot any issues and have a model to show students.

## ACTION STEPS

**1. Engage:** Gather students in a circle, and explain that today they'll be learning more about what plants need to grow by sprouting their very own seed. Ask, *How many people have planted a seed before?* Discuss students' prior experiences growing plants. **(5 min.)**

**2. Reading:** Read *One Bean*, which tells the story of a young boy soaking and sprouting a bean as the students will do. Alternatively, for a more whimsical approach, tell students the story of Jack and the Beanstalk. Explain that you'll be giving them magical bean seeds today as well. Have them close their eyes and imagine climbing the beanstalk that'll grow from their seeds. Ask, *What place will your beanstalk take you to?* **(5 min.)**

**3. Making Bean Buddies:** Say, *Now we're going to make friends with a bean!* Show students your model Bean Buddy. Encourage students to help each other while making their Bean Buddies. Pass out paper towels to each student and a couple spray bottles to share. You may want to predetermine the number of spritzes that will adequately dampen the towel, and tell students to only use that many. Then pass out one seed to each student, and have students

fold their paper towel behind the bean. Finally, pass out zip lock bags, and have students place their bean inside. **(10 min.)**

**4. Discussing Plant Life Cycle:** Have students recall a plant's life cycle. Ask, *Which part of the plant is the bean? Which part of the plant do you expect to grow out of the seed first? What do you think will grow next?* **(5 min.)**

**5. Drawing:** Pass out crayons, paper, and pencils for students to draw pictures of their seeds and how they think their seeds will look in one week. This is a good time to have students use a permanent marker to write their name on the zip lock bag and their drawing. Have students clean up and collect their Bean Buddies, explaining that you'll tape them to the window to help them sprout, and that's where they'll check on them every day. (10 min.)

**6. Sharing:** Return to the circle, and have students share their drawings with a partner. **(5 min.)**

## REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

- *What do seeds need to grow into plants?*
- *How long do you think it will take until we see the bean sprout? How big do you think its leaves will get?*
- *Why doesn't the bean seed need soil to sprout? Do you think it'll need to be in soil soon?*

## ADAPTATIONS

**Follow-up:** Have each student set up a log where they will record observations with pictures of the progress of the plants' growth.

**Variation:** A fun alternative is to have students keep the Bean Buddies in their pockets or on a string as a necklace, explaining that the warmth from their bodies will help them germinate. Have them care for their Bean Buddy independently at home, and make it a challenge to see whose Bean Buddy is alive and thriving day after day.

## ACADEMIC CONNECTIONS

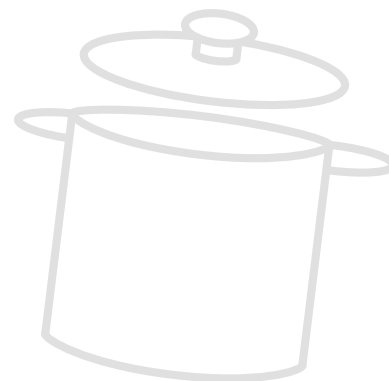
Next Generation Science Standards Disciplinary Core Ideas

### NGSS K.LS1.C

Organization for Matter and Energy Flow in Organisms – All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

### NGSS 1.LS1.A

Structure and Function – All organisms have external parts... Plants also have different parts (roots, stems, leaves, flowers, fruits, and seeds) that help them survive and grow.



# Observation Log

Name: \_\_\_\_\_

Project: \_\_\_\_\_

**Week 1**

**Week 2**

**Week 3**

**Week 4**