



Grade Level: K-2

Essential Skills: 1, 4

NGSS: 1-LS1-1, 2-LS2-1, 1-ESS1-2

CCSS: RI.1, W.2.7

Time: 30 minutes

Materials:

Living Necklace Kit* or:

- Jewelry bag with hang hole
- Necklace-length piece of yarn
- Cotton ball
- Bean seed

AITC Library Resources:

Books:

Oh Say Can You Seed?
Plant Life
Roots, Shoots, Buckets & Boots
Project Seasons

More Lessons:

Turf Buddies
Garden in a Glove
Growing Bracelets

Lesson to Grow

Living Necklace

Description:

Students explore the needs of plants through the creation of a “living necklace.” Introduce the stages of plant growth and development with this fun project for students!

Activity Directions:

Part 1:

1. Explain to students that today they will be learning about plant needs. Read the book, *Farmer Will Allen and the Growing Table* by Jacqueline Briggs Martin.

2. After reading, ask student the following questions:

- a. How did Will Allen grow food in the city?
- b. What other ways did Will Allen use to grow food? (i.e. aquaponics and hydroponic systems).
- c. What plant need s must be met to grow? Is soil required?

Part 2: Needs of a Plant

1. Ask the students if they have ever taken care of a plant. If they have, ask them to describe what they did to care for their plant.

2. Ask the students, “What are the basic needs of plants?” (nutrients, water, air, and light)

3. Explain to students that today they will have the opporutnity to start a plant and observe the germination of the plant over time.

Part 3: Living Necklace

1. Dip cotton ball in water and gently squeeze out the excess moisture so it is not dripping. Flatten it like a pancake or tortilla.

2. Place the bean seed in the middle of the damp cotton ball and wrap the cotton around the bean seed.

3. Place the seed and cotton ball in the jewelry bag and seal tight.

4. Thread a piece of yarn through the hole at the top of the bag, and tie the ends to make the necklace.

5. Each student may wear their “living necklace” home or keep them in their classroom for observation.

6. The seed will sprout in three to five days.

7. After three days, open the bag to allow the seedling to get oxygen and add a little water. You can either plant the seed in soil at this point, or it can live for about two more weeks on the cotton ball, as long as it is provided with water and oxygen.



Extension Activities:

Learn what a seed needs to germinate. A seed is alive! It needs water, soil (or cotton in this case to hold the moisture), the appropriate temperature, air or carbon dioxide. Most seeds are not affected by light or darkness, but some seeds, including species found in forests, will not germinate until an opening in the canopy allows sufficient light for growth of the seedling.

Hypothesize what environmental conditions affect germination. Ask students where they think the seeds will germinate best (a sunny window, dark corner, warm place, cold place). Place seed bags in the areas proposed, have students record their hypothesis, monitor seed germination, and draw daily progress or seed anatomy (roots, root hairs, cotyledons, etc.).

Discuss what a plant needs after germination and grow a crop of beans. (Add light and nutrients to the list above.) The bean seedlings can be planted in soil, be grown and finally harvested. The harvested beans can be eaten fresh (green) or dried. The dried beans can also be planted to grow another generation of bean plants.

Discuss how humans use plants. Humans use plants as food for people and animals, clothing, medicines, housing, the control of soil erosion, aesthetics, etc.