

In the Garden

Activities + Lessons for 1st Grade

Arizona Life Science Standards:

1.L1U1.6 - Observe and describe the life cycles of plants

Essential Question

How does our food grow?

Introduction

The fruits and vegetables we eat start as seeds that we plant in soil. With plenty of water, time, and sunlight, the seed will sprout, germinate, flower, and eventually grow to be our food.

Objectives

- Students will learn the basic planting and growing process
- Students will identify the stages in the life cycle of a plant
- Students will harvest and taste a vegetable grown in the garden

Pre-Trip Activities

- Inch by Inch: The Garden Song book and The Garden Song by John Devner, combined together here: <https://www.youtube.com/watch?v=ZyCCtTU9aLM>
- Life Cycle of a Plant Worksheets
- Seed Viewer Activity

Echoing Hope Ranch Activities

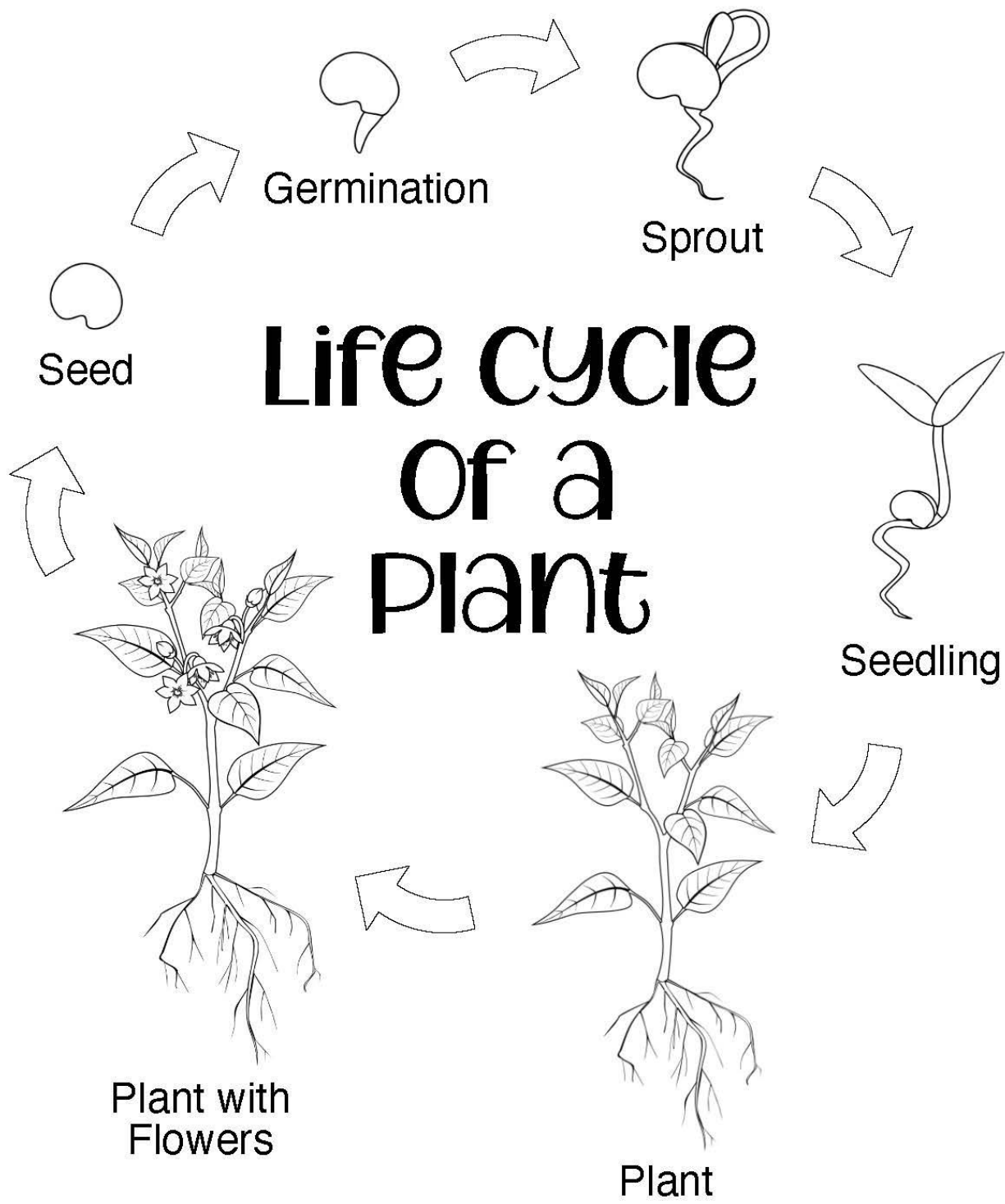
- Growing Station and Sampling the Finished Product
- Planting a Seed to Take Home

