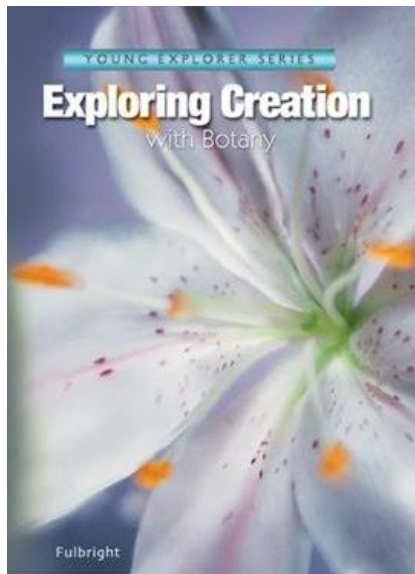


L-BP

“Exploring Creation With Botany” - Lessons 1-13 Lapbook Package

PLEASE NOTE: This product includes BOTH lapbooks for this book.
One lapbook covers lessons 1-5, and the other covers lessons 6-13.



This lapbook has been specifically designed for use with the book, “Exploring Creation with Botany” by Jeannie Fulbright and Apologia Science.

Templates are printed with colors that best improve information retention according to scientific research.

Designed by
Cyndi Kinney
of Knowledge Box Central
with permission from Apologia Science
and Jeannie Fulbright.



Exploring Creation With Botany –
Lessons 1-13 Lapbook Package
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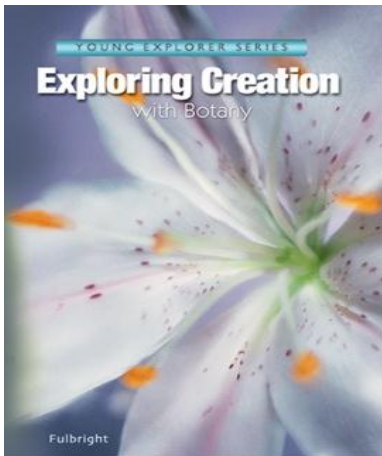
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This book is dedicated to my amazing family. Thank you to my wonderful husband, Scott, who ate a lot of leftovers, listened to a lot of whining (from me!), and sent lots of positive energy my way. Thank you to my daughter, Shelby, who truly inspired me through her love for learning. Thank you to my parents, Judy and Billy Trout, who taught me to trust in my abilities and to never give up.

L_B1

“Exploring Creation With Botany” Lapbook (Lessons 1-5)

PLEASE NOTE: This is the first of 2 lapbooks for this book. This particular lapbook ONLY covers Lessons 1 through 5, while another lapbook covers Lessons 6-13. You will need BOTH lapbooks in order to complete the entire book in lapbook format.



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“Exploring Creation With Botany”

Lessons 1-5 Lapbook

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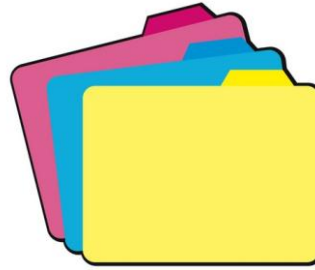
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How do I get started?

First, you will want to gather your supplies.



*** Assembly:

***Folders:** We use colored file folders, which can be found at Walmart, Sam's, Office Depot, Costco, etc. You will need between 1 and 4 file folders, depending on which product you have purchased. You may use manila folders if you prefer, but we have found that children respond better with the brightly colored folders. Don't worry about the tabs...they aren't important. Within this product, you will be given easy, step-by-step instructions for how to fold and assemble these folders. *If you prefer, you can purchase the assembled lapbook bases from our website.*

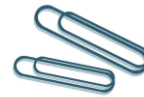
***Glue:** For the folder assembly, we use hot glue. For booklet assembly, we use glue sticks and sometimes hot glue, depending on the specific booklet. We have found that bottle glue stays wet for too long, so it's not a great choice for lapbooking. For gluing the folders together, we suggest using hot glue, but **ONLY** with adult supervision. These things get **SUPER** hot, and can cause **SEVERE** burns within seconds.



***Other Supplies:** Of course, you will need scissors. Many booklets require additional supplies. Some of these include metal brad fasteners, paper clips, ribbon, yarn, staples, hole puncher, etc.



You may want to add decorations of your own, including stickers, buttons, coloring pages, cut-out clipart, etc. Sometimes, we even use scrapbooking supplies. The most important thing is to use your imagination! Make it your own!!



Continue ON.....



Ok. I've gathered the supplies. Now how do I use this product?

Inside, you will find several sections. They are as follows:

1. **Layout and Pictures:** This section gives instructions and diagrams that will tell the student exactly how to assemble the lapbook base and where to glue each booklet into the base. Depending on the student's age, he or she may need assistance with this process, especially if you choose to allow the student to use hot glue.

