

# How Plant Roots Work Activity

There are many types of plant roots, and they are all necessary for plants to grow. One of these types of roots is called a taproot. This is a large single root that grows deep into the ground. There are also fibrous roots, which are thin and spread out under the ground.

In order to learn about how these plant roots work and why they are so important, we have a little experiment we can do!

## Materials:

- Clear plastic cups
- Absorbent paper towels
- Food coloring
- Tape
- Water
- Scissors
- Soil, rice, marbles, or pebbles

## Instructions:

1. Roll three paper towels and tape the middle.
2. Keep one rolled paper towel whole – representing taproots, cut one into strips – representing fibrous roots, and cut one in half – representing no roots (see figure 1)
3. Place first two rolled paper towels into cups, fill with soil, rice, marbles, or pebbles (see figure 2)
4. Fill third cup with soil, rice, marbles, or pebbles, place rolled paper towel cut in half on top (see figure 3)
5. Pour colored water into soil, rice, marbles, or pebbles, without getting the colored water on the paper towels
6. Observe how the colored water travels up the “roots” (see figure 4)

## Questions:

What happened to the plant with no roots?

What happened after 5 minutes of watching the colored water in the soil (or soil substitute)? What specifically happened to:

- The taproot?
- The fibrous root?
- The stem with no root?

Why is it so important plants have roots?



Figure 1



Figure 2



Figure 3



Figure 4