Name _____ Date _____ Hour _____

ACTIVITY 6.1

UNIT WORD SEARCH

alley cropping
angiosperms
cambium
canopy
cellulose
coniferous
crown
ecosystem
emergent
deciduous
evergreens
gymnosperms
hardwood
heartwood
latex
pioneer species
riparian buffers
softwood
succession
thinning
timberland
transpiration
trunk
understory
windbreaks

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

Name _____ Date _____ Hour _____

ACTIVITY 6.2

Tree Age Estimation and Measurement

Student Materials
Flexible tape measure
Tree measuring stick
Cross section of tree trunk
Standing trees to measure

Introduction
Trees come in all sizes and shapes. There are trees standing today that are older than our nation! You can estimate the age of a tree by looking at the cross section of its trunk. The tree trunk becomes thicker as the tree grows. The trunk's growth and yearly cycle of blooming and hibernation combine to make rings. A ring is made up of one layer of light wood and one layer of dark wood. Each ring represents one year, with the outermost ring just under the bark being formed one year ago.

Determine the Age of a Tree
Count the number of rings to determine the age of the tree. Label 5 rings of the tree with the year it was formed and something significant that happened for you that year. Maybe you lost your first tooth or learned to ride a bike.

Determine the Circumference of a Living Tree

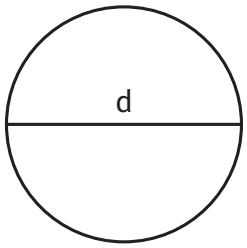
Use a flexible tape measure to measure the distance around the trunk of a tree. The measurement should be taken at 4½ feet from the ground. If there is a branch or growth at the measurement height, measure just below.

What is the circumference of the tree? _____

After finding the circumference, you can calculate the diameter (length through the middle) of the tree using the formula for circumference.

$c = \pi \bullet d$

c = circumference
π = pi (3.14)
d = diameter



For example, if you measured a tree to have a circumference of 20 inches, you would insert the values for circumference and pi into the formula. Then by dividing both sides of the equation by 3.14, you can find the value for diameter (d). The approximate diameter for a tree that has a circumference of 20 inches is 6.37 inches.

$$c = \pi \bullet d$$
$$\frac{20}{3.14} = \frac{3.14 \bullet d}{3.14} \qquad 6.37" = d$$

What is the diameter of the tree you measured? Complete your calculation below.

Determine the Height of a Living Tree

Hold a stick the exact length of your arm vertically away from your body. Your hand should be at the bottom of the stick. Walk away from the tree you want to measure. From your line of sight your stick should go from the base to the top of the tree. Once the stick goes from the bottom to the top of the tree, stop and measure your distance from where you stand to the base of the tree. This is the approximate height of the tree.

What is the approximate height of the tree you measured? _____

Name _____ Date _____ Hour _____

ACTIVITY 6.3 FORESTS OF THE WORLD

Student Materials
Pen or pencil
Colored pencils or markers
Poster board
Glue
Resources on forests of the world

Directions
Choose a forest anywhere in the world that you find interesting. For example, the giant redwood forests in California, the Black Forest in Germany, the Crooked Forest in Poland, the Amazon Rainforest in South America, or perhaps a forest in your state near you!

Create a poster on your chosen forest following the guidelines listed below.

- Include a description of the forest
- Include graphics and/or photos
- Describe facts you find most interesting about the forest
- Include a list of the resources used

Name _____ Date _____ Hour _____

ACTIVITY 6.4

Propagate a Cedar Tree or Pine Tree

Student Materials

6”-8” cuttings from a cedar tree or pine tree
Small containers with sufficient drainage
Media
Rooting hormone powder (formulated for woody plants)
Small utility knife or pruning shears

Prodedure

1. Prepare containers with media.
2. Make approximately a 2 inch hole in the center of the media to place the cutting.
3. Prepare cuttings by pruning them to approximately 6 inches long.
4. Strip off the leaves from the bottom two inches of the cutting.
5. Dip the base of the cuttings into water and then immediately into a rooting hormone powder.
6. Tap off excess rooting hormone powder.
7. Put the cuttings into the hole in the center of the media and gently surround the cutting with media and tap into place.
8. Keep the cuttings in a warm, humid environment.
9. Monitor the cutting for root development. Root development can be determined by carefully taking the cutting and media from the container and observing signs of roots.
10. Once roots have developed, transplant into larger containers, if desired.

