

Fifth Grade / Fall Walk / At A Glance

Plant Parts and Photosynthesis ⌚ 60-75 minutes

Goals

- Review basic requirements for plant life: air, water, minerals/nutrients, warmth, sunlight
- Understand a plant as a living system; observe and draw the parts of a plant: roots, stems, leaves, flowers, seeds, fruit
- Infer the function of plant parts by noticing shape, texture, location
- Reinforce the role of leaves in photosynthesis

Divide the students up into groups, one per walk leader. Assign each leader a different site to begin walk. Go to assigned site and hand out worksheets to students.

Plant Needs

⌚ 3 minutes

On this walk we will be focusing on plants. We will be plant detectives and visit different stations and observe the designated plant parts, draw them and figure out how the part helps the plant to survive.

Find a Tree

As you walk toward the tree ask the following:

- *Why is it important to learn about plants?* Animals cannot survive without them!
- *Are trees plants? How do you know?* Trees have all the parts of a plant: ROOTS, STEMS, LEAVES, FLOWERS, SEEDS, FRUIT
- *How do animals get food?* Eat plants and other animals
- *What about the tree? How do trees get food?* Plants makes their own food through PHOTOSYNTHESIS
- *What do all plants need to survive?* Air, water, minerals/soil, warmth, sunlight –all the non living parts of the environment

Draw a Tree

⌚ 3 minutes

Have the student sketch a tree on worksheet including parts of a plant. Have student add as much as they know of the photosynthesis process: Sunlight, CO₂, Oxygen, H₂O, minerals, sugar [see illustration in walk for reference]. Additions can be made at Wrap up.

Use the 4 elements of field drawing taught in art class. OBSERVATION (look from different angles) SHAPE (draw dominant geometric shapes before details), PROPORTION (shapes in relation to each other) and SHADING (light falls on plant, fill in dark areas).

Visit plant stations

⌚ 50 minutes

Have students choose 2 samples of the plant part and closely observe and draw each part and compare. Draw cross sections when appropriate. Use magnifying lens when needed. Add details to drawings. Have students answer questions on worksheet. Lead discussion on differences of samples, function, and plant survival.

At each station ask:

- *What do you see? Record shape, texture. Use magnifiers. Look at original plant. What function does plant part play in life of plant? Infer function part by noticing shape, texture, location on plant. How is structure adapted to its function? How have the adaptations enabled the plants survival? Justify answer – what's your evidence?*
- *How does this part help the plant with photosynthesis?*
- *What are some differences (adaptations) in the 2 parts being compared? How does it look, feel, and smell different?*

Station	Examples to look for	Plants
Root	Shallow roots vs. deep roots	Grass, Plantain, Queen Anne's Lace
Stem	Vine, thorns, fuzzy, bark	Grape, Rosehip, Wild Blackberry, Sumac, tree branch
Leaf	Various shapes, sizes, single vs. compound	Sumac, maple, Buckthorn, grape
Flower/Seed	Various sizes, colors, shapes, plant with flower & seed	Queen Ann's Lace, dandelion, Aster, Golden Rod, Campion, Corn flower
Seed/Fruit	Seeds in fruit, seeds pods with burrs, seeds transported by wind	rosehips berries, buckthorn berries, golden rod seeds fresh vs dry, dandelion, Queen Anne's Lace

Wrap up

⌚ 4 minutes

Revisit tree and make corrections/additions to photosynthesis process on tree drawing.

This Guide is a supplement, not a replacement, to the full Big Back Yard Guide. Activities, their order, and duration will vary depending on your group's dynamics and weather