



Dear Educator,

During these uncertain times, Nutrients for Life Foundation wants to help you reach your students with engaging and relevant resources. These resources meet standards for K-2nd grade levels. Search state standards here: <https://nutrientsforlife.org/for-teachers/educator-resources/>

K-2 Resources Available:

[Fun with the Plant Nutrient Team Book 1](#) (Grades K,1)

[Fun with the Plant Nutrient Team Book 2](#) (Grades 2,3)

[Under Your Feet Exploring Soil Science Reader](#) (Grades 1, 2)

Mini-Lessons Overview:

Plants Need: Plants all need sunlight, water and soil to grow. Students will learn these concepts through, reading, drawing, coloring, circling, and doing an art project. Have students do activity 1, 2 and make activity with worksheets 3.

Be a Soil Detective: Not all soil is the same. It can look different and have different nutrients. Children will watch a video on living vs. nonliving, examine a spoonful of soil and sort out living and nonliving objects, and sing a fun song to help young minds remember!

Watch and explore: <https://www.generationgenius.com/videolessons/living-vs-non-living-things-video-for-kids/>

Do activity sheet 4 and sing activity 5.

Seed Sort: Seeds come in all different shapes, colors and sizes.

Watch this video describing different types of seeds on how they differ and how they are alike: https://youtu.be/I_agr-F38tQ. Then, sort seeds that you have around the house, in your garden, or seed packets. Have students draw a picture of the different seeds, noticing their similarities and differences. Next, start to germinate seeds and watch them grow using activity 6.

Root Review: Roots are vital to a plant's health. Ask students to examine some roots from either seedlings planted, a house plant, or outside plant. Ask student to draw a picture of the roots. Why might a plant have roots?

Then watch: <https://youtu.be/jHde1styKR8>

After watching the video, complete the attached celery investigation (activity sheet 7) to investigate how roots take up nutrients from the soil.

Summary: Give students activity sheets 8 to read and 9 to color. Then have them write why soil is important on activity sheet 10.

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Nutrients for Life Foundation is a tax-exempt organization as described in Section 501(c)(3) of the Internal Revenue Code and is incorporated in the State of Delaware. The Foundation was formed to disseminate educational information to the general public, including policy makers, about fertilizers, modern agriculture and the role plant nutrients serve in improving people's lives.

CIRCLE THE RIGHT ANSWERS

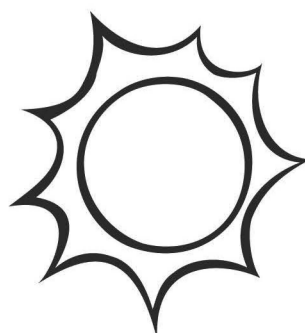
PLANTS NEED:



