**Garden in a Bag**  
*Modified from Minnesota Department of Agriculture activity*

**Grade:** 1st

**Season:** Winter/Spring

**IGS Unit:** Seeds, Garden

**Essential Questions:** What do seeds need to grow?

**Objective:** Students will understand what seeds need to grow. Students will know the term “germinate” and they will be able to identify parts of a sprouting seed.

**Materials:**

- Clear zip lock sandwich bags
- Dry or soaked beans
- Paper towels
- Permanent marker
- Stapler

**Introduction:**
Review living vs. nonliving. Invite students to share some things that are living, and some that are nonliving. Ask students, “Are seeds living or nonliving? Why or why not?” Discuss. Ask students, “What do seeds need to grow?” And when a seed begins to grow, what do we call that? *Sprout, Germinate*

Explain: When planted in the soil, we’re unable see the first sprout push out of the seed coat or see the root system. But today, we are going to sprout seeds so that you can see all of the magic that is happening!

**Lesson:**

1. Distribute a zip lock bag to each child and write their name in the top corner with a permanent marker.
2. Dampen a paper towel per child and have them place the folded towel in the bag. Paper towels should be damp enough to provide moisture for the bean, but not dripping (which could cause mold).
3. Help students staple across the middle of the plastic bag – this will hold the bean seeds above the water, to prevent the seeds from rotting.
4. Have children place a few dry beans on top of the staple line and seal the bag. There does not need to be any air in bag.
5. Tape each bag to a window or a wall that gets some sunlight. The seeds mostly need warmth at this stage, not light – so prioritize warmth. A window helps for viewing the seeds as they germinates.
The seeds should begin to germinate in 3-5 days. Moisten the paper towels if they are drying out.

**Wrap Up/Assessment:**
Have children observe the growth of the sprouts. Students record the growth on a piece of paper, or in their science journals. Students label the parts of the seed, sprout and plant as it grows.

**Extensions:**
- *Observing Seeds:* Students draw and label their sprouts as they grow. Students also write a sentence using their new seed vocabulary.
- *Transplanting Seeds:* After 1 ½ to 2 weeks – either in a garden or indoors – transplant the sprouted seeds if soil is available. When the seeds are planted they will have their “seed leaves” and maybe even their “true leaves” (the second leaves after the “seed leaves”). These should be above the soil so the seed can continue to grow. Beans require a fair amount of warmth so may not grow well outside in the winter. However, in a sunny classroom spot with good soil and water, they may grow enough to give an idea of what they look like as a full grown plant.