2. **Student Instruction Guide:** This section is written directly to the student, in language that he or she can understand. However, depending on the age of the child, there may be some parent/teacher assistance needed. This section will also tell the student exactly what should be written inside each booklet as he or she comes to it during the study, as well as telling the student which folder each booklet will be glued into.

3. **Teacher's Guide:** This section is a great resource for the parent/teacher. In this section, you will find the page number where each answer may be found in the book. You will also find suggestions of extra activities that you may want to use with your student.

5. **Booklet Templates:** This section includes ALL of the templates for the booklets. These have been printed on colors that will help to improve retention of the information presented, according to scientific research on color psychology.

Colors & Shapes – Why Do They Matter?

After MUCH research and studies, science has shown that colors and shapes have psychological values. These influence the emotions and memories of each one of us. In our products, we have used specific colors and shapes in ways that will improve information retention and allow for a much more mentally interactive time of study. Some pages may have a notation at the bottom, where a specific color is suggested for your printing paper. This color suggestion is designed to improve information retention. However, if you do not have that specific color of paper, just print on whatever color you have. For the most benefit, follow the color suggestions, and watch your child's memory and enthusiasm truly soar!

Be creative!

Make it your own!

If you would like to send pictures of your completed lapbook, please do!

We would love to display your lapbooks on our website and/or in our newsletter.

Just send your pictures, first initial & last name, and age to us at:

cyndi@knowledgeboxcentral.com

*Exploring Creation With
Botany: Lessons 1-5*
Base Assembly & Layout Guide

You will need 4 folders of any color. Take each one and fold both sides toward the original middle fold and make firm creases on these folds (Figure 1). Then glue (and staple if needed) the backs of the small flaps together (Figure 2).

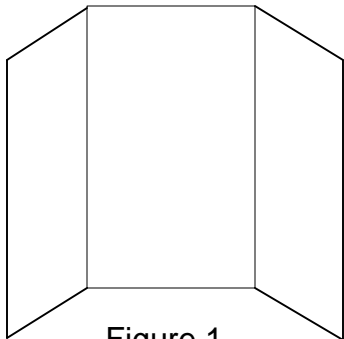


Figure 1

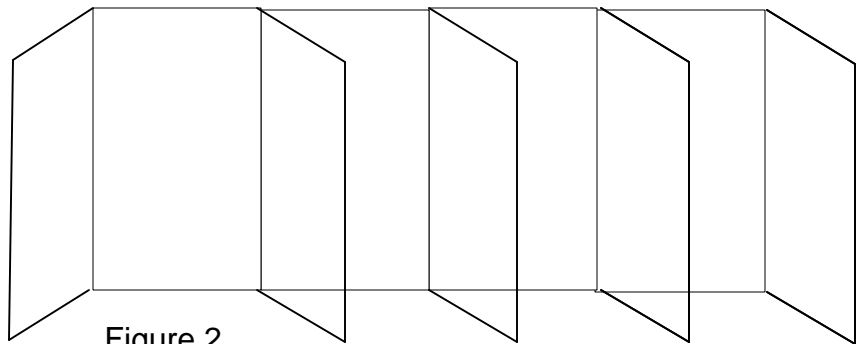
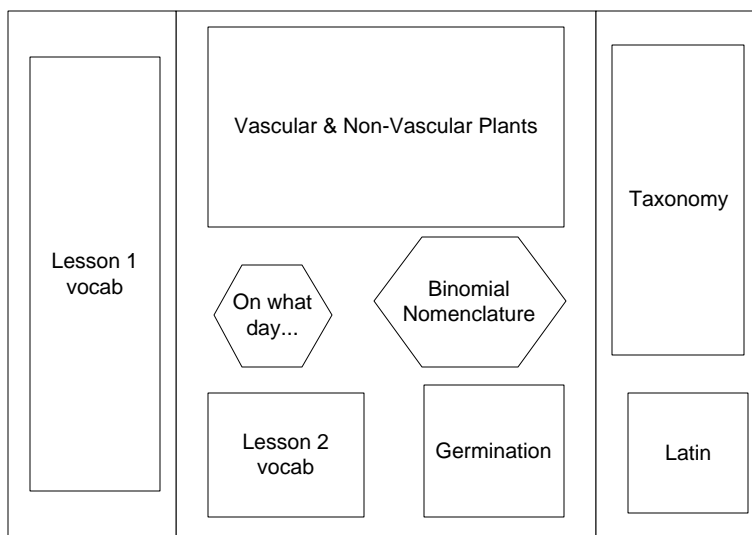


Figure 2

This is the "Layout" for your lapbook. The shapes are not exact on the layout, but you will get the idea of where each booklet should go inside your lapbook.