MILK

LIGHT

WATER



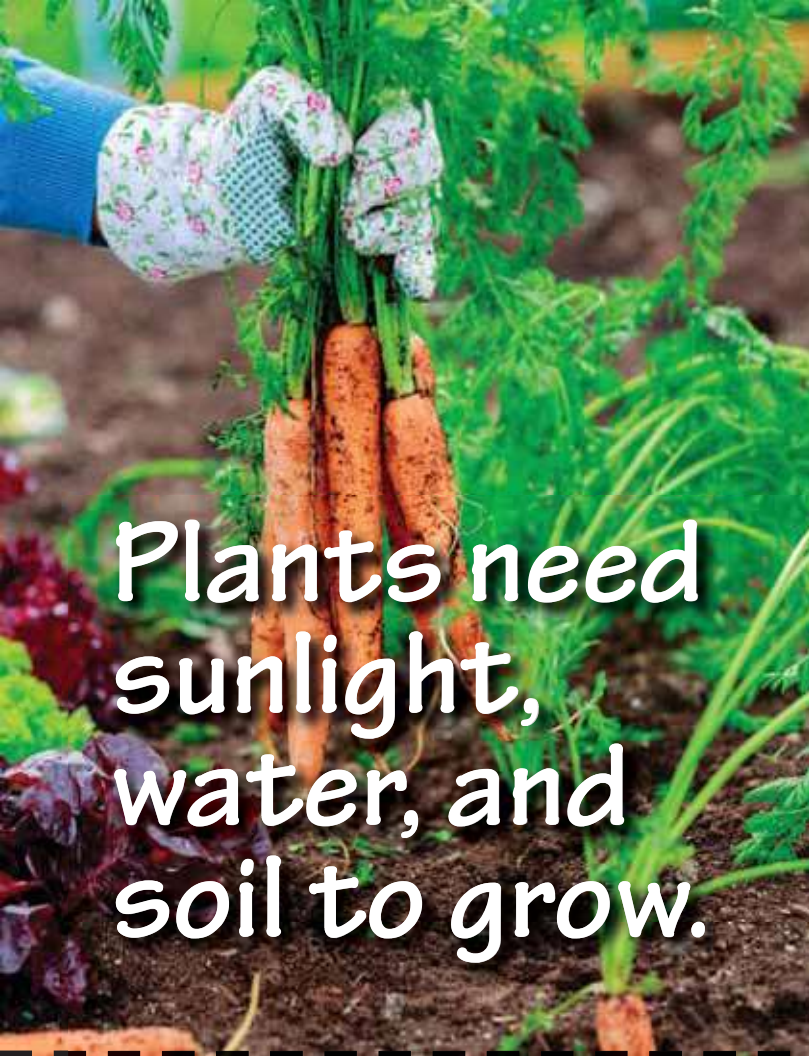
TOYS

NUTRIENTS

LITTLE
SWEATERS

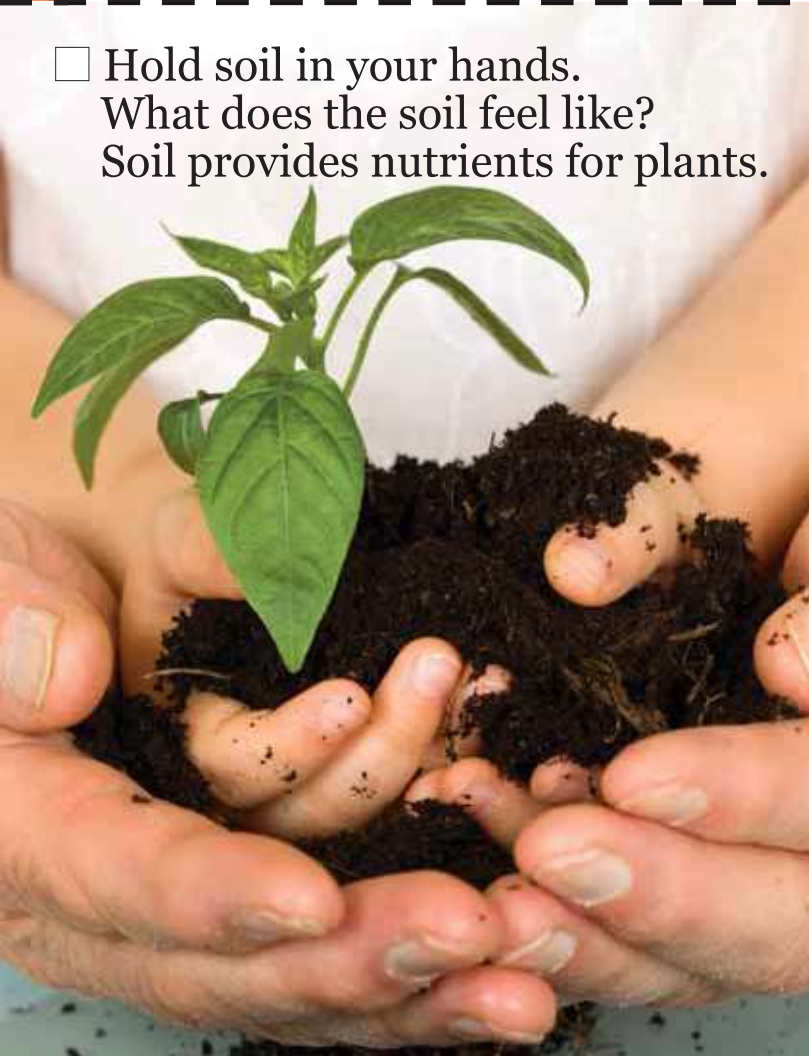


PLANT NUTRIENTS ARE IMPORTANT
FOR PLANTS TO GROW. PLANTS GET
NUTRIENTS FROM SOIL.



