

TREES OF BROOKLYN BRIDGE PARK

LESSON OVERVIEW

OBJECTIVE

Students will begin to learn the parts of a plant and how a seed becomes a plant.

RECOMMENDED GRADE LEVELS

K-1

DURATION

25 minutes

MATERIALS

- Student plant lifecycle booklet (provided)
- Crayons & pencils
- Scissors
- Stapler or hole punch & string
- Glue
- Construction paper (green, brown, yellow)
- Story about plants or seeds (optional)

TOPIC BACKGROUND

There are many different types of plants covering the earth. Plants are a very important part of nature, serving as food and habitat for many animals. Humans also greatly depend on plants for food and goods. Plants, especially trees, create fresh oxygen for humans to breathe as well.

A plant starts out as a **seed**. A seed that is planted in soil or another substrate will **sprout** if it receives enough air, water and sunlight. A newly sprouting plant is called a **seedling**. As a plant

grows it develops **roots** under the ground which pull in water and other nutrients. A **stem** forms above the soil which transports the water from the roots to the top of the plant where leaves will grow.

Leaves, which gather sunlight, grow off of the stem. Most plants contain flowers, fruits, and seeds. The flower of a plant contains brightly colored **petals** and, once pollinated, the flower will develop into a **fruit** with seeds inside.

GETTING READY

Activity 1:

1. Purchase or find a children's book about plant lifecycles. (See recommended book list on page 3)
2. Print one copy of the plant lifecycle booklet pages for each student.
3. Gather scissors, crayons, and pencils for students to use.
4. Collect string and a hole punch or a stapler to bound booklets together.

Activity 2:

1. Print a copy of the plant words for each student.
2. Gather scissors, glue, and construction paper for each student. (Each student will need at least 1 page brown, 2 pages green, and 2 pages yellow construction paper)

PROCEDURE

ACTIVITY 1: INTRODUCTION TO PLANT LIFECYCLES

1. Read aloud to students the book *From Seed to Plant* by Gail Gibbons or another story about seeds, plant lifecycles or things a plant need to grow.
2. Next have students create their own plant lifecycle books using the handouts provided.
3. Instruct the students to first fill in the blanks to complete the story. Remind students to think back to their class discussion and story. Consider creating a word bank on the board, using the answer key below.
4. Next, students should color and cut each page. Booklets can either be stapled or hole punched and bound with string.

Answer key for booklet fill in the blanks:

Page 1: Seeds

Page 2: Soil

Page 3: Water/Rain

Page 4: Sunlight

Page 5: Sprout

Page 6: Grow

Page 7: Plant/Flower

Page 8: Wind

Page 9: Seeds

ACTIVITY 2: IDENTIFYING PARTS OF A PLANT

1. Tell students they are going to build a plant. Ask students, what are the parts of the plant? What part of the plant is underground?
Roots
2. Have students create the roots by tracing their hand (twice) on brown paper and cut out. Glue the two hands together, overlapping slightly with the fingers all facing downward.
3. Next ask kids to think about what part of the plant is straight and tall. *Stem*. *The stem helps transport nutrients (like water) from the roots to the leaves.*
4. Cut 1-2 long strips of green paper and glue the bottom to the roots.
5. For leaves, have students trace their hands twice on green paper. (To make look more like leaves have students keep their fingers



PROCEDURE CON'T

close together while tracing) Cut and glue midway up the stem.

6. Lastly, have students trace their hand 3 times on another colored paper for the flower petals (to make a sunflower, use yellow). Cut out and glue together in a circle around tip of the stem with fingers facing out.
7. Add a brown circle atop the middle of the flower.
Optional: Draw in seeds or glue down seeds.
8. Cut and glue words (from handout provided) onto the appropriate parts of the plant.

RECOMMENDED BOOKS

- *From Seed to Plant* by Gail Gibbons
- *The Tiny Seed* by Eric Carle
- *A Tree is a Plant* by Clyde Robert Bulla
- *A Fruit is a Suitcase for Seeds* by Jean Richards
- *How a Seed Grows* by Helene J. Jordan
- *How Plants Grow (Time for Kids)* by Dona Herweck

RECOMMENDED WEBSITES

DK Find Out! Plants
www.dkfindout.com/us/animals-and-nature/plants

Lesson Plan: Sprouting Seeds
www.prekinders.com/sprouting-seed-bag-topper-printable

Explore Plants (experiments)
www.peepandthebigwideworld.com/en/educators/curriculum/center-based-educators/18/plants/

Central Park Tree Guide
www.centralparknyc.org/tree-guide

TEACHER NOTES:

VOCABULARY

Bark: Protective layer for the tree trunk, keeping it safe from insects and animals.

Branches: Holds the leaves and attached to the trunk.

Bud: A small growth at the tip or on the side of a stem that later develops into a flower, leaf, or branch.

Compound leaf: A leaf containing several smaller leaves called leaflets attached to a single stem.

Crown: The leaves and branches at the top of a tree.

Flower: The part of a plant that is often brightly colored and from which the seed or fruit develops.

Fruit: A fleshy structure which contains the seeds. Sometimes the fruit is called the seed pod. All trees grow fruits, however not all fruits are edible to humans.

Leaf: The green flattened part of a plant attached to a stem. Leaves are the food factories of a tree—through a process called photosynthesis energy (sunlight) is converted into sugar (food).

Leaflets: Part of a compound leaf not originating from a leaf vein.

Life cycle: Changes in the growth and development of an organism

Lobe: A curved or rounded part of a leaf.