Inside of 1st Folder:



Inside of 2nd Folder:

Angiosperms	Parts of the flower	More Lesson 3 Vocab
Lesson 3 vocab	Self-Pollination	Animals that pollinate flowers
	Fact	George de Mestral

Inside of 3rd Folder:

Carnivorous Plants	Bees	Draw a seed
What happens after...	Fact	Dominoes
Fact	Seed Dispersal	

Inside of 4th Folder:

Dry Fruits	Name these flowers	Why do most...	Fact
Fleshy Fruits	Evidence...	Draw flower	Word Search

Below are pictures of a completed lapbook. This should help in figuring out how to assemble the booklets and then how to put it all together!



Completed
Lapbook



1st Folder

2nd Folder



3rd Folder



4th Folder



Exploring Creation with Botany

Lessons 1 - 5

Lapbook Student Instruction Guide

Decorate the outside/ cover of your lapbook. The cover of your lapbook has purposely been left blank so that you may decorate it in any style you choose. You may draw, paint, glue pictures, etc. You may print coloring sheets and glue them to the front. The ideas for the front cover are endless. Choose a topic or art project from this unit and HAVE FUN making it your own personalized lapbook!

Also, we have included (in parenthesis) which folder of the lapbook base will contain each booklet.

Lesson 1 (All located in folder #1):

- "On What Day..." Booklet: Do you know what happened on each day of Creation? What happened on the 6th day? You can write the words or draw a picture.
- Binomial Nomenclature Booklet: These are really big words! Do you know what they mean?
- Lesson 1 Vocabulary Booklet: Here are some words that you will study in Lesson 1. Open each flap to write the definitions of the words. If you are younger, your mom may want you to draw pictures or glue in definitions.
- Latin Booklet: Do you know how to speak Latin? It is used by scientists a lot, and it is usually called a "dead language." Do you know why this is?
- Taxonomy Booklet: What is taxonomy? What are the terms that are used for classifying? This booklet provides you with the first letter of each word, along with blanks for the other letters. Can you spell them correctly?
- Vascular vs. Non-Vascular Plants Booklet: Do you know what "vascular" means? Tell the similarities and differences between vascular and non-vascular plants, using this venn diagram.

Lesson 2:

- Lesson 2 Vocabulary Booklet (Located in folder #1): How many vocabulary words from this lesson can you remember? Try to write them or draw pictures for each word.
- Germination Booklet (Located in folder #2): What is germination? It doesn't have anything to do with the germs that come with a cold! Describe it in this booklet.
- Draw & Label a Seed Booklet (Located in folder #3): Have you seen the inside of a seed? Draw one here, and then label its parts.

Lesson 3:

- God's Design for Angiosperms Booklet (Located in folder #2): What is an angiosperm? Do you know why God designed them?
- Label the Flower Booklet (Located in folder #2): How many parts of a flower can you name? Can you tell where they are too? You may also color this flower.
- Carnivorous Plants Booklet (Located in folder #3): What does "carnivorous" mean? Are you carnivorous? Tell about the plants in each of these categories. Also, color the Venus Flytrap on the front of the booklet.
- Lesson 3 Vocabulary Booklet (Located in folder #2): There are many parts of a flower. Some are named here. See if you can write the definitions under each flap.
- More Lesson 3 Vocabulary Booklet (Located in folder #2): Here are even more parts of a flower! See if you can write the definitions under each flap.
- Name the Flowers Booklet (Located in folder #4): Here are several beautiful flowers in a flower pot pocket. Color the flower pot, and then see if you can name the flowers. You might even want to find more flower pictures to place in the flower pot.

Lesson 4:

- Self-Pollination Booklet (Located in folder #2): Do you know what self-pollination is? Tell about it here.
- Bees Booklet (Located in folder #3): Have you ever watched a bee on a flower? What is he doing? There are lots of questions to answer...Why do bees make honey? When do they eat pollen and nectar? When do they eat honey? Is flower color important to bees? What are nectar guides? What is ultraviolet vision? How do bees get pollen?
- Other Animals that Pollinate Flowers Booklet (Located in folder #2): Are bees the only animals that pollinate flowers? Nope...they aren't. Write or draw about butterflies, moths, humming birds, and bats.
- What Happens After... Booklet (Located in folder #3): We have all seen bees and butterflies on a flower....and now we know that they are pollinating....but then what happens???
- "How does pollination..." Booklet (Located in folder #4): Did you know that some people believe that God took longer than 7 days (24-hour periods) for Creation? How does pollination give us evidence that each "day" could have only been 24 hours?
- Favorite Flower Booklet (Located in folder #4): Do you have a favorite flower? Draw a picture of it here.
- "Why do most..." Booklet (Located in folder #4): Most flowers do NOT self-pollinate. Why is that? Explain here.

