Name _____ Date _____ Hour _____

ACTIVITY 4.1

UNIT WORD SEARCH

annual
biennial
chlorophyll
dicot
flower
greenbelt
hybrid
internode
leaves
monocot
olericulture
ovule
perennial
phloem
photosynthesis
pistil
pollen
pomology
respiration
silage
stamen
synthesized
textile
transpiration
xylem

M C H M J S C L R F L L Y R B M I N R Z W Z
O H H B I E N N I A L P N S U U O E I E R L
N L T R A N S P I R A T I O N V S C U D G J
O O E W T M R N O S I S V M X P P T T O F S
C R L R S L N E E M E D E Z I S E H T N Y S
O O P X I E E V W H O S T R X X D D G R C P
T P A I R C A B T O I L A O T P H L O E M O
E H A E S E U N N L L T O I C N E M A T S L
L Y P E L T Y L A E I F L G M I C H D N X L
U L R H K S I G T O E E W E Y Z D B I I P E
V L F H O B E L N U Z R L A U N N A R D U N
O M M T N A T W A S R Y G F F F T L B U C T
Y C O V R A I U Y Z X E U Y J I T C Y Z R Q
X H I L G V S A I H J G N I R Z G I H F B H
P Y M G C M C X V K J L I Y Z G L I U V Q Z

Name _____ Date _____ Hour _____

ACTIVITY 4.2 PLANTS IN A DAY

Student Materials
Pen or pencil
Paper
Products used in a day

Directions
How many every day activities that you do involve plants in some way? Plants and plant products are all around you—a few examples include breakfast cereals made from grains, clothing made from plants, landscaping that makes your environment more attractive, and furniture made from wood.

Throughout an average day, think about how plants affect your day. Write a list of plant items you use and a brief description of the item. For example you might eat breakfast cereals that contain grains for nutrition. Try to list at least 5-8 items.

Name _____ Date _____ Hour _____

ACTIVITY 4.3

GERMINATION RATES

Student Materials
Pencil
Calculator

Percent seed germination is a very important factor to be considered when planting. It is also fairly easy to calculate. Using the formula below, complete the germination rate table.

$$\frac{\text{\# of seeds germinated}}{\text{total \# of seeds}} \times 100 = \text{\% germination}$$

Example: If you planted 1,000 sunflower seeds, and 870 germinated, what is your percent germination?

$$\frac{870}{1{,}000} = 0.87 \times 100 = 87\%$$

Germination Rate Table

	Total Number of Seeds	Number Germinated	Germination %
1.	500	245	
2.	45	1 2	
3.	230	1 95	
4.	882		50%
5.	2,984		68%
6.	739		33%
7.		5	40%
8.		84	20%
9.		560	75%
10.	3,654	800	
11.	464		91 %
12.	2,330	1 00	
13.	875	875	
14.		544	5%
15.	999		10%

Name _____ Date _____ Hour _____

ACTIVITY 4.4

FRUIT OR VEGETABLE?

Student Materials
Pencil

Introduction
Is watermelon a fruit or a vegetable? In 2006, the Oklahoma Legislature declared watermelon our state vegetable. For many this was surprising, since most of us think of watermelon as a fruit. A legislator from Rush Springs argued that since watermelon was in the same family as squash and cucumbers, and squash and cucumbers are vegetables, watermelon should also be a vegetable.

Confusion over what is a vegetable and fruit is not new. In scientific terms the fruit is the part of the plant that develops from the ovary in the base of the flower and contains the seed of the plant. By that definition, many of the foods we commonly call vegetables are actually fruits, including squash and cucumber! The problem is that vegetable is not a botanical category like fruit. The dictionary definition of vegetable is "a usually herbaceous plant grown for an edible part." By that definition, all the fruits we eat are also vegetables. This is getting confusing!

So, is something a fruit or is it a vegetable? In this activity you will look at common fruits and vegetables and how they are classified by different agencies.

On the Fruit or Vegetable? table, write what you think in the first blank column, and then use the charts to determine how they are categorized by two government agencies.

Fruit or Vegetable?

	Hypothesis	USDA-NASS	USDA-CNPP
Apple	*fruit*	*fruit*	*fruit*
Apricot			
Asparagus			
Beans, snap (green beans)			
Blackberry			
Broccoli			
Cabbage			
Cantaloupe			
Carrot			
Cauliflower			
Cherry			
Corn, sweet			
Cucumber			
Grape			
Lettuce			
Nectarine			
Onion			
Peach			
Pear			
Pepper			
Plum			
Pumpkin			
Raspberry			
Spinach			
Squash			
Strawberry			
Tomato			
Watermelon			

PRINCIPAL VEGETABLES FOR FRESH MARKET: PRODUCTION BY CROP
United States, 2004-2006 (metric tons)
Vegetables 2006 Summary

