



# PLANTS LOVE AIR

**GRADE LEVEL:** K-1

**SUBJECT:** Science

**NATIONAL STANDARD(S)**

(K-2) SC: 4.1, 6.1, 8.1

**THEME:** Plants

**FOOD AND FIBER TOPIC:** III-B,C

## LEARNER OBJECTIVES

Students will learn that plants cannot develop adequately without air.

## VOCABULARY

**carbon dioxide**—A colorless, odorless, incombustible gas, somewhat heavier than air, that passes out of the lungs during respiration.

**evaporate**—To change a solid or liquid into a vapor.

**moisture**—Water or a liquid causing a slight wetness or dampness.

**oxygen**—A colorless, odorless, tasteless, gaseous chemical element in the atmosphere. The most abundant of all elements.

**surface**—The outer face, or exterior, of an object.

## BACKGROUND

People and other living things could not live without plants. Plants provide us with food and keep the air clean so we can breathe. Plants cannot survive without air. Plants use the carbon dioxide from the air and produce oxygen that animals like us breathe. Without air, plants become weak and die.

Plant can get too much air! Strong winds during the early growing season can be hard on plants. Strong winds can break plants, and dry winds will evaporate the moisture on or near the surface of the soil. If the roots of the plant cannot get moisture, the plant cannot stay alive and will eventually die.

## STEP-BY-STEP INSTRUCTIONS

1. Bring a healthy broad-leafed plant, such as a geranium, to class.
2. Cover one leaf of the plant with a clear sandwich bag. Gently squeeze the air from the bag, or use a straw to suck all the air out of the bag. Secure the deflated bag with a twist tie around the leaf stem.
3. Place the plant in a sunny window, and have students predict what will happen to the leaf.
4. Have each student draw a picture of what they think the leaf will look like after a week of being covered.
5. After one week, remove the bag, and let students examine the leaf. How does it look? Let students compare the leaf to their drawing, and discuss why the changes occurred in the leaf.

## RELATED ACTIVITIES

1. Place two broad-leafed plants outdoors on a windy day. Find a sheltered spot near the building for one of the plants, and place one out in the open. Compare the two at the end of the day.
2. Make wind socks during a time when it is usually windy in your area. Give each student a strip of construction paper 14 inches long and six inches wide. Have students glue the ends of the strips together to form circles. Staple strips of crepe paper around the bottom of the circle to make a wind sock. Hang the wind socks outdoors for several days so students can “see” the wind.
3. Divide the class into two or three teams. Have each team make paper fans by folding sheets of paper accordion-style. Tell the teams to move the following items across the desktop, using their fans: a feather; a bottle cap and a leaf. Which item moved the furthest? Why? which team produced the strongest winds?

## RESOURCES

### *Student Books*

Barden, H. (1990). *Busy Little Gardener*. Jelly Bean.

Claridge, M. and Shackell, J. (1985). *A Simple Introduction to Living Things*. Usborne.

### *Teacher Resources*

*The Growing Classroom: Teacher's Guide to Activities*, General Feed and Seed/Let's Get Growing, 1900-B Commercial Way, Santa Cruz, CA 94065 (\$33.75, plus \$4 shipping).

*Growlab: A Complete Guide to Gardening in the Classroom*, National Gardening Association, 180 Flynn Ave., Burlington, VT 05401 (128-page softbound teacher's book, \$14.95, plus \$3 shipping).

### *Related Internet Websites*

Gardening in western Washington, master gardeners and youth activities growing with plants. Washington State University. <http://gardening.wsu.edu/text/succgwp.htm>

Why do plants need to grow? A useful lesson for teachers.

<http://www.datanet.co.uk/enterprise/mheller/essw/plants.htm>

School gardens. Botanical Research Institute of Texas. Numerous lessons and activities about plants and science. <http://aggie-horticulture.tamu.edu/kinder/curric.html>

Kinder-Garden. An intro to the many ways children can interact with plants and outdoors. <http://aggie-horticulture.tamu.edu/kinder/index.html>

## EVALUATION

The leaf in the bag will be limp and yellowish brown.

## ACKNOWLEDGMENT

This lesson adapted from Oklahoma Ag in the Classroom, Department of Agricultural Education, Communications and 4-H Youth Development, Oklahoma State University, Stillwater, Oklahoma 74078.

Name \_\_\_\_\_

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Draw a picture to show what the plant looks like each day.

Day 1

Day 2

Day 3

Day 4

Day 5

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What did you see? \_\_\_\_\_

What happens to a plant when it doesn't have enough air? \_\_\_\_\_



Adapted from Oklahoma Ag in the Classroom.

Food & Fiber Systems Literacy  
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