Petal: One of the often brightly colored leaf-like outer parts of a flower.

Plant: A living thing with basic needs of nutrients, sunlight, water, air, and space

Roots: The lower portion of the plant, found underground. Their functions are to absorb nutrients and moisture, anchor the plant in the soil, and support the stem.

Seed: A small object produced by a plant from which a new plant can grow.

Serrated: Having a toothed or jagged edge.

Simple leaf: A leaf that does not divide into parts.

Seedling: A baby plant.

Sprout: The initial or rapid growth usually coming from a seed.

Stem: The upper part of the plant which bears leaves, flowers and fruits. The stem transports water from the roots to the leaves and petals. The main stem of trees is called the trunk.

Tree: A woody plant that has a single usually tall main stem called the trunk with few or many branches and leaves.

Trunk: The main stem of tree. Covered in bark and provides the structure, stability, and height of a tree.

STANDARDS

COMMON CORE ELA

- Speaking and Listening
- Literacy in Technical Subjects
- Literacy in Science
- Writing Standards

COMMON CORE MATH

- Counting and Cardinality
- Measurement and Data
- Quantities

NYC K-8 SCIENCE & SOCIAL STUDIES SCOPE & SEQUENCE

- Animals, Plants in their Env.
- Interactions of Air, Water, and Land
- Trees Through the Seasons

NEXT GENERATION SCIENCE STANDARDS

- K. Interdependent Relationships in Ecosystems: Animals, Plants, Their Environment
- K. Structure, Function, and Information Processing



Life Cycle of a Plant

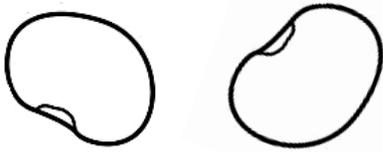
By: _____



Plants grow from

_____.

Seeds need to
be planted in



_____.

Page 2

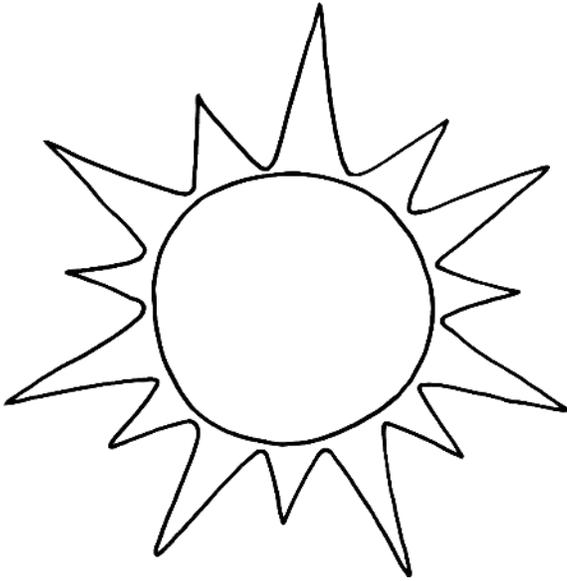


The seeds need



_____.

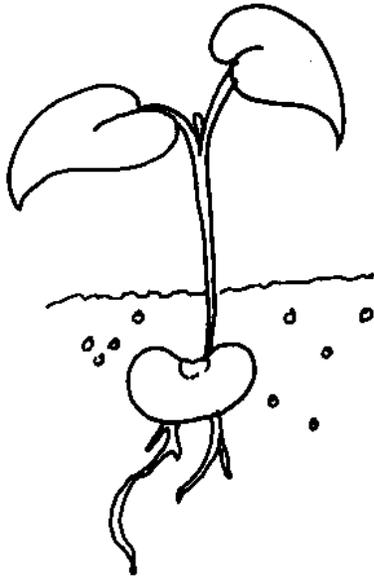
Page 3



The seeds also
need _____
to grow.



The seeds begin
to _____.



The sprout
continues to

_____.

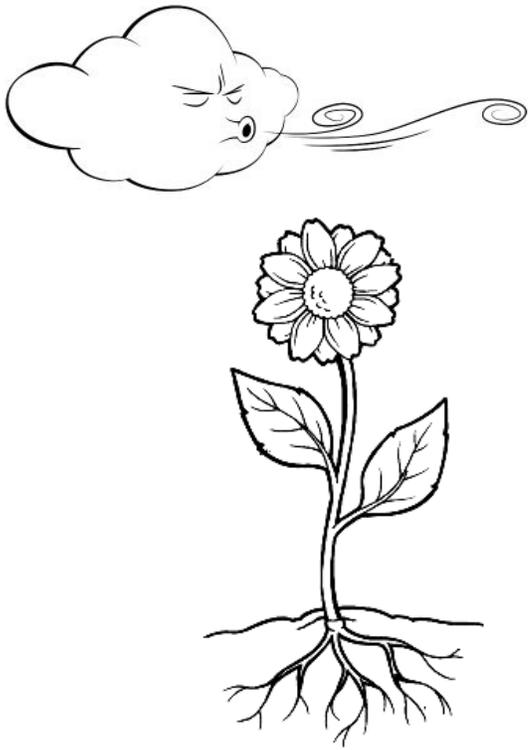
Page 6



The seed has
become a

_____!

Page 7



The _____
blows the seeds
off the flower.

Page 8



The _____
fall to the
ground and the
cycle begins
again!

Page 9

ROOTS

STEM

LEAVES

PETALS

SEEDS

Use these plant
labels for the
Activity 2 craft!