Lesson 5:

- Seed Dispersal Booklet (Located in folder #3): What is dispersal? Did you know that there are many ways that seeds are dispersed? Tell about these ways: Human, Water, Wind, Mechanical, and Animal. You can draw pictures if you like.
- Fleshy Fruits Booklet (Located in folder #4): What is a "fleshy fruit"? Do you eat them? Tell about them here, and you may want to draw or glue pictures here also.
- Dry Fruits Booklet (Located in folder #4): What is a "dry fruit"? Do you eat them? Tell about them here, and you may want to draw or glue pictures here also.
- George de Mestral Booklet (Located in folder #2): Have you ever used Velcro® for anything? Do you know who invented it and why? Tell about it here.
- Botany Dominoes Booklet (Located in folder #3): Have you ever played dominoes? Well, these dominoes have pictures instead of numbers. Play this game just like regular dominoes, but match the pictures instead of numbers. The first one to use all of his/her dominoes is the winner!
- Vocabulary Word Search (Located in folder #4): Do you like word searches? See if you can find your vocabulary words within this puzzle.

Exploring Creation With Botany

Lessons 1 - 5

Lapbook Assembly Guide

Inside of 1st Folder:

1. On What Day.. Booklet: Cut out along the outer black lines, and fold in the center, so that the title is on the front.
2. Binomial Nomenclature Booklet: Cut out along the outer black lines, and fold in the center, so that the title is on the front.
3. Lesson 1 Vocabulary Booklet: Cut out along the outer black line edges. Then, fold along the center vertical line, so that the words are on the outside. Now, fold along the other 2 vertical lines so that the title is on the outside, and the vocabulary words are on the inside. Now, cut along the dotted lines, creating little “flaps” to write beneath. See picture below:

Outside of
booklet:



Inside of
booklet:



4. Latin Booklet: Cut out along the outer black line edges. Then, fold accordion-style, so that the title is on the front, and a blank is on the back.
5. Taxonomy Booklet: Cut out along the outer black line pages. Now, glue to a piece of paper that is slightly larger and of a different color, creating a small border all the way around.
6. Vascular & Non-Vascular Plants Booklet: Cut out each page along the outer black line edges. Then, glue to a slightly larger piece of paper of a different color, creating a small border all the way around.
7. Lesson 2 Vocabulary Booklet: Cut out along the outer black line edges of each page. Stack them so that the title page is on the front and the blank page is on the back. Punch 2 holes along the left edge of the stack, and secure with ribbon or yarn, tied in a bow or knot.
8. Germination Booklet: Cut out along the outer black line edges. Then, fold along both vertical lines, so that the rounded edges almost meet, and the title is on the front. Punch a hole through both circles, and secure with a loosely tied bow. See picture below:



Inside of 2nd Folder:

1. What is God's Plan ...Angiosperms Booklet: Cut out along the outer black line edges of this booklet. Then, fold along the center line so that the title is on the front.
2. Label the Parts of a Flower Booklet: Cut out along the outer black line edges. Then, secure to a slightly larger piece of paper of a different color, so that you have a slim border around the edges.
3. Self-Pollination Booklet: Cut out along the outer black line edges, and then fold along the center line so that the title is on the front.

4. Lesson 3 Vocabulary: Cut out along the outer black line edges. Then, fold along the vertical line that is closest to the center, so that the words are on the outside. Now, cut along the short lines between the words. Then fold along the other vertical line, so that the title folds over the "flaps" with the vocabulary words on them. See picture.



5. More Lesson 3 Vocabulary: (identical to the one above) Cut out along the outer black line edges. Then, fold along the vertical line that is closest to the center, so that the words are on the outside. Now, cut along the short lines between the words. Then fold along the other vertical line, so that the title folds over the "flaps" with the vocabulary words on them.



6. "Animals that pollinate flowers" Booklet: Cut out along the outer black line edges of each butterfly. Fold the title page and 3 of the others in the center. Stack them all together, and then put a staple in the very center at the top. This will create a booklets that resembles "flying wings." See the picture.

7. George de Mestral Booklet: Cut out along the outer black line edges, and then fold along the center line, so that the title is on top. Cut a tiny piece of Velcro and Velcro backing to place inside on the edge of the booklets, if you want.

8. Amazing Fact Booklet: Cut out along the outer black line edges of the booklet, and then accordion-fold, so that the title is on top.

Inside of 3rd Folder:

1. Carnivorous Plants Booklet: Cut out along the outer black line edges of each page. Then, stack them together, so that the title is on top, and each page is progressively longer. Now punch a hole in the top of the stack, and secure with a metal brad fastener. See picture.



