Activity 4.1

Name _____ Date _____ Hour _____

Unit Word Search

Student Materials
Pencil

Directions
Fill in the blank with the correct term from the word bank. Find each word within the word search.

_____ 1. The top level of the taxonomic system is the _____ .

_____ 2. One of the lowest levels of classification

_____ 3. Latin word that means pink

_____ 4. A plant that complete its entire life cycle within one growing season is a(n) _____ .

_____ 5. This type of plant needs two growing seasons to complete its life cycle.

_____ 6. Plants that slow their growth during the cold winter months are _____ .

_____ 7. Plants that keep their leaves and green color throughout the year are _____ .

_____ 8. A _____ has two seed leaves.

_____ 9. A _____ has only one seed leaf.

_____ 10. Green pigment in the leaves is called _____ .

_____ 11. During photosynthesis _____ is released into the atmosphere.

_____ 12. A plant's structure consists mostly of _____ .

_____ 13. "Photo" means _____ .

_____ 14. Plants obtain _____ from air, water, and minerals.

_____ 15. Peat moss, sphagnum moss, and pine bark are examples of _____ media.

_____ 16. Volcanic rock that has been crushed and heated

_____ 17. The uppermost layer of soil is called _____.

_____ 18. A soil that has approximately equal amounts of sand, silt, and clay

_____ 19. Humidity and wind are _____ conditions that affect soil formation

_____ 20. Small rock particles in the soil

_____ 21. Another term for organic matter in the soil

_____ 22. The largest soil particle

_____ 23. Soil particle that feels powdery to the touch

_____ 24. The smallest soil particle

Word Bank

annual
biennial
chlorophyll
clay
climate
dicot
dormant
evergreens
genus
humus
kingdom
light
loam
minerals
monocot
nutrients
organic
oxygen
perlite
rosea
sand
silt
topsoil
water

S R D D G W K Q X B O L D T T R R S O J A I

K B S E E F Y I Y S P X L H G A E N X A Y N

G N N E Y X U U V A A I G Y T R T E Y W W A

I U T D V G Y T S N Q I D K H F A E G C L N

S A C P N W P T L D L O O I F P W R E J F K

K M B I E N N I A L R T I N I A O G N C Q S

J A I T N E C L I M O E U G L E X R F R I E

A A V N I A I G A E S O R D I J V E O L G O

T Z N R E O G N T O C O N O M E B V T L Q L

M O T N S R T R J K G B C M B T L E S K H X

J U C P U A A E O H U M U S R I E O V N U C

N S O I Q A C L I M A T E V T L D O A Z Y Z

B T N M D J L G S G Q A D E H R W J M M T Q

A X Q V W F J Z R E L B W P I E D L O N M C

D R O N Y A L C D F R F E C O P H Z T J O D

Activity 4.2

Name _____ Date _____ Hour _____

Career Research

Student Materials

Pencil and paper or computer/printer
Resources to research careers
- Examples:
- Online sites
  - America's Career Infonet
  - http://www.acinet.org/acinet/
- Books
- Magazines
- Personal interviews

Directions

Choose a career associated with plant and soil science that you are interested in finding out more about. There are many careers associated with plant and soil science such as florist, greenhouse grower, landscape architect, forester, agronomist, civil engineer, geologist, soil conservationist, and water quality specialist. If you need assistance in choosing a career, ask your instructor.

Write a paper over the career that is at least two pages in length. Answer questions about the career in your paper such as:

- What is the title of the career? Why did you choose that specific career?
- How does the career relate to plant and soil science?
- What types of businesses or organizations hire for this career?
- What type of degree or training is required for the career?
- What is the salary range or the average salary?
- What are some specific skills required for this career?
- What are some specific duties/responsibilities of this career?
- What are the working conditions and hours?

Activity 4.3

Name _____ Date _____ Hour _____

What's In a Name?

Student Materials

Pencil
Resources to research Latin names
- Examples:
- Reference books
- Online sites

Directions

Write in the botanical name, or Latin name, of the following plants.

