



## Seed Saving

3<sup>rd</sup>& 4<sup>th</sup> grade

Students will draw and describe a plant life cycle. Students will harvest seed to be saved for next year's planting. Students will create seed envelopes, and take some seeds home.

### Lesson Objectives:

- Students describe the plant lifecycle and 6 plant parts
- Students name at least 3 different forms in which seeds appear
- Students explain reasons for saving seed

#### What You Need

**10 Pie tins**

**Strainers/Screens for drying (optional)**

**Envelopes**

**Art Supplies**

**Flip Chart/ Board**

**Clippers (optional)**

#### What to do

Ask students what a cycle is? What are some things that have cycles? (seasons, water, plants!) We will be discussing the plant lifecycle today. Draw a seed on the board or a piece of paper. Ask students to describe the plant lifecycle with you. What happens when a seed is planted? What grows first? If a student offers the right answer (roots) have them draw the roots. Talk about the specific "jobs" that roots have (to absorb water and nutrients and stabilize the plant). Continue through the lifecycle having students draw the development of the plant and discuss the "jobs" of each plant part. (**stem**: transporting water and food, providing structure, **leaves**: photosynthesis, **flowers**: attracting pollinators to make seed) This brings us to SEEDS! Explain that seeds can come

in different forms and "packages". They can come in pods (draw and ask kids for examples of things that come in a pod), the center of flowers, fruit, and "poofs" (like dandelion). Why would plants make these different "packages" for seed? Talk about dispersal through wind, animals, and explosion (pods sort of pop and explode the seeds out).

The most common place we find seeds is **inside fruit**. A fruit, by definition, is fleshy material covering a seed or seeds. Ask students to list off some fruits. Notice that certain things we do not usually think of, as fruits are technically fruit like zucchini, tomatoes, etc.

Seeds also come in other forms. Some come in pods, such as beans, peas, kale, lettuce etc. Some seeds ripen with nothing more than a coat or shell such as sunflowers, carrots, and dandelions.

For hundreds of years farmers saved seeds from their fields to plant the next season. Nowadays, many farmers buy seeds from seed companies, but more and more farmers are returning to the practice of saving seed. Some farmers make a living just growing seed to sell to others.

Seed saving has helped us develop many special and tasty varieties of vegetables and fruits. If a farmer wants bigger pumpkins, he or she will save seeds from the biggest pumpkins each year, passing on the genes to the next generation of pumpkins. Over many years farmers will develop larger and larger pumpkins. Farmers do the same for other traits. Ask students to list other things that farmers might select for (color, disease resistance, shape). Seed saving helps farmers insure that seeds are well adapted to the local environment. It also reduced the use of fossil fuels transporting seed all over the country.

Lets save some seed!!

Tour the students around the farm to see a few different vegetables and flowers going to seed. If possible show them different types of seed—pods, fruits, etc. Take students to the area where they will be gathering seed. Give them clear instructions for how to harvest the seeds, and how much each student can harvest. Each plant will be different (see below for specific instructions).

Return to the table and process the seed. Students can decorate a small envelope with a picture of the plant, the name, and any information about growing the plant that they want. They can refer to seed packets and garden books for planting depth, soil temperature, timing etc.

## **Seed Saving Instructions for Specific Crops**

**Cucumbers, Pumpkins, Squash, Melons:** We have to be careful when saving seeds from these plants because if they were planted close to each other they will cross and we will get a squashy-melon that might not taste so good. To save the seed simply cut the fruit open, scrape out seeds, wash in a strainer and set on a screen tray to dry.

**Kale, Lettuce, Spinach, Chard:** These plants are easy to save seeds. The seeds come in pods that are designed to pop or explode open when they are all dried out. The trick is to harvest the pods when they are all dry, but before they have exploded. Find pods that are crisp and dry. Harvesting pods that are still green and wet does not give the seeds time to fully develop. Carefully harvest the pods and place in a bowl or bag (not a basket for the seeds will fall through the cracks). Take them back to the tables and shake the seeds free from the pods. Then they are ready to place in the envelope.

**Peas and Beans:** These are similar to the greens above. They should be left to dry on the vine and then simply removed from the shell and placed in the envelope.

**Tomatoes:** Saving tomato seed requires more than one visit. The tomatoes must be harvested and then mashed and squished in a jar or bucket and left to sit for about 3 days. This allows the plant to ferment which breaks down the jelly-like substance around each seed. This is a plant adaptation that protects the seed. The seed will not germinate until the jelly coating has rotted indicating the correct environment for the plant to grow. After the rotting, wash and strain the seeds, place them on a screen to dry.