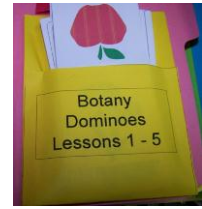
2. "What happens after a flower pollinates.." Booklet: Cut out along the outer black line edges of the booklet, and then fold so that the title is on the front.

3. Bees Booklet: Cut out along the outer black line edges of the large background page with the graphic on it. Also, cut out the 6 small booklets. Fold each small booklet along its center line, so that the words are on the outside. Now, glue these 6 small booklets onto the background page, 3 in each row, so that the top row edges barely come just under the graphic. Now, fold the entire booklet horizontally so that the word and graphic on the background page is still visible, but the booklets are hidden on the inside. See picture.



4. "Draw an open seed" Booklet: Cut out along the outer black line edges of the page. Then, glue to a slightly larger piece of paper of a different color, so that you have a small border all the way around. Now fold then entire booklet in half, vertically. Only one side of the booklet is glued to the folder/lapbook base.

5. Botany Dominoes Booklet: Print the dominoes on cardstock, for better durability. Cut out along the outer black line edges of the all dominoes and the pocket. Fold the pocket along the horizontal line, and use hot glue on the edges to make the pocket more durable for “in and out” frequent use. See picture.



6. Seed Dispersal Booklet: Cut out around each page of the booklet along the outer black lines. Stack so that the title is on the front and the “tabs” on the pages get longer toward the back. Staple along the left side of the stack, and glue a ribbon (tied in a bow or straight) over the staples.

7. Amazing Fact Booklet(s): Cut out along the outer black line edges. Fold along the center line, so that the title is on the front.

Inside of 4th Folder:

1. Dry Fruits Booklet: Cut out along the outer black line edges of the all of the pieces. Then, stack them together, so that the corn is on top. Punch a hole through the bottom of the stack, and secure with a metal brad fastener.

2. Amazing Fact Booklets: Cut out along the outer black line edges of the booklet. Fold along the center line, keeping the title on the front.

3. Fleshy Fruits Booklet: Cut out along the outer black line edges of each piece. Then, stack them together, so that the pear is on top. Punch a hole through the top, and secure with a ribbon, tied in a knot.

4. Name the flowers Booklet: Print this booklet out on cardstock for better durability. Cut out along the outer black line edges of the 2 flower pot shapes. Stack them together with the title on top and the flower inside. Use hot glue to attach the flower pot shapes together, but ONLY around the side and bottom edge. Place the flower cards inside the flower pot booklet, from the top. See picture.



5. “How does pollination give evidence...” Booklet: Cut out along the outer black line edges, and fold along the center line, so that the title is on the front.

6. Favorite Flower Booklet: Cut out along the outer black line edges. Then, secure to a piece of paper of a different color. Cut around it again, so that there is a small border around the edges.

7. Word Search: Cut out along the outer black line edges. Then, secure to a piece of paper of a different color. Cut around it again, so that there is a small border around the edges. Now, fold along the vertical center, and only attach one side of the booklet to the folder/lapbook base.

8. “Why do most flowers...” Booklet: Cut out along the outer black line edges of both pages. Now, stack them together with the title on top. Punch a hole in the top of bottom, and secure with a ribbon tied in a bow.

Exploring Creation With Botany

Lessons 1 – 5 Lapbook

Teacher's Guide

Here, you'll find information to supplement your study. Jeannie Fulbright's book is so wonderfully filled with knowledge and wisdom. All of the information needed to complete all of the booklets can be found on the pages of her book. Below, I will tell you which pages hold specific "answers." Also, you'll find many other sites listed, where you may want to go for extra information, coloring pages, games, crafts, and ideas to extend your study.

Lesson 1:

- "On What Day..." Booklet: Answers found on page 2
- Binomial Nomenclature Booklet: Answers found on page 5
- Lesson 1 Vocabulary Booklet: Answers found throughout lesson
- Latin Booklet: Answers found on pages 2-3
- Taxonomy Booklet: Answers found on pages 4-5
- Vascular vs. Non-Vascular Plants Booklet: Answers found on pages 8-14

Additional Resources for Lesson 1:

- * Site with a lot of information, mostly advanced, but nice pictures : <http://faculty.clintoncc.suny.edu/faculty/Michael.Gregory/files/Bio%20102/Bio%20102%20lectures/Seed%20Plants/seed%20plants.htm>
- * Classification & Taxonomy: <http://sln.fi.edu/tfi/units/life/classify/classify.html>

Lesson 2:

- Lesson 2 Vocabulary Booklet : Answers found throughout lesson
- Germination Booklet : Answers found on pages 24-26
- Draw & Label a Seed Booklet : Answers found on pages 26-28

