

**TEACHING KATE  
TEACHING KIDS ABOUT THE ENVIRONMENT**

**THE COUNTLESS USES OF PLANTS**

**Grade Level: 4**

**Time Required: 3-4 class periods**

**SC Science Standards**

This lesson plan was correlated with only the grade level specified unless otherwise noted.

I. A. 4. a

\*Note: This activity could be used with any grade as an introduction to learning about plants.

**Purpose**

Students will learn about the different products that come from plants. They will list the uses of plants. They will also learn about careers involving plants. Students will research and report on a person who works with plants on his or her job.

**Skills**

Discussing, group work skills, relationships, researching, summarizing, understanding, vocabulary development.

**Concepts**

Man is completely dependent upon plants; plants provide food, clothing, shelter, fuel, and many other necessities of life; many well paying and professional jobs deal with plants.

## Materials Needed

|             |                 |
|-------------|-----------------|
| Paper       | Pencils         |
| Worksheets  | Reference Books |
| Magazines   | Newspapers      |
| Other Books | Product Samples |

## Definition of Terms

|                             |   |
|-----------------------------|---|
| <u>Annual</u>               | A plant in which the life cycle is completed in a single growing season.  |
| <u>Biennial</u>             | A plant that normally requires two growing seasons to complete its cycle, flowering and fruiting in its second year.      |
| <u>Botanist</u>             | Scientist who studies plants.   |
| <u>Florist</u>              | Uses plants for beauty.   |
| <u>Floriculturist</u>       | Cultivates and manages ornamental and flowering plants.   |
| <u>Forester</u>             | Grows trees and takes care of the forest and its many potential products including lumber production.                     |
| <u>Herbs</u>                | A non-woody seed plant with a relatively short lived aerial portion.  |
| <u>Horticulturist</u>       | Grows fruits, vegetables, flowers or ornamental plants.   |
| <u>Landscape Architect</u>  | Designs landscapes or building surroundings with plants.  |
| <u>Perennial</u>            | A plant which persists for several years usually with new growth from a part which lives over from season to season.      |
| <u>Plant Nursery Worker</u> | Grows plants for use in landscapes, grows vegetable seedlings and fruit plants for home gardeners.                        |
| <u>Shrub</u>                | A perennial woody plant of relatively low stature, typically with several stems arising from or near the ground.          |
| <u>Tree</u>                 | A woody plant that lives for years and has a single usually elongate main stem with few or no branches on its lower part. |

## **Before the Session**

Select an area in classroom to display samples of plants and products. Create game board for plant dominoes for each group of students. Invite a local forester to visit class as a guest speaker. (Mail list of careers involving plants and background information to forester before his or her visit.)

## **Background Information**

The chief food plants are the cereal grains. The saying “corn is king” refers to the tremendous amount of this grain raised for feeding people and domestic animals. Other great cereal crops are wheat, oats, rice, barley, rye, and buckwheat. Legumes are the second great source of food plants. Legumes such as peas, beans, soybeans and peanuts are high in protein and oil.

Mans’ drinks, except for water, come from plants. Coffee, tea and cocoa are prepared by steeping plant substances in hot water. Other drinks are ready-made by nature. Orange, lemon, apple and grape juice; coconut milk; apple cider; and apricot nectar are examples.

Cotton is the most important plant used for clothing. From the flax plant, linen is made. Plants once furnished most of the dyestuffs with which cloth was colored. Today nearly all dyes used for this purpose are manufactured from coal tar, a plant product.

Shelter is typically provided by wood, one of the most important plant products. Within the home, the furniture and the conveniences of living are chiefly made of wood or plant-fiber cloth.

By experimenting through the ages, men have found that certain plants relieve their aches and pains. Many medicinal plants discovered by primitive people are still in use today. The leaves of the peppermint and cinchona plants are used for medicine.

Coal, oil and gas are the chief fuels used for heating and cooking in the United States. All had their origin in green plants. Wood continues to be burned for heating and cooking in many parts of the world. In the United States, wood is still popular for use in open fireplaces.

There are many well paying and professional jobs dealing with plants. Some of these jobs include: forester, florist, landscape architect, plant nursery worker, floriculturist, botanist and horticulturist.

## **Suggested Lesson Plan**

1. Have students brainstorm a list of different products that come from plants. Write their ideas of the chalk board. (10 minutes.)

2. Pass out the worksheet - What Comes From Plants? When the students are finished, go over the page using answers on the teachers guide. (5 minutes.)
3. Display samples of plants and products. Lead students into a discussion of the plants and products. Read the background information to the students. Ask students to discuss and describe different uses of plants. (20 minutes.)
4. Pass out the worksheet - Plant Uses. When the students are finished, go over the page using the teacher's guide. (20 minutes.)
5. Optional. Using pictures from magazines, the students will make a collage showing plant uses. (20 minutes.)
6. Divide the students into groups of four and explain that each group using reference books, magazines, newspapers, textbooks and other books will research and report on an assigned career involving plants. Each group will write and report on a person who works with plants on his or her job. (30 minutes.)
7. Midpoint lesson number 5, invite a guest speaker, a forester, to talk about his or her job and other jobs involving plants. (60 minutes.)
8. Students will complete research and give oral reports in class. (60 minutes.)
9. Optional. Students will play the game, Plant Dominoes. (10 minutes.)