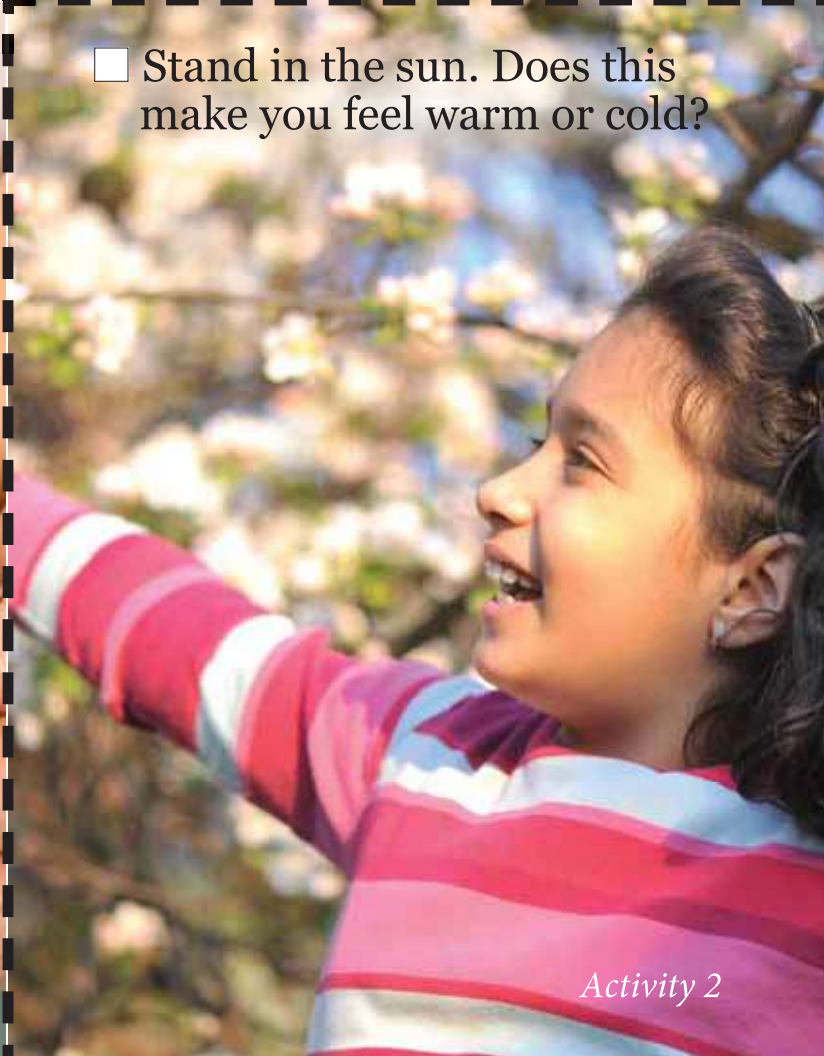
Plants need
sunlight,
water, and
soil to grow.

- ☐ Hold soil in your hands.
What does the soil feel like?
Soil provides nutrients for plants.



- ☐ Draw a picture of a raindrop.

- ☐ Stand in the sun. Does this
make you feel warm or cold?