Additional Resources for Lesson 2:

- * Great site for EVERYTHING about seeds and germination: <http://www.urbanext.uiuc.edu/gpe/case3/case3.html>
- * Seeds: <http://theseedsite.co.uk/seedparts.html>
- * Seeds: http://conference.uhh.hawaii.edu/hsta/what_seeds.htm

Lesson 3:

- God's Design for Angiosperms Booklet: Answers found on pages 35-37
- Label the Flower Booklet: Answers found on page 41
- Carnivorous Plants Booklet: Answers found on pages 43-46
- Lesson 3 Vocabulary Booklet: Answers found throughout the chapter
- More Lesson 3 Vocabulary Booklet: Answers found throughout the chapter
- Name the Flowers Booklet: Answers found throughout the chapter

Additional Resources for Lesson 3:

- * GREAT site for purchasing seed pods and root viewers: http://www.wackyworldsof.com/html/root_viewer.html
- * This is a site that has info about carnivorous plants. Just click on the plant on the left side of the page: <http://www.steveconrad.co.uk/bog/>
- * More on carnivorous plants: http://www.botany.org/carnivorous_plants/
- * Great site about flowers: <http://curriculum.calstatela.edu/courses/builders/lessons/less/les8/flower.html>
- * Color flower pictures: <http://www.coloring-page.net/flowers.html>
- * Flower coloring pages: <http://www.coloring.ws/flowers.htm>

Lesson 4:

- Self-Pollination Booklet: Answers found on page 49
- Bees Booklet: Answers found on pages 51-59
- Other Animals that Pollinate Flowers Booklet: Answers found on pages 61-64
- What Happens After... Booklet: Answers found on page 67
- “How does pollination...” Booklet: Answers found on pages 52-53

Additional Resources for Lesson 4:

- * Bees Crafts: <http://www.dltk-kids.com/animals/mbee.html>
- * Lots of info about bumble bees: http://www.everythingabout.net/articles/biology/animals/arthropods/insects/bees/bumble_bee/

Lesson 5:

- Seed Dispersal Booklet: Answers found on pages 73-78
- Fleshy Fruits Booklet: Answers found on pages 81-82
- Dry Fruits Booklet: Answers found on pages 82-83
- George de Mestral Booklet: Answers found on page 78
- Botany Dominoes Booklet: Play this game like regular dominoes, except that you should match up pictures instead of numbers. First one to run out of dominoes wins.

Additional Resources for Lesson 5:

- * Fruit Game: <http://www.freshforkids.com.au/index.html>

Additional Resources for ALL LESSONS:

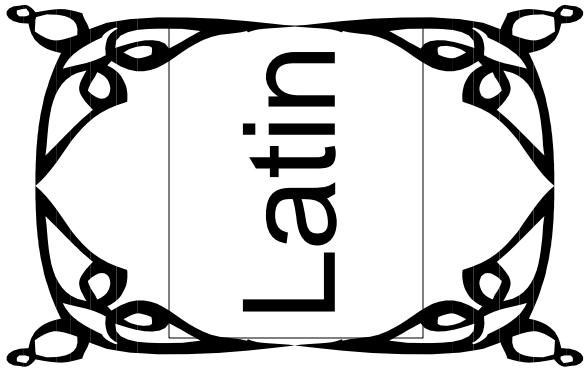
- * Lots of great information: <http://www.backyardnature.net/botany.htm>
- * The Great Plant Escape: <http://www.urbanext.uiuc.edu/gpe/gpe.html>
- * Lots more great info: <http://www.ars.usda.gov/is/kids/plants/plantsintro.htm>
- * Plants Acrostic: <http://www.teach-nology.com/worksheets/science/plants/poem/>
- * Lots of Plant Printables: <http://www.teach-nology.com/worksheets/science/plants/>
- * Kids Gardening Site: <http://www.kidsgardening.com/teachers.asp>
- * Sequence Cards: <http://members.tripod.com/archjrc/activity/flower.html>

Lesson 1

On what day did God
create plants?



**Paper
Suggestion:
Green**



Why is it called
a dead
language?

Why do
scientists use
Latin?

Latin words I
know:

Lesson 1

What is
Binomial
Nomenclature?

