



SUMMER | Soil Roots & Shoots: What Do They Do?

Summary:

A strong root system is essential to a growing plant. Gardeners will have the chance to run a simple experiment to explore how roots work.

Before Visiting the Garden:

Gather: 4 clear plastic cups, 4 celery stalks with leaves attached, and food coloring. A magnifying glass and a small shovel.

Explore: Carrots, tree roots, sprouting potatoes, and “Roots, Foster Garden, Hawaii” by Ansel Adams

Read: *What Do Roots Do?* By Kathleen V. Kudlinski

In the Garden:

Roots are essential for healthy plants. They keep the plant attached to the soil, extract nutrients from the dirt, and keep the plant hydrated. Roots work a little like our human digestive system.

Observations:

- Do you see roots here?
- Use your magnifying glass and shovel to gently prod at the base of a plant to find its roots and look closer at them.
- Dig up a weed and flatten the base to get a better look at its root system.
- Compare: For example, are a dandelion’s roots different from clover? Look at the different types of roots you brought, carrots vs. a sprouting potato. What do you notice about their shapes?

Questions to Explore:

- What helps your body grow strong?
- Do you think a plant needs the same thing as your body to grow?
- Can you describe the roots you saw?
- Why do you think plants have roots?

Activity:

1. Working together or in small groups move from bed to bed checking the base of each plant. If you see any roots showing or spots where a small animal may have tried to chew on the plant, use your shovel to gently re-cover the area with soil. The soil acts like a blanket to protect the roots.
2. No roots, no plants! If you see a plant that looks unhealthy, start by looking at its roots. Are they uncovered? Dry? You can find plants in need in the garden or around your neighborhood and with a little extra dirt or water you might be able to help save them.

Beyond the Garden | Conduct an Experiment in the Garden Then Monitor Your Results at Home or in Your Classroom

- Take the smaller, more tender central stalks from a bunch of celery. Cut the bottoms at an angle.
- Fill four clear plastic cups with 8 oz. of water. Put 20-30 drops of food coloring in three of the cups, leaving one as a clear control.
- Place the celery stalks into the water.
- Keep a journal checking on your experiment after three hours, 24 hours, and 48 hours. What changes did you notice?

Continue Exploring | Supporting Materials

More activities: <http://www.kidsgardening.org>