

Get Growing

Objective

Students read to learn what plants need to grow and conduct simple experiments with seeds.

Background

All kinds of plants need four things to live—soil, water, sunlight and air. Soil anchors the plant and provides nutrients, which feed the plant through its roots. Water moves the nutrients through the plant and helps it stand upright. Sunlight shines on the leaves and helps make chlorophyll. The plant uses the chlorophyll to make food. Plants “breathe in” carbon dioxide (CO₂) and “breathe out” oxygen. People and animals need oxygen to breathe.

Science

1. Discuss what plants need to grow big and strong.
2. Hand out the worksheets included with this lesson.
 - Students will follow directions at the top of each page to complete the worksheets.
3. Students will plant the same kind of seeds in two milk cartons. Use agricultural crops such as corn, tomato, soybeans or wheat.
 - Each student will provide one carton with all four of the natural resources the plant needs (soil, sun, air, water).
 - The second carton should get only three of the appropriate resources and substitute one altered resource (rocks, dark, airtight bag or jar, dry).
 - After two or three weeks students will compare the plants. Did some grow better than others? Why? What natural resources do growing plants need?
 - Add a third resource to test what limited resources (sand, artificial light, open jar or bag, water only when planting) will produce.
 - Students will draw or write about their observations as they watch the plants grow.
4. Students will create an Offset Fold Booklet, as follows, using three pieces of plain white or colored paper. You may use construction paper for the back and top layer. (Cut it to match the size of the other sheets).
 - Lay the first sheet of paper (or the piece of construction paper) on the table. Using a ruler, place the second sheet of paper on top of the first sheet approximately 1 ½ inches from the bottom edge.
 - Lay the third sheet of paper on top of the second sheet, placing it approximately 1 ½ inches from the bottom of the second sheet.
 - Make sure all three sheets of paper are lined up along the sides.
 - Fold all three sheets together so they line up 1 ½ inches from the one below it.
 - Crease the fold.

Oklahoma Academic Standards

KINDERGARTEN

Life Science: 1-1. Earth

Science: 3-1

Print Concepts: 2. Language:

R.4

GRADE 1

Life Science: 1-1

Language: R.4

GRADE 2

Life Science: 2-1

Language: R.4

- Unfold and place staples in the folded edge.
- The booklet should resemble stair steps when folded.
- On the top outside step write “Plants Need...”
- Then on each flap write one thing a plant needs (soil, light, air, or water), draw a picture to illustrate the need, and write in their own words why the plant needs this to grow.
- On the back of the booklet write a story about the needs of a plant.

English Language Arts

1. Students will fill in the blanks in the following sentences with the position words “above,” “on,” “over,” or “under.”
 - The sun is _____ the plant.
 - The rain falls _____ the ground
 - The stem and leaves are _____ the ground
 - The roots are _____ the ground.

Extra Reading

- Barry, Frances, *Big Yellow Sunflower*, Candlewick, 2009.
- Brown, Peter, *The Curious Garden*, Little, Brown, 2009.
- Carle, Eric, *The Tiny Seed*, Little Simon, 2009.
- Eclare, Melanie, *A Harvest of Color: Growing a Vegetable Garden*, Ragged Bears, 2002.
- Godwin, Sam, *A Seed in Need*, Picture Window, 2004.
- Peterson, Cris, and David R. Lundquist, *Seed, Soil Sun: Earth’s Recipe for Food*, Boyds Mills, 2010.
- Richards, Jean, *A Fruit is a Suitcase for Seeds*, Millbrook, 2003.

Materials

milk cartons from the cafeteria

potting mix

assorted crop seeds—corn,
wheat, soybeans, etc.

water

sand

rocks

Vocabulary

natural resource—something that occurs in nature and is valuable to humans

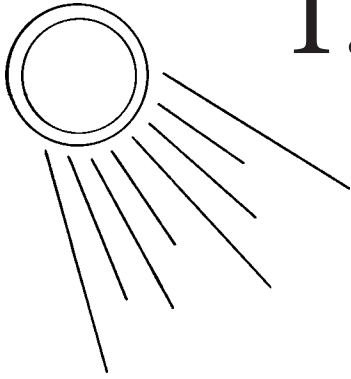
soil—naturally-occurring mixture of minerals, organic matter, water and air, which forms the surface of the land.