	2004	**2995**	**2006**
Artichokes	37,420	39,420	34,060
Asparagus	93,530	69,580	56,020
Beans, snap	261,680	251,330	288,710
Broccoli	899,700	904,460	916,250
Cabbage	1,132,750	1,101,090	1,165,090
Cantaloupe	992,270	957,980	897,020
Carrots	1,207,910	1,221,250	1,188,360
Cauliflower	291,430	330,440	344,320
Celery	883,550	847,580	812,380
Corn, sweet	1,264,840	1,225,740	1,212,900
Cucumbers	458,170	439,570	449,870
Garlic	236,960	216,410	224,480
Honeydews	236,820	221,030	228,520
Lettuce, leaf	670,860	720,530	778,090
Onions	3,767,750	3,334,070	3,249,880
Peppers, bell	743,890	727,380	781,670
Pumpkins	463,520	487,880	463,980
Spinach	284,220	343,870	281,540
Squash	351,800	378,020	430,090
Strawberries	1,004,160	1,053,280	1,090,430
Tomatoes	1,726,640	1,735,800	1,671,210
Watermelons	1,672,930	1,741,920	1,908,390

NON CITRUS FRUITS AND NUTS: TOT AL PRODUCTION BY CROP
United States, 2004-2006 (1,000 tons fresh equivalent)
Non-Citrus Fruits and Nuts 2006 Summary

	2004	**2005**	**2006**
Apples	5,220.3	4,852.5	4,965.9
Apricots	101.1	81.7	44.5
Avocados	179.4	312.4	149.4
Blackberries	24.0	24.5	21.3
Blueberries, cultivated	114.4	119.3	138.0
Boysenberries	3.1	2.6	3.0
Loganberries	0.1	0.1	0.1
Raspberries	45.0	50.4	58.1
Cherries, sweet	283.1	250.8	295.7
Cranberries	308.8	312.2	345.0
Dates	17.2	17.2	19.6
Figs	51.1	52.2	41.8
Grapes	6,240.0	7,813.7	6,417.2
Kiwifruit	26.7	37.2	26.1
Nectarines	269.0	250.5	231.9
Olives	107.5	142.0	23.5
Peaches	1,307.1	1,184.6	1,010.1
Pears	878.3	823.3	842.0
Plums	156.0	171.0	158.0
Prunes	143.9	295.9	576.0

USDA, Center for Nutrition Policy and Promotion (CNPP)

From "MyPyramid: Inside the Pyramid,", http://www.mypyramid.gov/pyramid/index.html

FRUITS

Apples
Apricots
Avocado
Bananas
Grapefruit
Grapes
Kiwi fruit
Lemons
Limes
Mangoes
Nectarines
Oranges
Peaches
Pears
Papaya
Pineapple
Plums
Prunes
Raisins
Tangerines

Berries
- Strawberries
- Blueberries
- Raspberries
- Cherries

Melon
- Cantaloupe
- Honeydew
- Watermelons

VEGETABLES

Dark green vegetables
- Bok choy
- Broccoli
- Collard greens

Lettuce
- Kale
- Mesclun
- Mustard greens
- Romaine lettuce
- Spinach
- Turnip greens
- Watercress

Dry beans and peas
- Black beans
- Black-eyed peas
- Garbanzo beans (chickpeas)
- Kidney beans
- Lentils
- Lima beans (mature)
- Navy beans
- Pinto beans
- Soy beans
- Split peas
- Tofu (made from soybeans)
- White beans

Starchy vegetables
- Corn
- Green peas
- Lima beans (green)
- Potatoes

Orange vegetables
- Acorn squash
- Butternut squash
- Carrots
- Hubbard squash
- Pumpkin
- Sweet potatoes

Other vegetables
- Artichokes
- Asparagus
- Bean sprouts
- Beets
- Brussels sprouts
- Cabbage
- Cauliflower
- Celery
- Cucumbers
- Eggplant
- Green beans
- Green or red peppers
- Iceberg (head) lettuce
- Mushrooms
- Okra
- Onions
- Parsnips
- Squash
- Tomatoes
- Tomato juice
- Vegetable juice
- Turnips
- Wax beans

Name _____ Date _____ Hour _____

ACTIVITY 4.5

Fruit, Nut, and Vegetable Display

Student Materials
Map pencils/markers
Poster board/cardboard
Magazines
Scissors
Glue

Develop a display of fruits, nuts and vegetables grown in Oklahoma. Break them into categories on your display. Categories could be non-citrus fruits, citrus fruits, vegetables and nuts, or categories according to the plant type (tree, vine, tuber, or root). Before beginning the display, you may need to research fruits, nuts, and vegetables grown in Oklahoma. Include facts and pictures or actual plants with labels.