Conifer

Botany

Taxonomy

Ptero

Biology

L
E
S
S
O
N

1

V
O
C
A
B
U
L
A
R
Y

Classification

Antho

Bryo

Gymnosperms

Angiosperms

TAXONOMY

K _ _ _ _ _

P _ _ _ _ _

C _ _ _ _ _

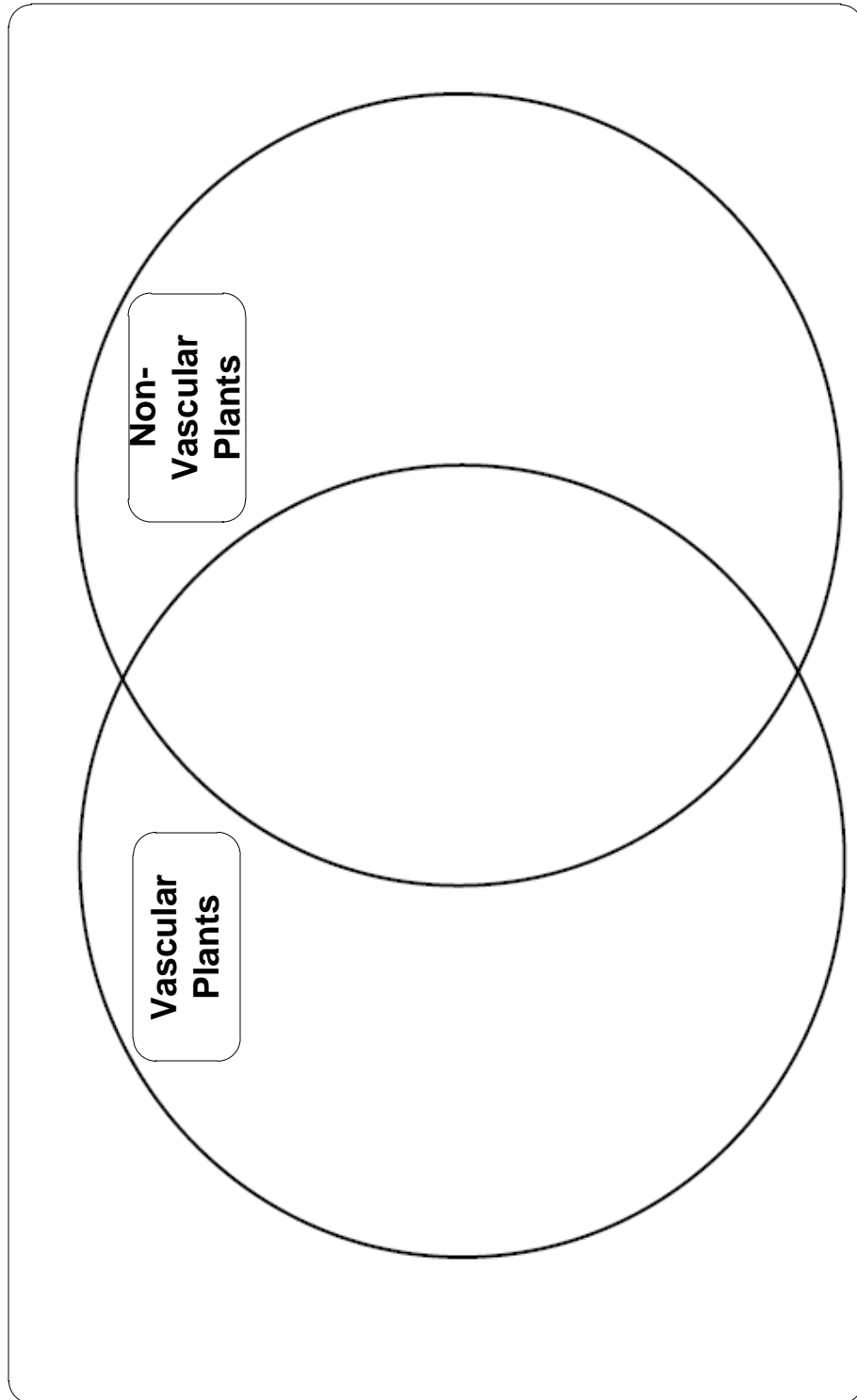