Name _____

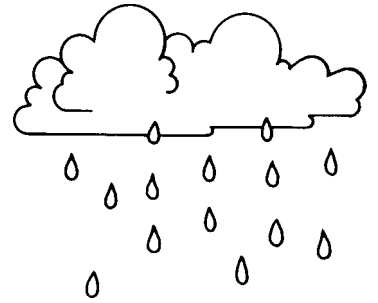
Get Growing

A

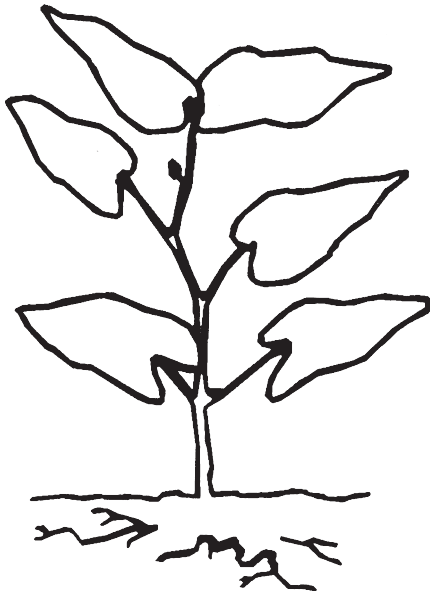
Trace over the four natural resource words needed to grow a healthy plant.
Color the picture.



1. sunlight



2. water



3. air

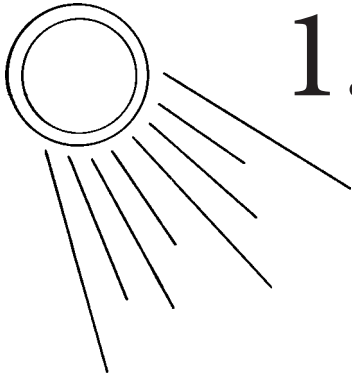
4. soil

Name _____

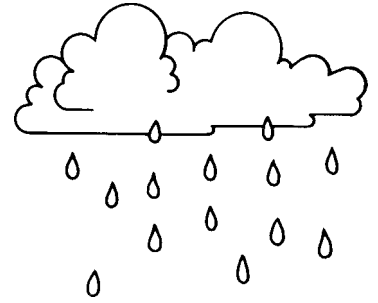
Get Growing

B

Write the names of the four natural resources needed to grow a healthy plant. The word box will help you. Color the pictures.

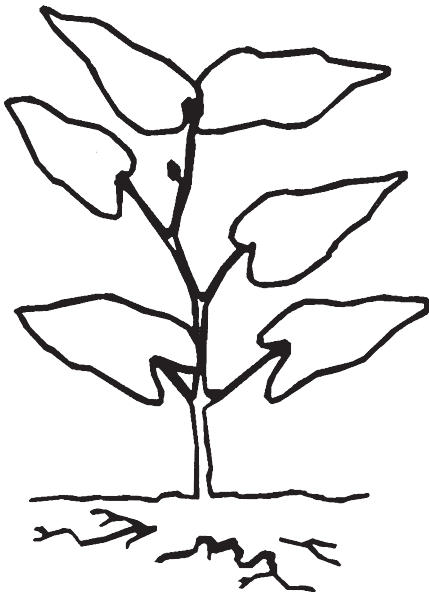


1.



2.

3.



Word Box

sunlight

air

water

soil

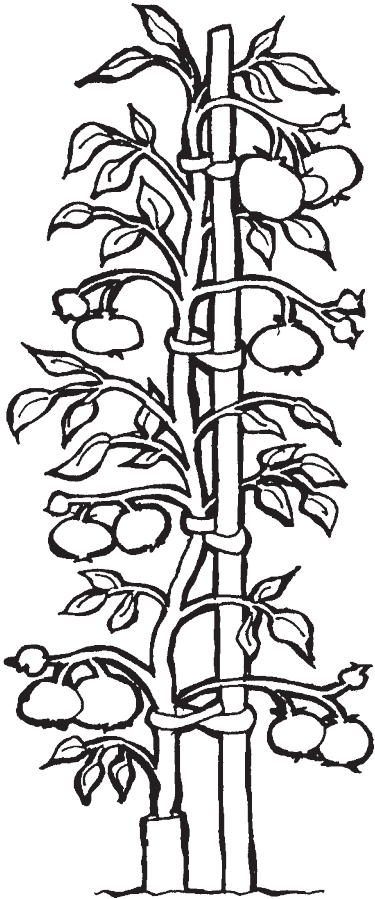
4.

Name _____

Get Growing

C

This is a tomato plant. The stem and leaves are green. Color them green on your tomato plant. The fruit on a tomato plant is red. Color all the tomatoes red.



trash

air

milk

water

soil

clouds

sunlight

paper

Draw a line from the four natural resource words to the plant.