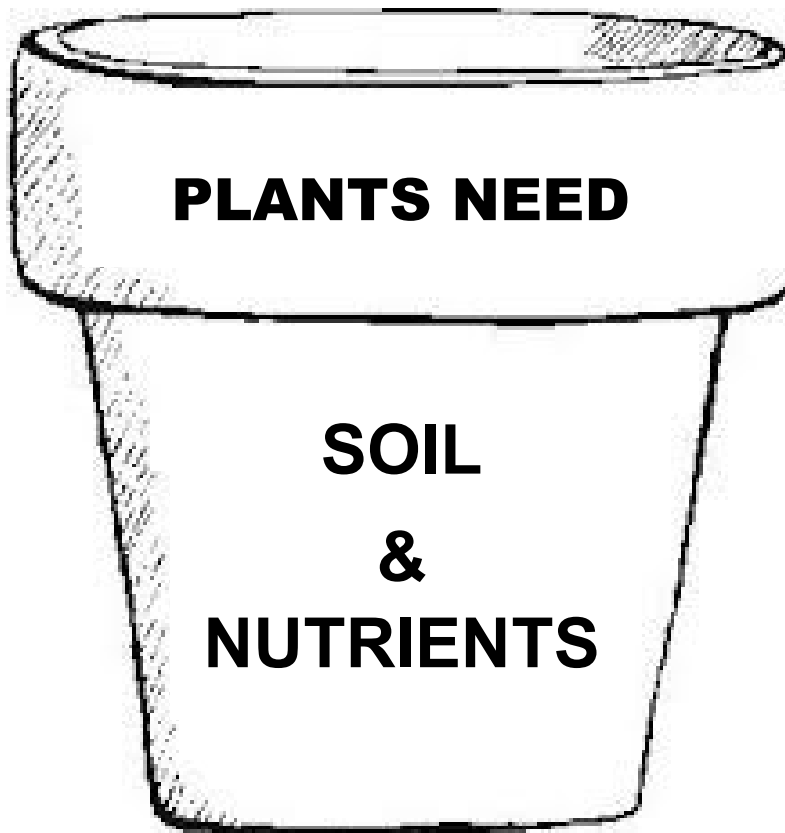


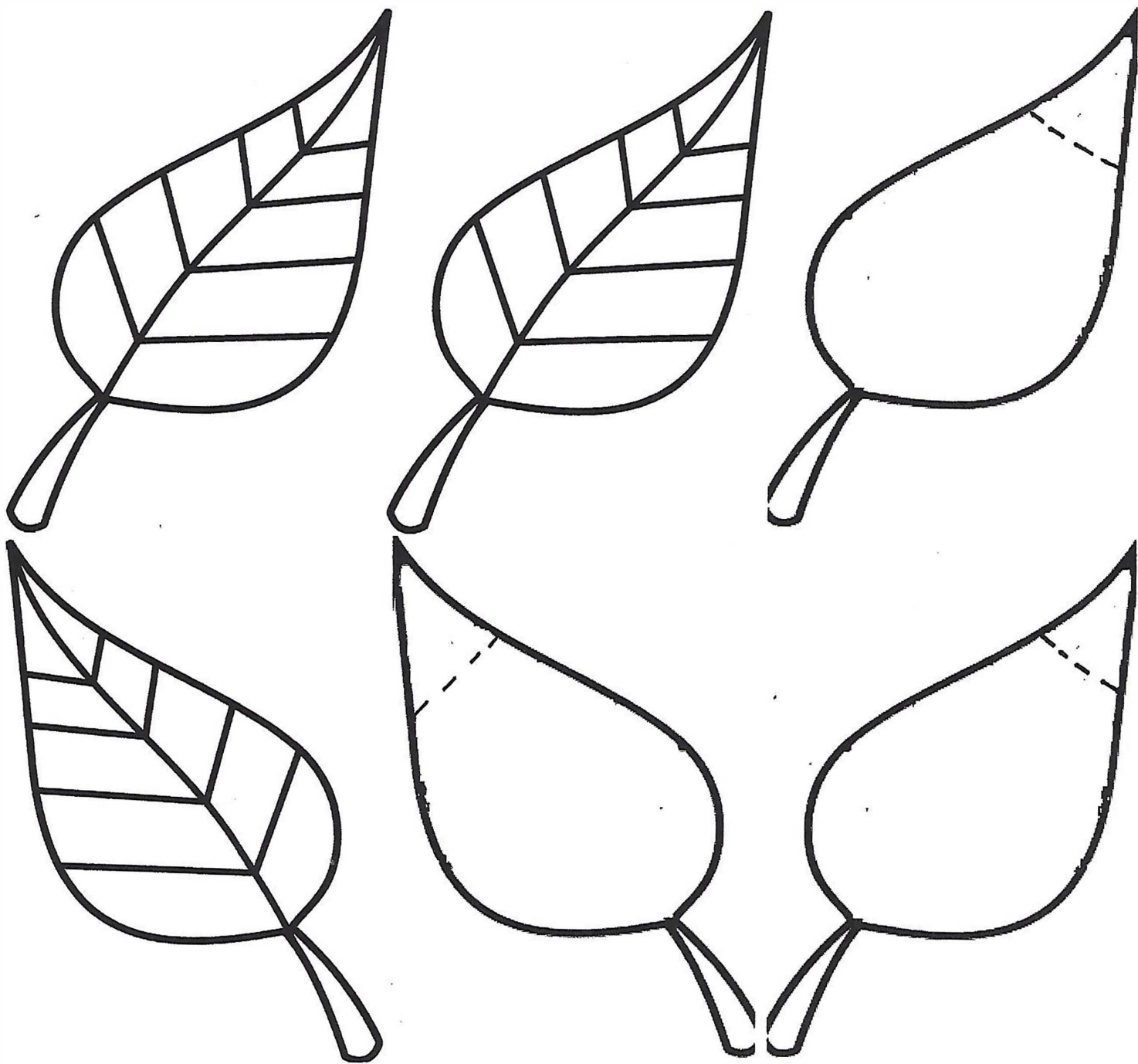
PLANTS NEED CRAFT

Materials Needed: Worksheets with cutouts
Construction paper or paper
Straw
Yarn or string
Muffin wrapper
Crayons (optional)



1. Cut and color (optional) the soil pot. Glue the outer edges to your 8 ½ X 11 paper so that you may still stick the straw down the middle.
2. Cut small pieces of yarn and glue to the bottom of the straw to represent the roots.
3. Use a muffin wrapper as the flower and glue to the stop of the straw.
4. Have student draw the three other items plants need besides nutrients (water, air, sunlight) on the blank leaves.
5. It's optional to color the lined leaf green and glue the top portion to the top of the blank leaf with student's drawing so that the leaf "flips" open.