### **Application**

Plants provide many necessities of life. However, we take plants for granted. Everything that lives depends on plants. The food stored in green plants for their growth also provides food for humans and animals. Man depends on plants for medicines, oils, fibers, spices, beverages and etc. Man uses the fibers of some and the fruit, bark, leaves or roots of others.

At the Westvaco Forest Science Laboratory, located in Summerville, South Carolina, researchers and scientists are working everyday on "A Forest Biometry Project". These researchers use mathematics and statistics in the study of biology. At the Forest Research Laboratory, they are studying plant dynamics. Computer programs are being designed which present models and equations in a user friendly format for their forest managers. Researchers are also performing DNA testing on genes from loblolly pines to determine growth rates, breeding programs and other growth related information.

### **Resources Available**

Elementary Science Program. 1987. Silver, Burdett and Ginn.

Santee State Park Forester. Santee, South Carolina.

Science In Your World. 1991. Macmillan/McGraw-Hill.

Westvaco Forest Science Laboratory Researchers. Summerville, South Carolina.

Prepared by: Shirley B. Oliver

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THE COUNTLESS USES OF PLANTS

WORKSHEET — WHAT COMES FROM PLANTS?

Name:

Date:

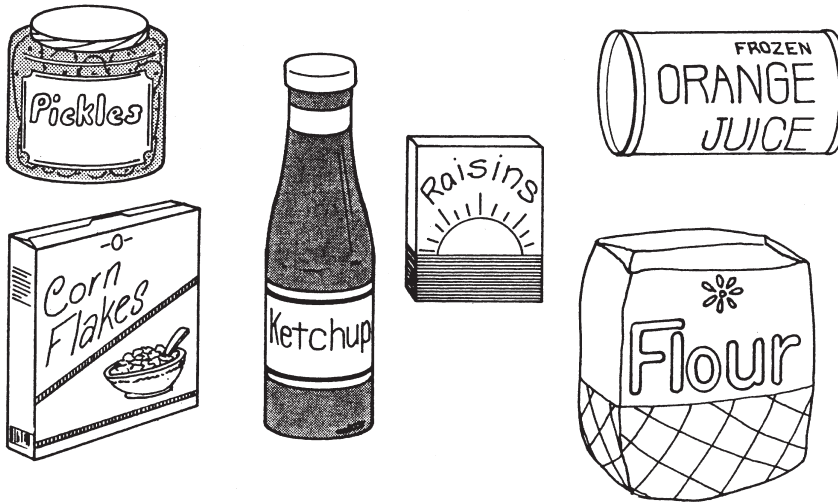
HEALTH CONNECTION Nutrition Chapter 10

Name \_\_\_\_\_



What Comes From Plants?

Make a list to tell what plants these foods come from.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

TEACHING KATE  
TEACHING KIDS ABOUT THE ENVIRONMENT

THE COUNTLESS USES OF PLANTS

WORKSHEET- WHAT COMES FROM PLANTS?  
TEACHER'S GUIDE

Name: \_\_\_\_\_

Date: \_\_\_\_\_



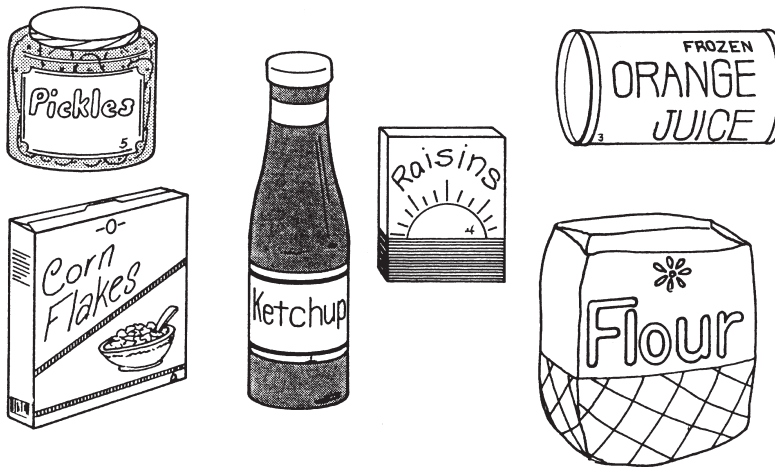
HEALTH CONNECTION Nutrition Chapter 10

Name \_\_\_\_\_



What Comes From Plants?

Make a list to tell what plants these foods come from.