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ACTIVITY 6.5 RECYCLE PAPER

Student Materials

Scrap paper
Water
Blender
Framed screen no larger than 10” x 12”
Large bowl or tub
Cardboard the same size as screen surface
Flat surface
Flat towels
Scissors or paper cutter
Water

Prodedure

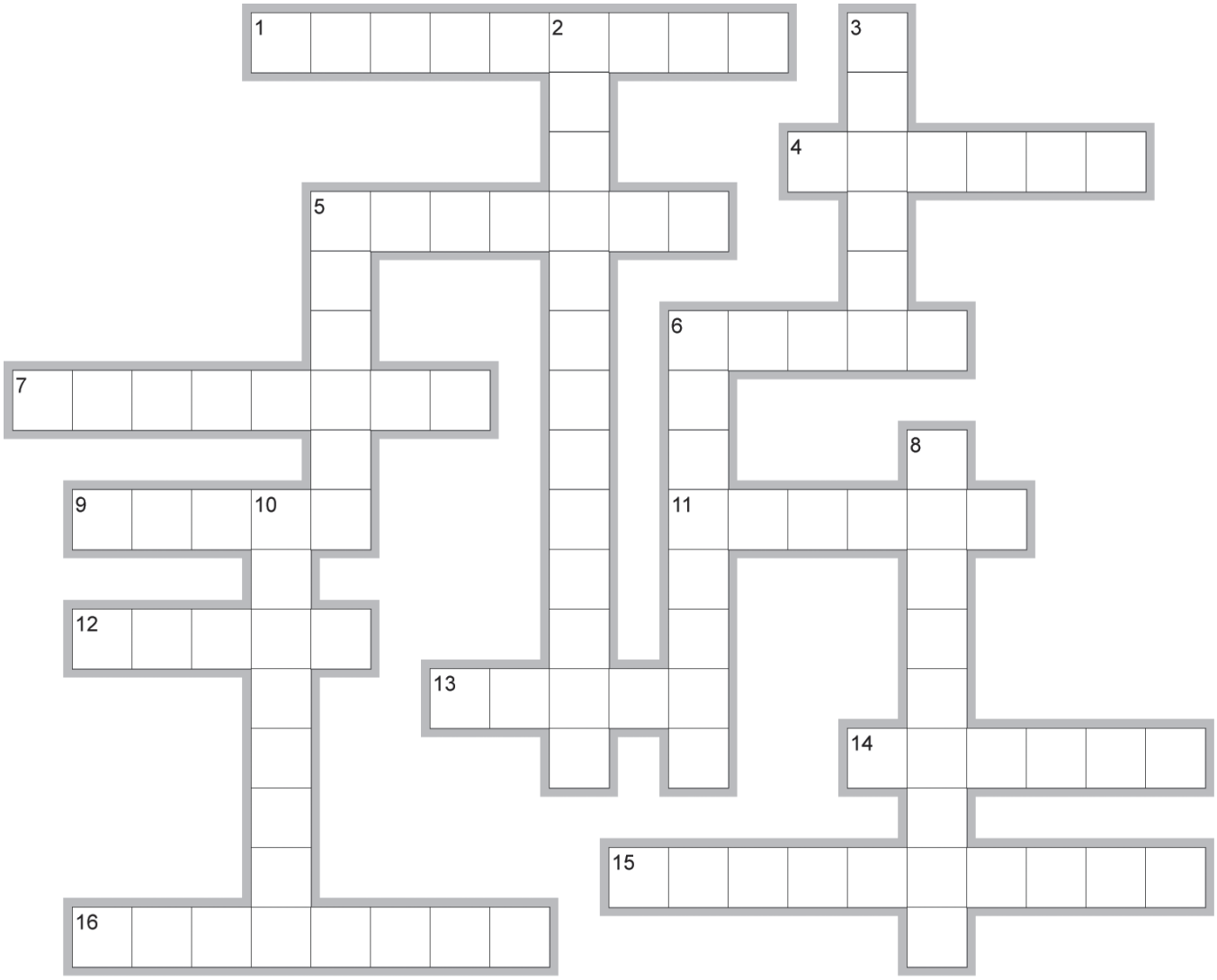
1. Cut scrap paper into pieces no more than 3 inches square.
2. Put paper scraps loosely in the blender until it is about half full.
3. Add water until all the paper is covered.
4. Turn the blender to “puree.” Let it run until all the paper is ground up. There should still be some recognizable pieces of paper in the mixture. Do not blend until it looks like water.
5. Place the screen in the bottom of the bowl or tub.
6. Pour the mixture on the screen until the screen is covered with the paper mixture. The more you pour on the screen, the thicker the paper will be.
7. Lift the screen and let the water drip into the bowl.
8. When the water stops dripping, carefully turn the screen upside down. Peel the paper from the screen and lay it on a flat surface, such as a countertop.
9. Leave the paper out until it dries.
10. Trim the paper.
11. Have your teacher check your work.
12. Put tools and materials away and clean your work area.

FUN IDEA: After drying, you can decorate by drawing holiday or school designs on your paper.

Name _____ Date _____ Hour _____

ACTIVITY 6.6

UNIT REVIEW CROSSWORD



EclipseCrossword.com

Across

1. blocks the wind from crops
4. forest “roof”
5. composite wood product
6. tree support
7. wood from deciduous trees
9. sapwood
11. spice that comes from a tree
12. gloves; from the rubber tree
13. branches and leaves of a tree; fit for a king
14. stage where a stable plant community grows
15. gradual change of a biological community
16. wood from evergreens

Down

2. planting new trees
3. South American rainforest
5. inner bark
6. removal of trees to encourage growth
8. used in paper
10. trees above the forest canopy