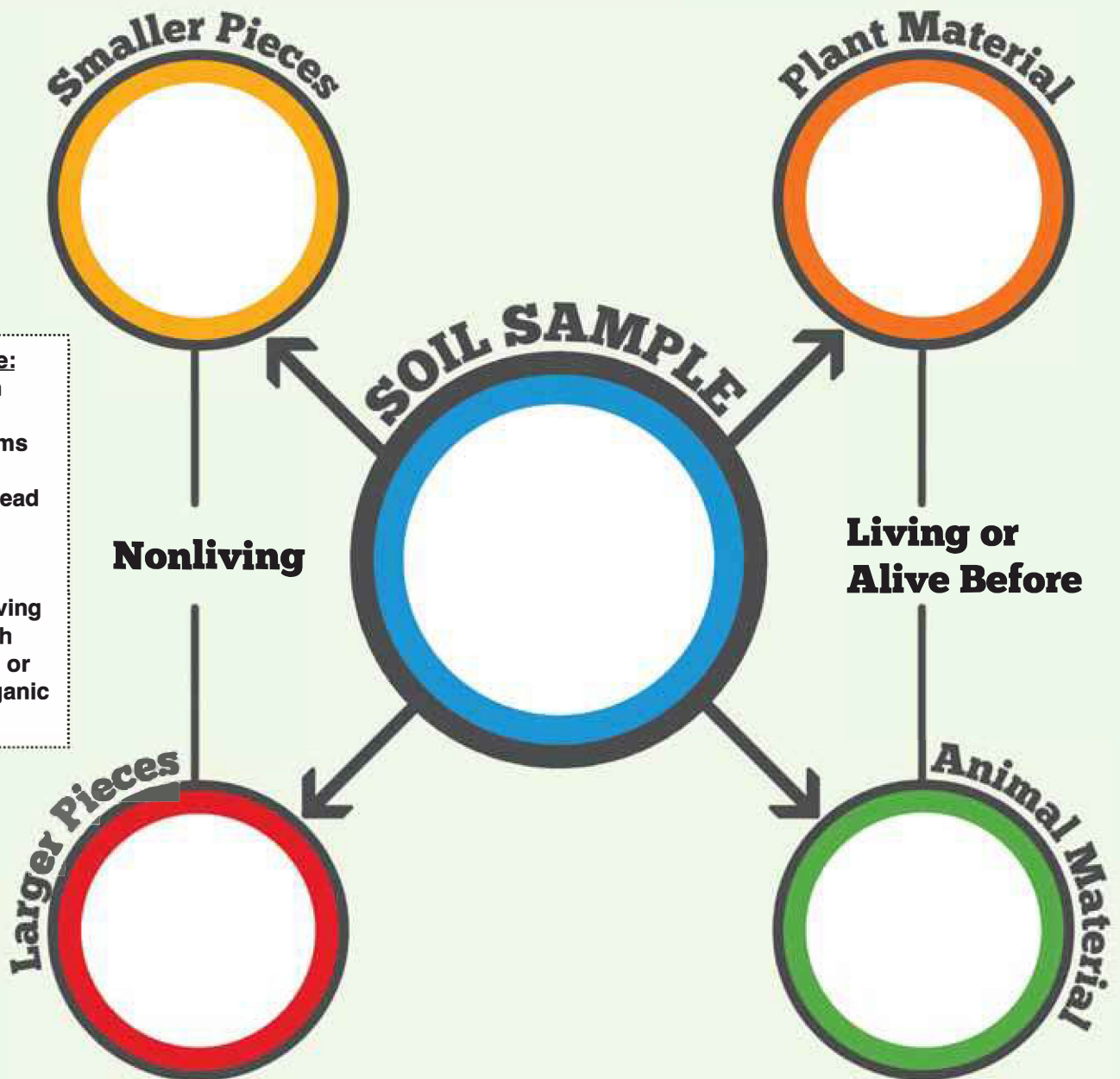
Be a Soil Detective

Not all soil is the same. It can look different and have different nutrients.

Try this: Use a magnifying glass to look at different types of soil.

Does soil from a lawn look different than the soil from a garden?

Put a spoonful of soil in the middle circle. Use a magnifying glass to sort the parts of soil into different piles.



Teacher's Note: Materials from living or once living organisms can be called organic, like dead plant material, worms, and decomposing insects. Nonliving materials, such as clay, rocks, or sand are inorganic materials.

The Living Song

(tune- Frere Jacques)

(Adapted from "Learner Classroom")



It is living!

It is living!

I know why!

I know why!

It eats and breathes
and grows.

It eats and breathes
and grows.

It's alive!

It's alive!

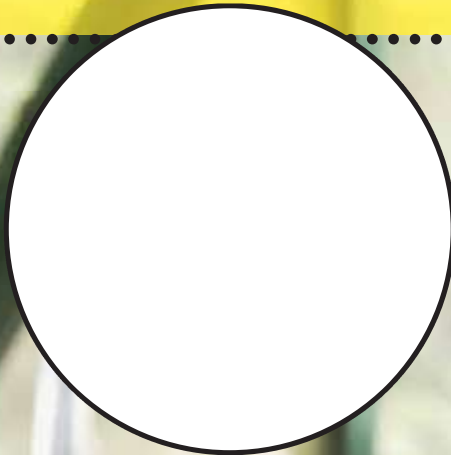
Something to try

Grow your own vegetable! What does your plant need to grow?

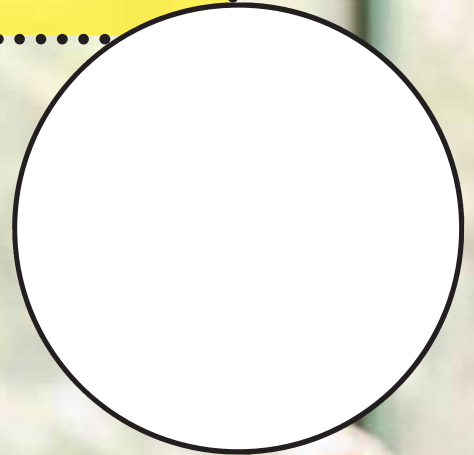
Draw each material:



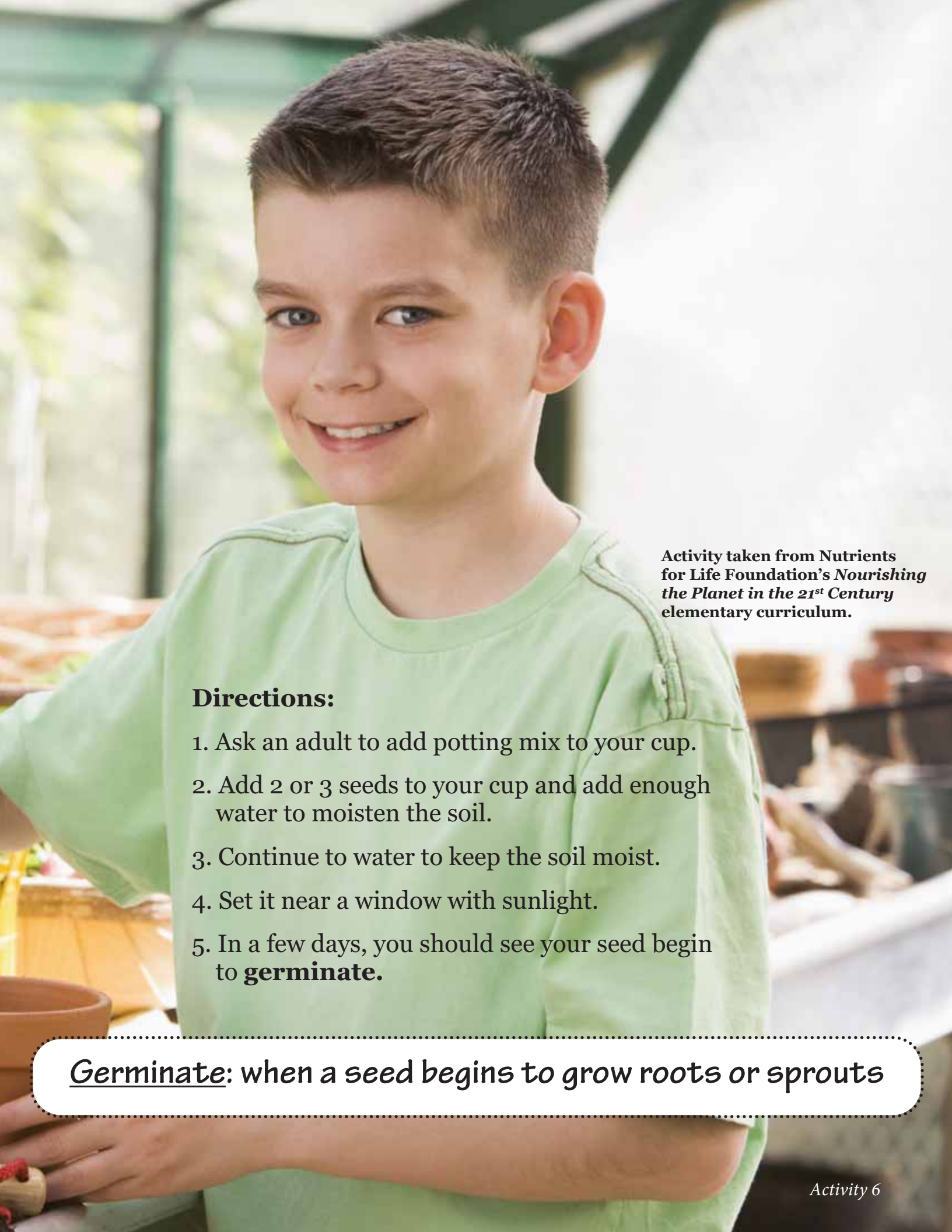
**Vegetable seeds,
like peas, radishes,
or carrots**



Cup or Pot



Potting Mix (Soil)



Activity taken from Nutrients for Life Foundation's *Nourishing the Planet in the 21st Century* elementary curriculum.

Directions:

1. Ask an adult to add potting mix to your cup.
2. Add 2 or 3 seeds to your cup and add enough water to moisten the soil.
3. Continue to water to keep the soil moist.
4. Set it near a window with sunlight.
5. In a few days, you should see your seed begin to **germinate**.

Germinate: when a seed begins to grow roots or sprouts

Celery Investigation

- 1.) Have an adult help you use a sharp knife to cut celery stalks into pieces approximately two inches long. Make sure that the cut surfaces are flat and will allow the celery to rest upright when placed into the paper cup. Pour food coloring into the cup.
- 2.) What do you think will happen to the celery and the food coloring when you put the celery in the cup?

Write your prediction.

- 3.) Put the piece of celery into the cup so that one end of the celery is sitting in the food coloring. Start timing when you put the celery in the cup.

Write the time that you put the celery in the food coloring.

GETTING WATER AND NUTRIENTS TO THE PLANT

- 4.) Leave the celery in the cup for 5 to 10 minutes. Do not move the cup or the celery during this time. Write your observations below.

Write your observations after the celery has been in the food coloring for 5 minutes.