_____ 1. American Elm

_____ 2. Bermudagrass

_____ 3. Blackeyed Susan

_____ 4. Blackjack Oak

_____ 5. Blue Wild Indigo

_____ 6. Catclaw Sensitivebriar

_____ 7. Eastern Cottonwood

_____ 8. Eastern Redcedar

_____ 9. Indian Blanket

_____ 10. Johnsongrass

_____ 11. Musk Thistle

_____ 12. Plains Tickseed

_____ 13. Poison Ivy

_____ 14. Purple Coneflower

_____ 15. Redbud

Activity 4.4

Name _____ Date _____ Hour _____

Weekly Eating

Student Materials

Pencil

Directions

Plants are directly or indirectly a source of all food for humans. Think about what you have eaten in the last week. Write 8 complete sentences about different foods you have eaten that come from plants.

Example: Last week I ate grilled chicken, and chicken feed is made from various plants.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Activity 4.5

Name _____ Date _____ Hour _____

Plant Perspiration

Student Materials

large plastic bags
twist ties
rocks
graduated cylinder

Procedure

1. Using trees, cover a small branch with a plastic bag (use several different types of plants). The branch should have several leaves on it.
2. Add a small rock to the plastic bag to allow water collection to settle in the bottom of the bag.
3. Secure the plastic bag with a twist tie.
4. Record the beginning time of the experiment.
5. Allow the bag to remain on the branch for 24 hours.
6. Check for visible results after 24 hours. If water is not observed after that period of time, allow the bag to stay for an additional 24 hours.
7. Once water is visible in the bag, uncover the branch and measure the amount of water in a graduated cylinder.
8. Record results, record time of water collection, and calculate the amount of water produced during transpiration every hour.
9. Compare the amount of water obtained from the different plants.
10. Create a graph displaying the results of the different plants.

Plant Name	Water Amount 24 hours	Average Amount Per Hour

Activity 4.6

Name _____ Date _____ Hour _____

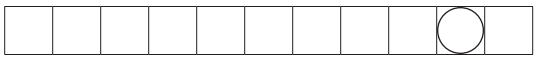
Double Puzzle

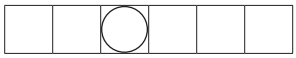
Student Materials

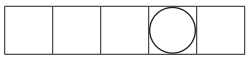
Pencil

Directions

Unscramble each of the clue words. Take the letters that appear in ◯ boxes and unscramble them for the final message.

RNGEMOIANTI 

GEOYXN 

TAWRE 

NULGITHS 

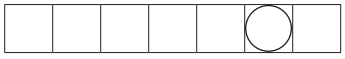
CYHROHLOLLP 

MAETRUEPETR 

TNTISRENU 

LNTAP TAEHLH 

WRHOGT 

CAILETM 

Final Word 

Activity 4.7

Name _____ Date _____ Hour _____

State Averages

Student Materials

Almanacs
Internet access

Directions

In this lesson you learned about the requirements necessary for plants to grow and develop. Sunlight and water were two of the main requirements. Search the Internet to find the average monthly temperatures and precipitation in your state. Complete the chart below.

	Average Temperature	Average Precipitation
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

1. How do temperature and precipitation correlate? _____

_____

2. How do they affect farmers? _____

_____

Activity 4.8

Name _____ Date _____ Hour _____

What's the Texture?