1. tomato plants \_\_\_\_\_
2. wheat, rye, oat plants \_\_\_\_\_
3. orange trees \_\_\_\_\_
4. grapevines \_\_\_\_\_
5. cucumber vines \_\_\_\_\_
6. corn plants \_\_\_\_\_

Discuss whether or not eating these foods would contribute to a healthful diet.

**TEACHING KATE  
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**THE COUNTLESS USES OF PLANTS**

**WORKSHEET- PLANT USES**

Name:

Date:

Below, list ten uses for plants. Use reference books if you need help.

- A. \_\_\_\_\_  
\_\_\_\_\_
- B. \_\_\_\_\_  
\_\_\_\_\_
- C. \_\_\_\_\_  
\_\_\_\_\_
- D. \_\_\_\_\_  
\_\_\_\_\_
- E. \_\_\_\_\_  
\_\_\_\_\_
- F. \_\_\_\_\_  
\_\_\_\_\_
- G. \_\_\_\_\_  
\_\_\_\_\_
- H. \_\_\_\_\_  
\_\_\_\_\_
- I. \_\_\_\_\_  
\_\_\_\_\_
- J. \_\_\_\_\_  
\_\_\_\_\_

TEACHING KATE  
TEACHING KIDS ABOUT THE ENVIRONMENT  
THE COUNTLESS USES OF PLANTS  
WORKSHEET- PLANT USES  
TEACHER' GUIDE

Name:

Date:

Below, list ten uses for plants. Use reference books if you need help.

**A. provide food for people**

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**B. provide food for animals**

---

**C. provide lumber for buildings and furniture**

---

**D. provide material for paper**

---

**E. some used to make cloth**

---

**F. landscape/beautify areas**

---

**G. provide shelter for animals**

---

**H. provide some medicines**

---

**I. filter air and give off oxygen for healthier air**

---

**J. prevent soil erosion**

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THE COUNTLESS USES OF PLANTS

WORKSHEET- PLANT DOMINOES

Name: \_\_\_\_\_

Date: \_\_\_\_\_

|                                 |                           |                   |
|---------------------------------|---------------------------|-------------------|
| <b>LANGUAGE ARTS CONNECTION</b> | Vocabulary<br>Development | <b>Chapter 13</b> |
|---------------------------------|---------------------------|-------------------|

Name \_\_\_\_\_

**PLANT DOMINOES**

1. Cut out the cards along the solid lines and place them facedown in a pile.
2. Two students take three cards each.
3. The first player lays a card on the table.
4. The second player tries to match one end of the card. Matches are plant types and their examples.
5. If no match is possible, the player draws a new card from the pile, and the player's turn ends.
6. Play continues until no more matches can be made or until one player has no more cards. The winner is the player with no cards or the fewer cards.

|           |            |
|-----------|------------|
| biennials | pine trees |
|-----------|------------|

|            |          |
|------------|----------|
| perennials | parsnips |
|------------|----------|

|         |        |
|---------|--------|
| annuals | shrubs |
|---------|--------|

|         |       |
|---------|-------|
| annuals | beets |
|---------|-------|

|            |          |
|------------|----------|
| perennials | tomatoes |
|------------|----------|

|            |         |
|------------|---------|
| perennials | carrots |
|------------|---------|

|           |                                 |
|-----------|---------------------------------|
| biennials | many types of<br>garden flowers |
|-----------|---------------------------------|

|         |           |
|---------|-----------|
| annuals | oak trees |
|---------|-----------|

|           |        |
|-----------|--------|
| biennials | tulips |
|-----------|--------|

|            |          |
|------------|----------|
| perennials | tomatoes |
|------------|----------|

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THE COUNTLESS USES OF PLANTS

WORKSHEET- PLANT DOMINOES  
TEACHER'S GUIDE

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**ANSWERS**

|                                 |                           |            |
|---------------------------------|---------------------------|------------|
| <b>LANGUAGE ARTS CONNECTION</b> | Vocabulary<br>Development | Chapter 13 |
|---------------------------------|---------------------------|------------|

Name \_\_\_\_\_

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|           |            |
|-----------|------------|
| biennials | pine trees |
| 1         | 3          |

|            |          |
|------------|----------|
| perennials | parsnips |
| 3          | 1        |

|         |        |
|---------|--------|
| annuals | shrubs |
| 2       | 3      |

|         |       |
|---------|-------|
| annuals | beets |
| 2       | 1     |

|            |          |
|------------|----------|
| perennials | tomatoes |
| 3          | 2        |

|            |         |
|------------|---------|
| perennials | carrots |
| 3          | 1       |

|           |                                 |
|-----------|---------------------------------|
| biennials | many types of<br>garden flowers |
| 1         | 2                               |

|         |           |
|---------|-----------|
| annuals | oak trees |
| 2       | 3         |

|           |        |
|-----------|--------|
| biennials | tulips |
| 1         | 3      |

|            |          |
|------------|----------|
| perennials | tomatoes |
| 3          | 2        |