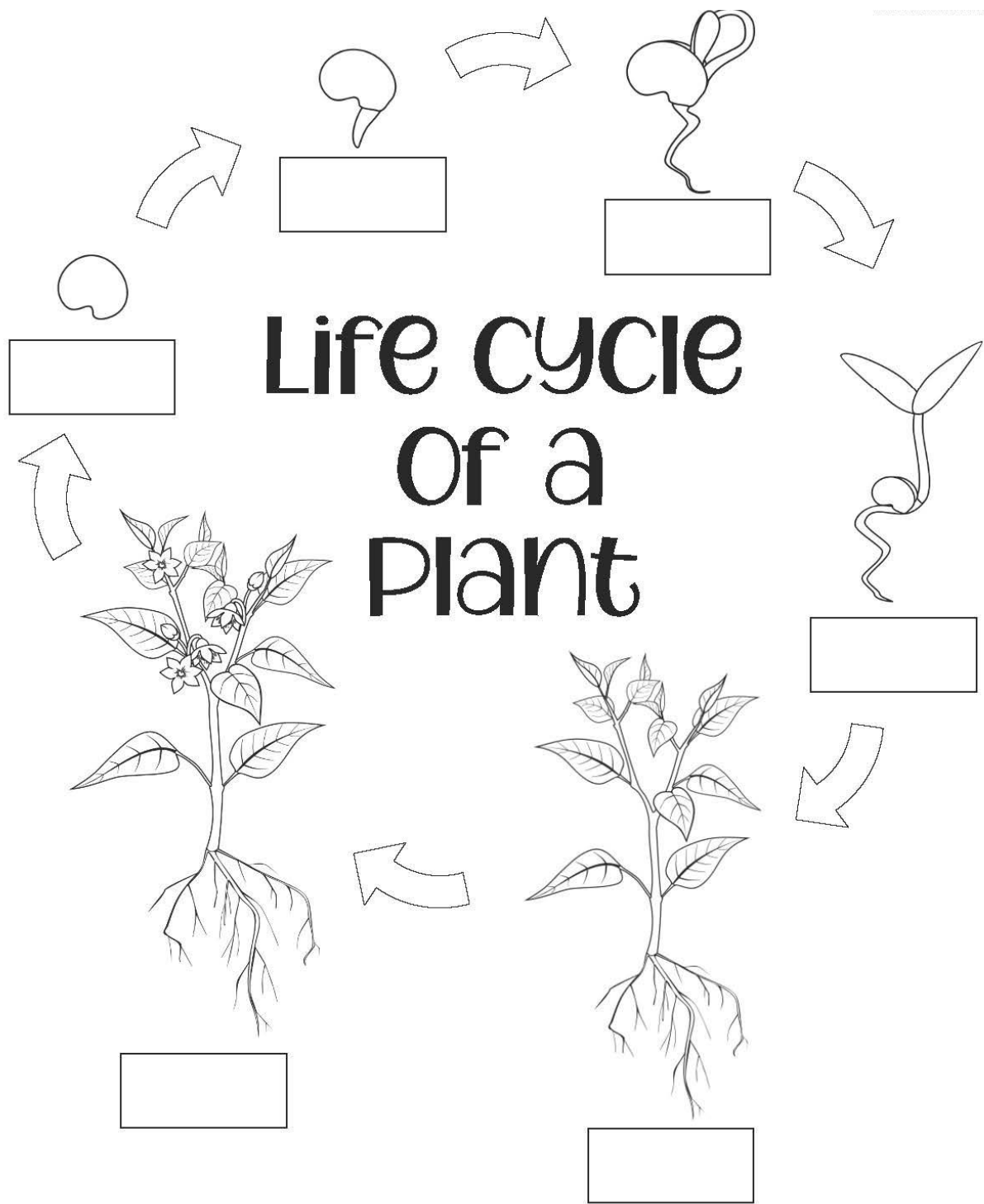
Post-Trip Activities

- Regrow Kitchen Scraps Activity
- Grow Your Own Salad Indoors Activity

Echoing Hope Ranch

– supporting those with autism and/or other intellectual and development disabilities





Life cycle Of a Plant

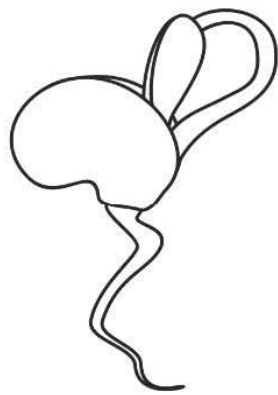
Seedling	Sprout	Germination	Seed	Plant with Flowers	Plant
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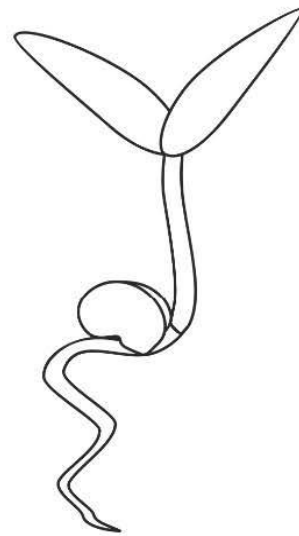
Seed