1. What plants were you able to provide actual specimens for the display? _____

2. What is the most interesting fact included in your display? _____

3. What plant included in the display is your favorite? Why? _____

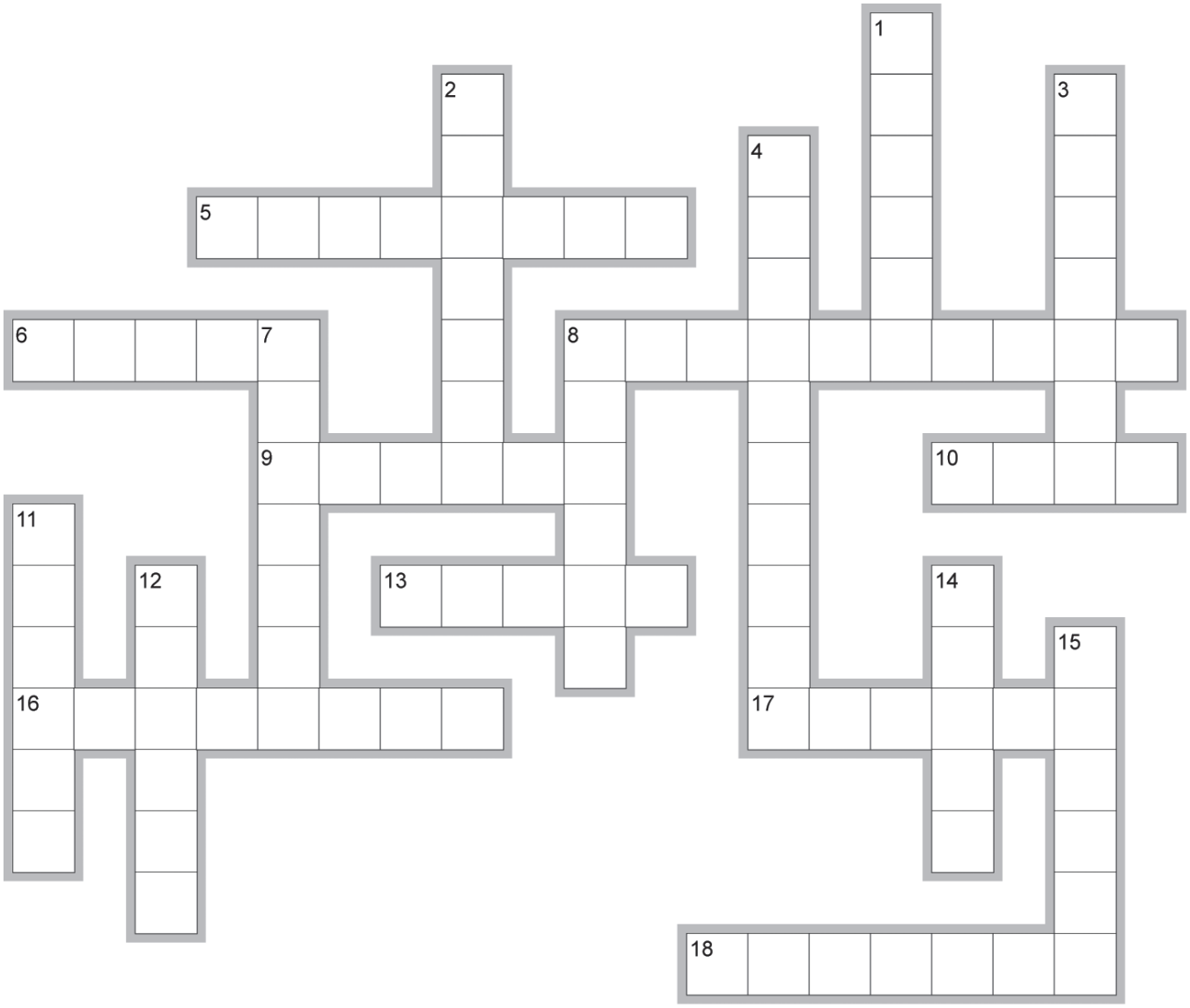
4. What plant included in the display is your least favorite? Why? _____

5. Which of the plants included in the display grow in your local area? _____

Name _____ Date _____ Hour _____

ACTIVITY 4.6

UNIT REVIEW CROSSWORD



EclipseCrossword.com

Across

5. two growing seasons
6. seed with two cotyledons
8. live more than two years
9. femal part of the flower
10. food factory for a plant
13. roots to the leaves
16. how traits are passed from parent to child
17. fermented plant material
18. no primary root

Down

1. male part of the flower
2. one cotyledon
3. Georgia onion
4. areas of underdeveloped land around a city
7. thick central root
8. leaves to the roots
11. released by plants
12. live one growing season
14. turns to fruit
15. attracts butterflies to flowers