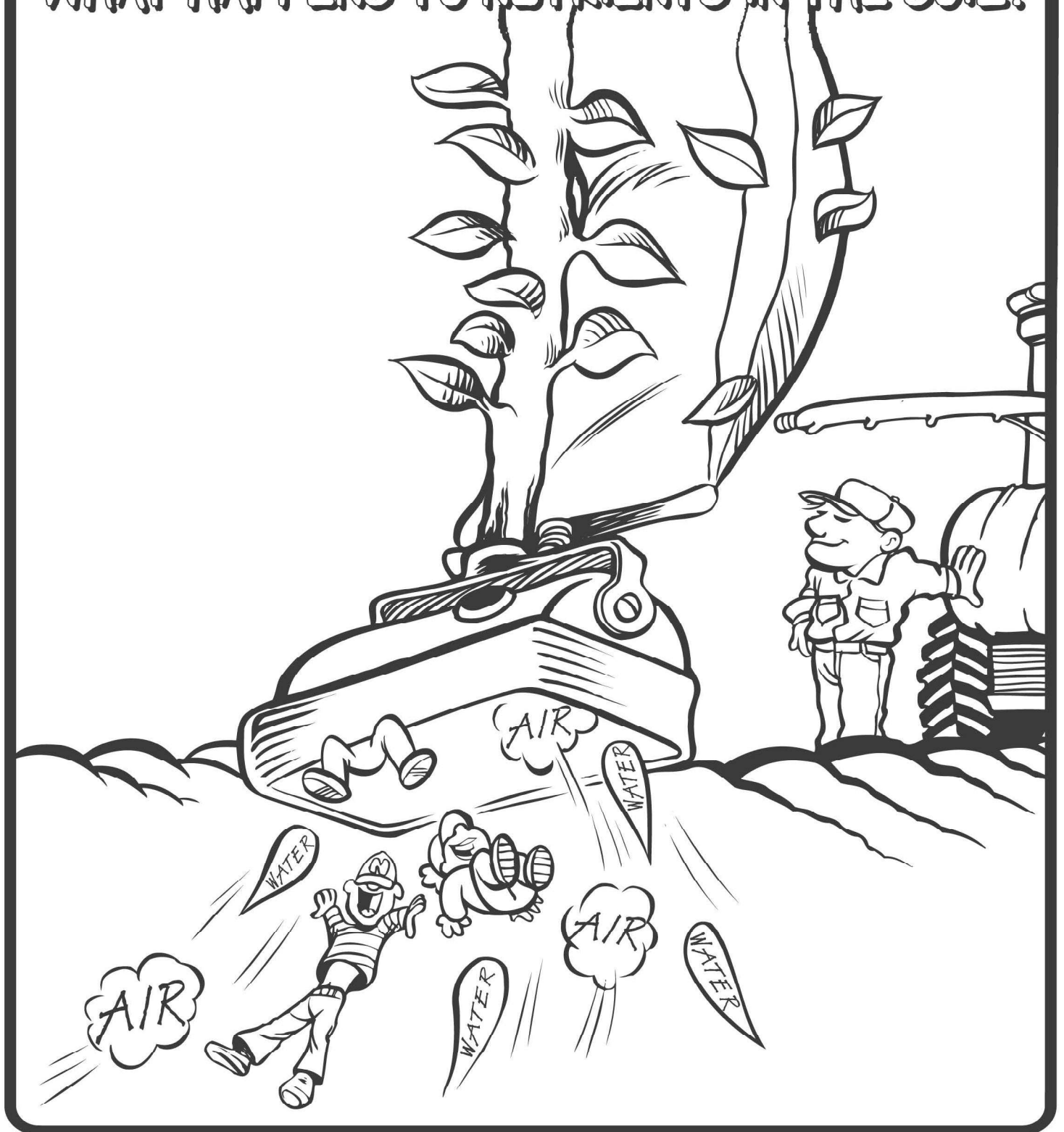
Write your observations after the celery has been in the food coloring for 10 minutes. Draw a picture of what you see.

Healthy plants take up nitrogen, potassium and phosphorus (NPK) through their roots as well as other nutrients, air and water. These essential elements, combined with the sun's energy enable plants to make their own food through the process of photosynthesis.



How Plants Grow

WHAT HAPPENS TO NUTRIENTS IN THE SOIL?



AS PLANTS GROW, THEIR ROOTS TAKE UP NUTRIENTS FROM THE SOIL. THAT'S WHY FARMERS NEED TO ADD MORE NUTRIENTS BACK INTO THE SOIL.

In your own words!

Why is soil important?