Student Materials

Pencil
Soil textural triangle

Directions

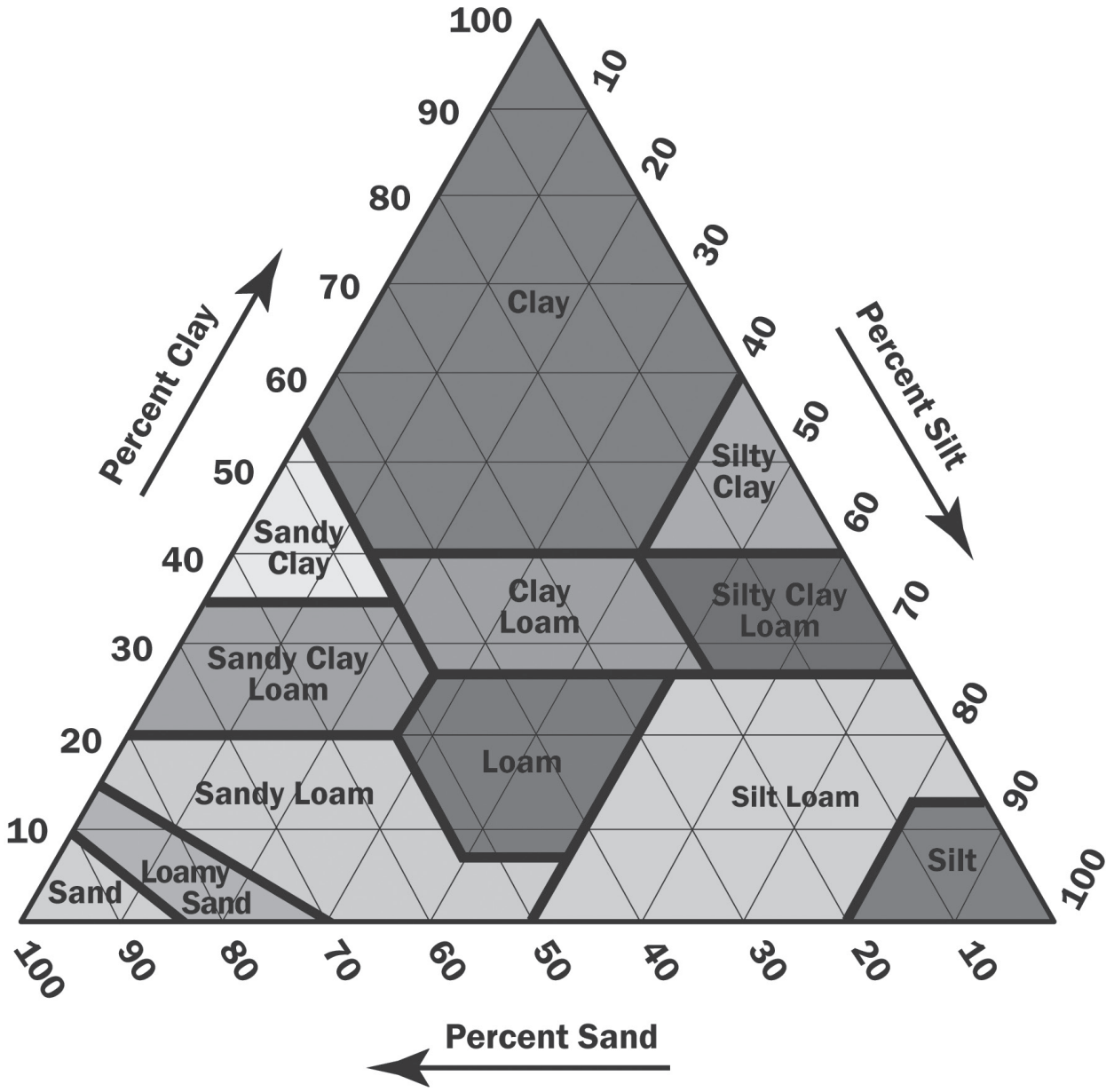
Use the soil textural triangle to determine the soil textural class of the soils.

1. 30% sand, 40% silt, 30% clay _____
2. 50% sand, 10% silt, 40% clay _____
3. 60% sand, 20% silt, 20% clay _____
4. 40% sand, 10% silt, 50% clay _____
5. 20% sand, 70% silt, 10% clay _____
6. 90% sand, 5 % silt, 5% clay _____
7. 50% clay, 50% silt _____
8. 40% sand, 20% silt, 40% clay _____
9. 65% sand, 10% silt, 25% clay _____
10. 22% sand, 48% silt, 30% clay _____
11. What percentage range of clay would need to be present for a sandy loam soil? _____
12. What percentage range of silt would need to be present for a loamy sand soil? _____
13. If a soil has a low percentage of sand and silt, what problems could there be?

