



Growing Up ... and Down!

Grade Level: PreK - 6

Objectives: to help children understand the concepts of soil, seed and plant needs and cycles and to reinforce that seeds are an essential part of the growing cycle of plants

Materials: plant mister (optional)

Time Allotment: 20 - 30 minutes

Advance Preparation: none

Laying the Groundwork: This guided imagery activity can bring seeds to life in the imaginations of children. By enacting this story, students will trace the life of a seed from storage before planting to harvesting in the fall. Because carrots are biennials, they do not flower and produce seeds until the second year, so we will end our imagery when they are harvested in year one. See explanation in *Carrot Facts*.

Explorations: Directions: Tell students that they will pretend to be seeds in their seed coats, curled up with their seed buddies, silent inside paper seed packets (children could wear jackets or sweaters to simulate their own seed coats). Ask them to crouch on the floor as seeds – closing their eyes, listening carefully and acting out what happens. Be sure they are spread out, leaving room for them to grow! Read the guided imagery.

For younger students, try this one: *Make believe you are a powerful little seed. You are very tiny and sound asleep in a package. Oops, you feel movement in the package as it is opened. Someone has picked you up and put you in the ground – you can feel and smell the dark earth. Pat, pat, pat, you have been planted! It starts to rain. You drink a little rain water. You begin to wake up and grow, first a tiny root, then another. You push and push with your little head to get through the ground, and suddenly, out pops your head. The sun shines and warms you. It makes you happy and healthy. More rain falls and you drink now. Now you really start to grow. Your arms reach out to the sun. Your legs stand firm in the soil to hold you straight and tall. The breeze gently blows you. You love the sun and the rain and the breezes. You are a healthy, happy plant. What will you be? A flower? A vegetable? A fruit?*

For older students, use this one: *Boy, summer sure has gone by quickly. It wasn't that long ago that I was just a seed, and now I am a full grown carrot, sitting in a cool storage facility waiting to be shipped to a farmers' market, or maybe a grocery store. I remember last winter when the earth was still frozen and not ready for growing seeds. The winds were cold, blowing snow all around, and piling it in drifts but I didn't sense these things because I was asleep, safe in my seed coat and dry in a packet of seeds. Then things began to change. The snow began to melt. Everything was just right – the sunshine, the rain, the warmth of the soil. Early one day I felt some movement in the package as it was opened, and then a person picked me up.*

Join me, as you are my seed buddies, waiting with me in the packet (students join in).

Somehow we know it is planting day! The ground was prepared for us the day before and the person placed us into the warm, moist earth along with some dark, healthy compost and then covered us up. With a pat, pat, pat of the top of the soil, the person was gone and we are alone in the quiet comfort of the dark soil.

As seeds in the ground, we begin to wake up very slowly. Moisture from rain reaches down into the ground near us. (With a spray bottle, spray the air above the children to simulate rain. Continue reading.)

Drink! We are so thirsty that we drink until we are puffed with water! Our coat softens and splits as we swell. The soil around us is warmed by the sun and is just the right temperature. It feels great! Tremble and tingle as the warmth and moisture awakens us from our slumber.

But we aren't the only one down here in this healthy soil! Earthworms are squirming around on their way to find food. They are making little tunnels that will eventually help bring air and water to our roots. They are eating rotting leaves and old plants, turning them into nutrients that we can use to grow strong.

Very slowly, stretch a tiny root into the soil to absorb more water. It digs straight down, growing longer and longer each day. Drink the water and eat the food from our seed lobes. Soon we are strong enough to push our tiny stem and leaves through the ground and into the bright sunshine. Ahhhh! Let's open our eyes as we come up out of the ground.

Next, brighten lights in the room and continue:

Spread open your little leaves and catch the sun's warmth. We no longer need the food from our seed because we can now make our own! Our green leaves combine air, water from the earth, and energy from the sun to make delicious sugar and starch for our growing body. With each day, we grow bigger and stronger!

In the hot sunshine, we grow our taproots deeper and deeper searching for water. On some days, a warm gentle rain falls on our new leaves and soaks down to our thirsty roots. (Use rain from the spray bottle sparingly and continue) Drink up not only the water but also the nutrients in the soil. Can you feel that straight long tap root reaching into the soil? That root is what makes us special to people.

Honeybees come to visit, tickling our feathery green leaves with their furry bodies. As they turn to leave, they brush off some of the pollen they have collected from other flowers.

People come to pick us and put us in this cool storage, ready to go to market. There people will take us home for dinner. Imagine what they'll make with you. Soup? A muffin? Or will they eat us raw with dip? Whatever it is, it will be just scrumptious. And many of the vitamins and minerals we contain can nourish the boy or girl who eats us.

When finished reading, pause and tell the students at the count of three to open their eyes and turn back into humans again. Take some time for them to tell everyone what they decided to be and what it was like to experience life as a seed. Review the cycle they experienced going from seed to plant. Ask them to explain how they got their food and water.

This activity has been prepared for The Big Crunch, October 2009.

For more information visit our website www.chep.org. This activity was inspired from

Sprout Yourself, healthy foods from healthy soils by Elizabeth Patten & Kathy Lyons and
The Growing Classroom by Roberta Jaffe & Gary Appel.