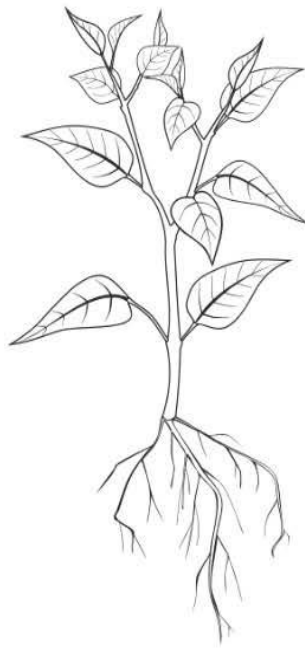
Germination



Sprout



Seedling



Plant



Plant with Flowers

Activity: Seed Viewer

Activity Length: 20 minutes to create, 7 – 14 days for observation

Planting bean seeds in a clear plastic cup allows young gardeners to watch seeds sprout and introduce them to the life cycle of plants.

Materials:

- Clear plastic cups (can be washed and reused)
- Paper towels
- Dried beans
- Water

Directions:

1. Ball up a few pieces of paper towels and place them inside the cup until it is full
2. Let each student pick out 3 to 4 dried beans (avoid using any beans that are split) and place them in the cup between the side of the cup and the paper towel
3. Gently water the paper towels in the center until saturated
4. Place the cups on a shelf or windowsill inside and watch them grow. First you will notice the seed coat expanding (wrinkling) as the seed absorbs water and then the root will start to grow in 2 to 3 days.
5. Water as necessary to keep the paper towel and seeds continually moist. Seed germination can be impacted if the temperatures are too cold (if you are comfortable, most likely your seeds will be too).
6. After the roots emerge, the stem and leaves will begin to appear. You can continue to grow your plant as long as you want for observation, however generally seeds that have been sprouted this way do not transplant well out into the garden and they will not be able to grow to maturity in the cup.

Activity Extension:

1. Have your students experiment with temperature and water availability. Try placing a couple of the seed viewers in a refrigerator, or see what happens if you do not add water. Additionally, you can pair this activity with seed planting outdoors, to allow students to watch plants go through their complete lifecycle from seed to seed.
2. Set up a bin of dried beans for students to explore on their own. Add measuring cups, spoons and other containers to allow them to measure and sort them. Encourage them to compare textures, colors, sizes and shapes. You can also chart your findings.
3. Make bean art. Allow students to make bean mosaics using dried beans, glue and paper.

Activity: Grow Your Own Salad Indoors

Activity Length: 30 minutes for planting, 4 to 8 weeks to harvest

Growing their own greens allows students to see the entire growing process, from seed to harvest. Grow spinach, lettuce, mesclun mix, mustard or kale, and you can begin to harvest within a month! This project can be done all year, however, during winter months, the days are too short and dim for good plant growth. Using a simple shop light or a grow light system will increase the light intensity indoors enough to grow greens even during the darkest months.

Materials:

- Seeds
- Growing containers or pots
- Potting soil
- A sunny window

Directions:

1. Select quick-maturing varieties of greens that won't grow too large, such as 'Tom Thumb' or 'Black Seeded Simpson' lettuce varieties or other greens like arugula. Instead of buying pots, you can be creative and grow salad greens in recycled household containers. For example, the clear plastic containers that store-bought lettuce mixes come in make excellent growing trays. Don't forget to poke holes in the bottom, and be sure to put a drainage dish below.
2. Moisten the soil in a bucket or bowl, and then have your students fill the containers with moistened potting soil. You want the soil to feel like a moist sponge, but you do not want it to be so wet that water can be squeezed out of it. You may need to alternate adding water and soil until the optimum moisture is achieved.
3. Sprinkle the seeds about 1-inch apart on the soil surface and barely cover them with soil. Because the seeds of greens are so small, you may want to help young students.
4. Place the planted containers in your window or under lights, and keep the seeds and soil moist. Rotate the pots every few days. If using lights, keep the bulbs on for 14 hours a day. Adjust the lights daily as the plants grow. Water as needed. If the leaves turn pale green or yellow, give the plants some liquid fertilizer when watering, being sure to follow the manufacturer's instructions.
5. Once the leaves on the greens are a few inches tall, it's time to start harvesting. Remind your gardeners that you won't be growing full heads of lettuce like the ones you buy at the store. The idea is to harvest a few leaves at a time from each plant and then let them grow again. That way, the plants won't take up too much space and you'll get multiple harvests.
6. To harvest, use scissors to cut the greens 1 inch above the soil line, leaving a few larger leaves in the center to keep plants healthy. Lettuce, spinach and mesclun greens will grow back to yield another harvest in a couple of weeks. After a few harvests the plant stems may get thick and the leaves may remain small. This indicates it's time to compost the potting mix and roots, and start over. Depending on the size and number of containers planted, your harvest may continue for many weeks.