_____

_____

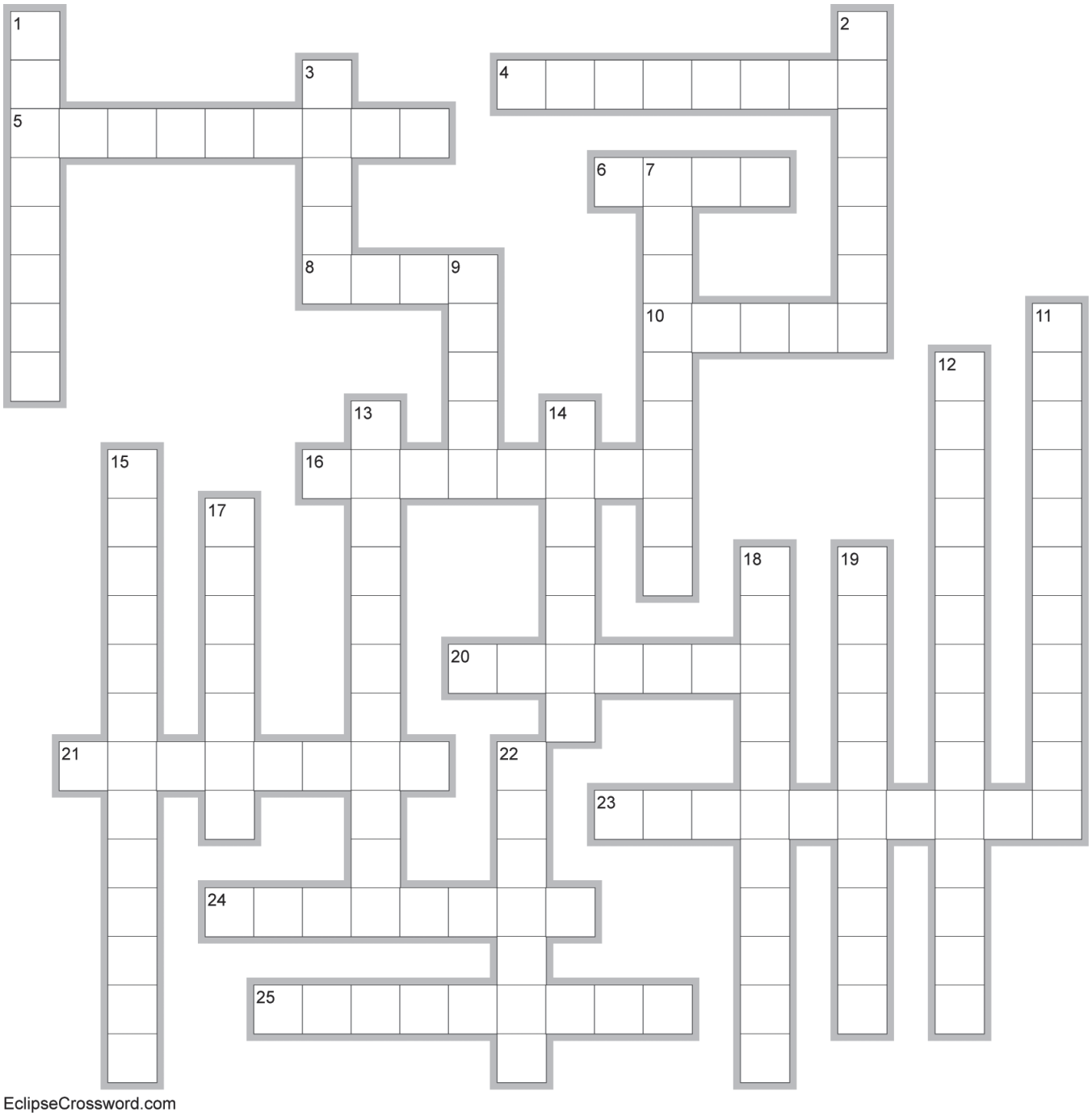
_____


100
90
80
70
60
50
40
30
20
10
Percent Clay
Percent Silt
Percent Sand
Clay
Silty Clay
Sandy Clay
Clay Loam
Silty Clay Loam
Sandy Clay Loam
Loam
Sandy Loam
Silt Loam
Silt
Loamy Sand
Sand

Activity 4.9

Name _____ Date _____ Hour _____

Unit Review Crossword



Across

4. A plant that needs two growing seasons to complete its life cycle is a ___ .
5. Plants that lose their leaves are called ___ .
6. Optimum soil for plant growth
8. Soil particle that feels gritty and allows water to drain quickly
10. Soil used as a building material
16. Has high water and nutrient retention capabilities
20. Many ornamental flowers are ___ .
21. About half of an average soil
23. Plants that keep their leaves throughout the year
24. Often used by nurseries
25. Plants that grow season after season

Down

1. Plants receive this nutrient from water
2. All plants belong in the kingdom ___ .
3. Small spaces between soil particles
7. All of these that live on or in the soil affect its formation.
9. Plant that has two seed leaves
11. Method of growing plants without soil
12. Original matter from which soil particles are formed
13. Heated mica compound
14. Some plants lose their leaves during the ___ period.
15. Process in which plants lose water via openings in the skin of the leaf
17. One of the lowest levels of classification that gives the plant its individual scientific name
18. Process in which the plant uses oxygen to convert the stored sugar into usable energy
19. Variation of the earth's surface
22. Latin term meaning yellow
23. Soil used as a building material