



SUMMER | Soil Roots: Nurturing a Solid Foundation

Summary:

We cannot always see them, but all plants have roots. Some are buried deep in the dirt. Others, such as tree roots, can be seen wending their way around the yard. Gardeners will have a chance to carefully (and gently) see what lies below the soil.

Before Visiting the Garden:

Gather: Magnifying glass, shovel, one piece of cream, orange, and green construction paper, scissors, glue, bucket, and water

Explore: *Roots* by Frida Kahlo: Can you find the roots in this picture? Do you have roots?

Read: *Plant Plumbing: A book about roots and stems* by Susan Blackaby, Illustrated by Charlene Delage

In the Garden:

The first job a seed has to do after it is planted is to grow roots. Roots work like the foundation of a building, anchoring the plant into the ground so that it doesn't blow over in a storm. Roots also work like a straw, sucking up the nutrients and water in the soil that a plant needs to grow.

Observations:

- Dig up a weed or other plant that is not growing where it should. Gently flatten the roots on a piece of paper.
- What do you see?
- Can you trace a root pattern into the dirt next to the plant?
- Are the roots wet or dry?
- What color are they? Are they the same color as the leaves?

Observations:

- Where do you think we should look for roots?
- Do people have roots? Do animals?
- Compare things above ground, such as rakes and shovels, to trees and plants. What do you notice? Be sure to compare things **above** and **below** the soil, introducing your gardener to new words.

Activity:

1. Wander the garden to see what parts of plants you can see. You might want to use your magnifying glass to look closer at the things you find.
2. Carrots are a type of edible root. Use your scissors to cut a carrot from the orange paper and some green stems. Glue them to your paper.
3. Next, dig up some dirt and put it in your bucket. Add a little water to create mud. Mix it all up and enjoy the muddy fun!
4. When you're ready, add approximately two tablespoons of glue and mix some more.
5. Cover the root (orange part) of your picture with the dirt. Remember, most roots grow **underground** and the leaves grow **above ground**.

Beyond the Garden | Sprout a Sweet Potato!

- Grab an organic sweet potato, three toothpicks, and a glass.
- Poke the toothpicks into the sweet potato around the middle and set it into the glass. The toothpicks will keep the sweet potato out of the water.
- Fill the glass until the lower quarter of the sweet potato is surrounded by water.
- Over the next few weeks, watch what happens. Some roots might start to grow.
- Keep your potato on a warm windowsill and replenish the water. When roots arrive, your potato is ready to make a return trip to the garden to be planted!



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Continue Exploring | Supporting Materials

A fun gardening detective game: <http://extension.illinois.edu/gpe/index.cfm>

A garden tour from a worm: <http://extension.illinois.edu/worms/>