Pre-K: Growing A Bean
Created by:
Monica Griffin, MS, RDN, LD
Brianne Ward, Little Sunshine’s Playhouse Administrator

Overview:
The class will learn about germination, and will “plant” a bean seed in a plastic bag. They will observe the germination process over time, and will track their seed’s progress in a journal.

Georgia Early Learning and Development Standards:
- CD-SC1: The child will demonstrate scientific inquiry skills.
- CD-SC3: The child will demonstrate knowledge related to living things and their environments.
- CLL1: The child will listen to conversations and demonstrate comprehension.

Objectives:
- Students will learn about seeds and what germination means
- Students will participate in an activity to sprout seeds
- Students will observe and track their seed’s progress
Materials:
- A variety of seeds (different sizes)
- Per child: one bean (or a lima bean), one plastic re-sealable bag, one folded paper towel
- Water
- Music and Movement video clip: Preschool Learn to Dance- Can You Plant a Bean [https://www.youtube.com/watch?v=LCKEdDEr82k](https://www.youtube.com/watch?v=LCKEdDEr82k)
- A journal for each child to track seed progress
- Optional extension: soil and a pot for planting seeds

Reproducible: [https://gpb.pbslearningmedia.org/resource/473217097_21/beans-clipart/#.WSJGgmjyvIU](https://gpb.pbslearningmedia.org/resource/473217097_21/beans-clipart/#.WSJGgmjyvIU)

Lesson Plan:
- **Engage (whole group): 10 minutes**
  - Introduce the idea that plants come from seeds. Show different types of seeds, and point out that some are big and some are small.
  - Pass out a dried kidney bean (or lima bean) to each child. Encourage them to feel the seed- “how does it feel?” Explain that seeds have a hard outer shell called a seed coat.
  - Explain that inside the seed is a tiny plant, surrounded by special plant food to help the seed grow. Direct children to find the small ‘hole’ on the side of the kidney bean- this is where the seed will sprout (where the plant will come out).
  - When a seed first starts to grow, it’s called “germination”.
  - Discuss what a seed needs to grow- water, the right temperature, and light

- **Explore (small groups): 10 minutes**
  - Explain that we usually grow plants in soil, but that means we can’t see the seed sprout because it’s underground. We are going to start growing the seeds in a plastic bag, so we can watch it germinate.
  - Ask open-ended questions to encourage discussion about what germination means. Provide hints and assistance as needed.
  - Provide each child with a re-sealable plastic bag, paper towel, and bean; provide each table with a small container of water.
  - Instruct each child to gently wet their paper towel, place it in the bag, and lay the bean on top. Place bags in a warm spot, like a windowsill. To make it easy to see, you can tape the bags to the window.
  - Instruct children to get out their journal, and draw the seed how it looks today.

For more information, visit [www.georgiaorganics.org/for-schools/octoberfarmtoschoolmonth](http://www.georgiaorganics.org/for-schools/octoberfarmtoschoolmonth)
• Explain (whole group):
  o Explain that the beans are going to germinate. First, the roots will come out, then leaves. This will take many days, and they will track their seeds progress.
  o You can use this image to help explain the full process: https://gpb.pbslearningmedia.org/resource/473217097_21/beans-clipart/#.WSJGgmjyvIU
  o Explain that this seed will grow into a bean plant, and that beans are a kind of legume. Legumes are a group of vegetables that grow in pods. Other legumes include other kinds of beans, lentils, peas and peanuts.
  o All vegetables, including beans/legumes, help our bodies grow and get stronger.
  o Participate in a music and movement activity about planting beans: Preschool Learn to Dance: Can You Plant a Bean https://www.youtube.com/watch?v=LCKEdDEr82k

The following extension activities can occur after the beans have been “planted” for a few days:

• Extend (whole group): 15 minutes (daily or every other day)
  o Allow students to check on their seeds daily, and if they have changed, to draw it in their journal.
  o Ask them to identify the seed, roots and leaves as they grow.
  o Ask the children if they remember what germinate means and have them explain it in their best words.
  o Have children share with the class different legumes.

• Optional Extension:
  o As seeds grow larger, they can be transplanted into a pot with soil. Even if you don’t plant them in a garden to create fully productive plants, you can continue to grow the plant in a pot so students can get an idea of what the process looks like over time.
  o Children can act out each stage of a plant life cycle to encourage movement.

For more information, visit www.georgiaorganics.org/for-schools/octoberfarmtoschoolmonth