LESSON PLAN

Plant Parts Palooza

Engage

Show students pictures of a sunflower seed and a watermelon seed.

Can you identify these seeds? If we planted them, what plants would grow?

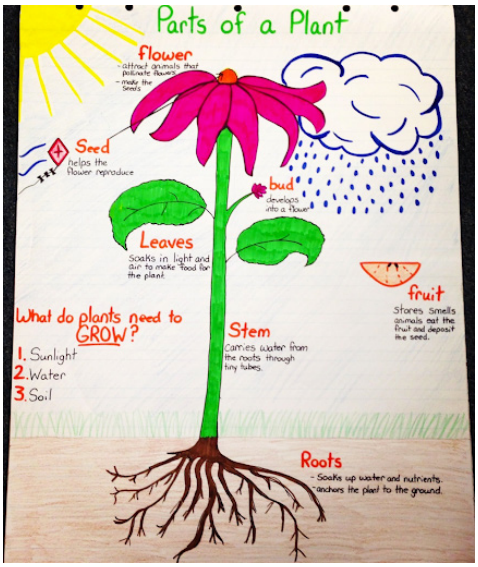
Show them a picture of a different seed that they probably would not know.

Do you wonder what this seed would grow to be? Let's read a story about a seed that did not know what it was going to be when it grew up.

Read *Seed School: Growing up Amazing*. Ask questions as you read to demonstrate understanding. Determine the main idea of the story.

Explore

Explore *Plant Parts* by creating an anchor chart. Ask students to name the parts and draw each on the board. Consider the name and function of the plant parts.



Roots: anchor the plant and absorb nutrients

Stem: provides support and allow nutrients to be transported

Leaves: capture sunlight and synthesize food

Flowers: attract pollinators and produce seeds

Fruit: contains seed(s)

Seeds: contain a baby plant that allows the plant to reproduce

Anchor Texts:

Seed School by Joan Holub
Fruit is a Suitcase for Seeds by Jean Richards
Pick Pull Snap: Where a Flower Once Bloomed by Lola Schaefer
Plant Secrets by Emily Goodman
Plant Parts books *(Roots, Seeds, Flowers, Stems, Leaves)* by Vijaya Bodach

Primary Standards:

ELA

RL.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.

Math

NC.3.OA.1 For products of whole numbers with two factors up to and including 10: Interpret the factors as representing the number of equal groups and the number of objects in each group.

- Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties.

NC.3.OA.3 Represent, interpret, and solve one-step problems involving multiplication and division.

- Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem

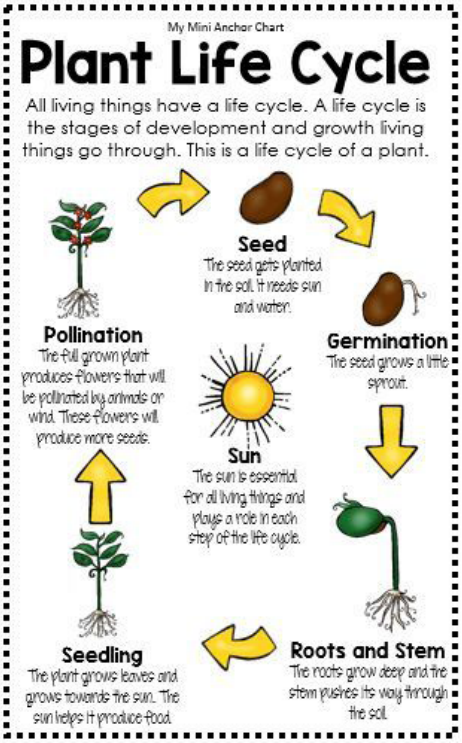
Science

3.L.2.1 Remember the function of the following structures as it relates to the survival of plants in their environments:

- Roots – absorb nutrients
- Stems – provide support
- Leaves – synthesize food
- Flowers – attract pollinators and produce seeds for reproduction.

3.L.2.3 Summarize the distinct stages of the life cycle of seed plants.

Explore the *Plant Life Cycle* by creating an anchor chart. Start by sharing how each plant part plays a role in the plant life cycle.



Seed: The seed gets planted in the soil; it needs sunlight and water to grow.

Germination: The seed begins to sprout.

Roots and Stem: The roots push down into the soil to anchor the plant and take up nutrients; the stem pushes up through the soil.

Seedling: The young plant produces leaves to help capture sunlight needed for photosynthesis.

Flowering and Pollination: The mature plant will produce flowers that will be pollinated in order to produce fruit (sometimes) and seeds.

Activity

Plant some pea seeds to observe all of the stages of the plant life cycle and the different plant parts.

- Plant peas in the classroom and outside in the garden (optimal time for planting outside is between mid-February until the end of March); sugar snap peas or snow peas are excellent varieties to plant. Be sure to keep the seeds watered during the germination process.
- Use this activity to investigate arrays, factors, repeated addition, commutative and associative properties by planting the seeds in various insert sizes. Inserts are available as single cups, 3-packs, 4-packs or 6-packs; or you may even use a strip of 10. Investigate columns and rows, or packs (the subdivided section of an insert). Ask students how we can determine how many peas we will need?
- Peas will need a trellis to support them as they grow. Build a trellis with students having the students measure and cut the string for the trellis.
- For additional STEM exploration, give students bamboo skewers, straws and other materials and have them work in groups to design a trellis. Use flats, cardboard boxes or shirt boxes to represent the garden bed.

Your Notes & Ideas

Secondary Standards

Math

NC.3.MD.2 Solve problems involving customary measurement.

- Estimate and measure lengths in customary units to the quarter-inch and half-inch, and feet and yards to the whole unit

Science

3.L.2 Understand how plants survive in their environments.

3.L.2.2 Explain how environmental conditions determine how well plants survive and grow.