O _ _ _ _ _

F _ _ _ _ _

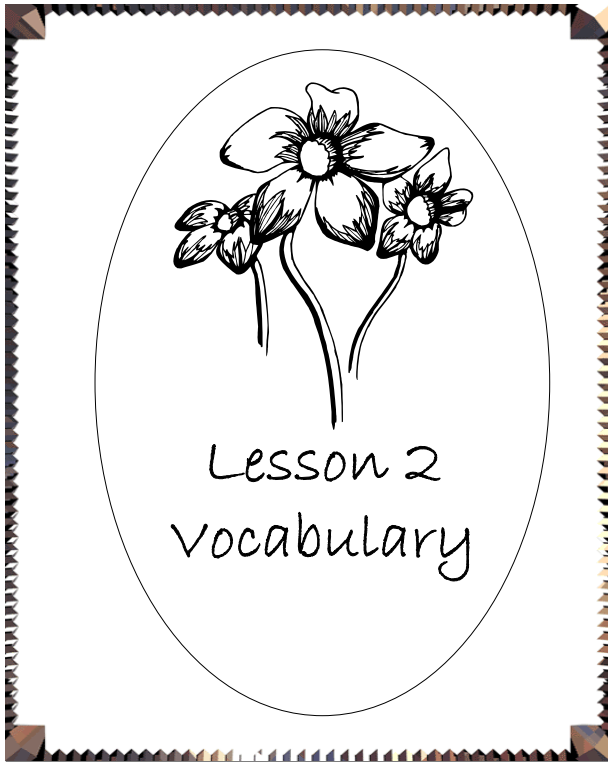
G _ _ _ _ _

S _ _ _ _ _

Lesson 1



Lesson 2



Dormant

Seedling

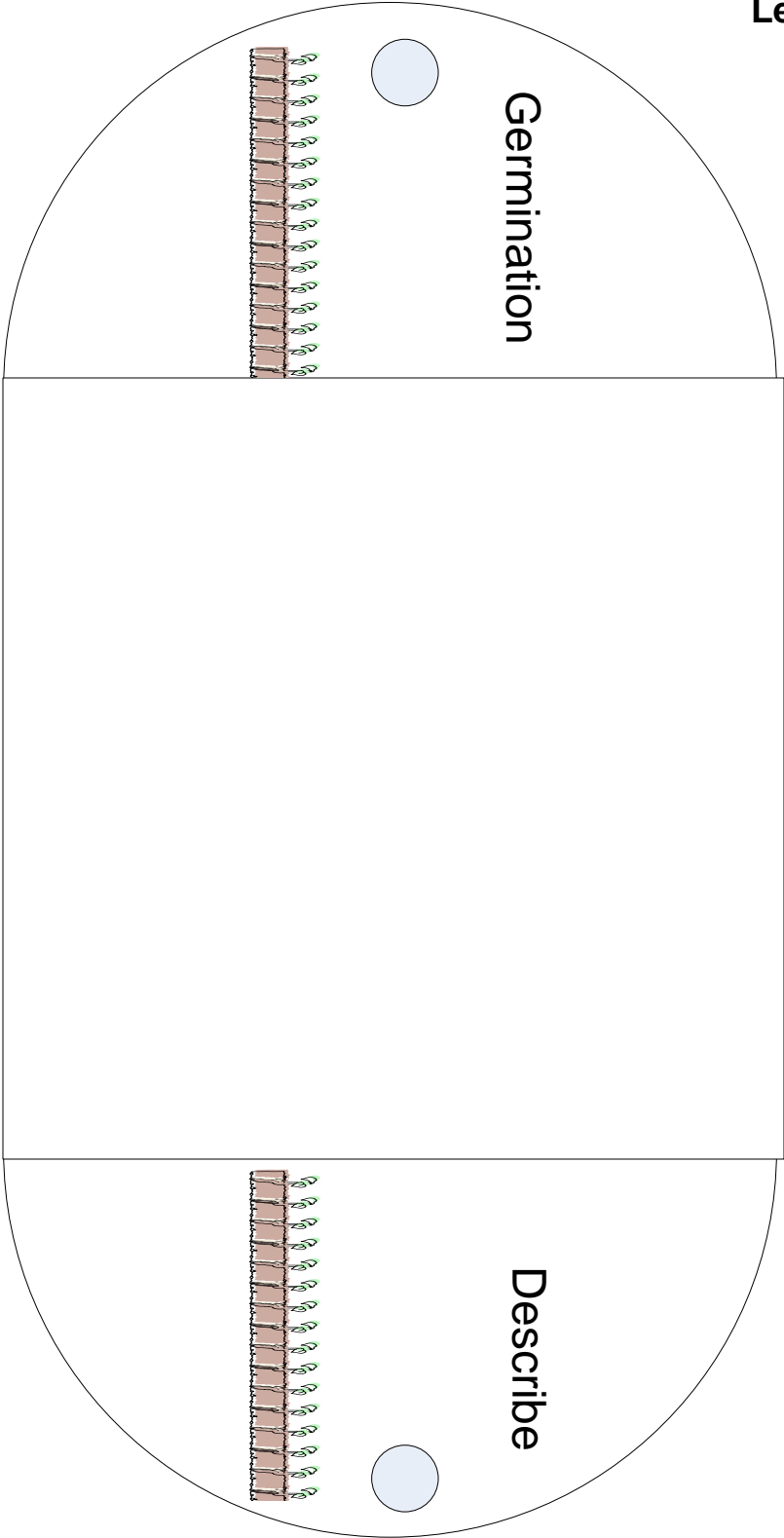
Testa

Lesson 2

Helium

Monocot

Dicot

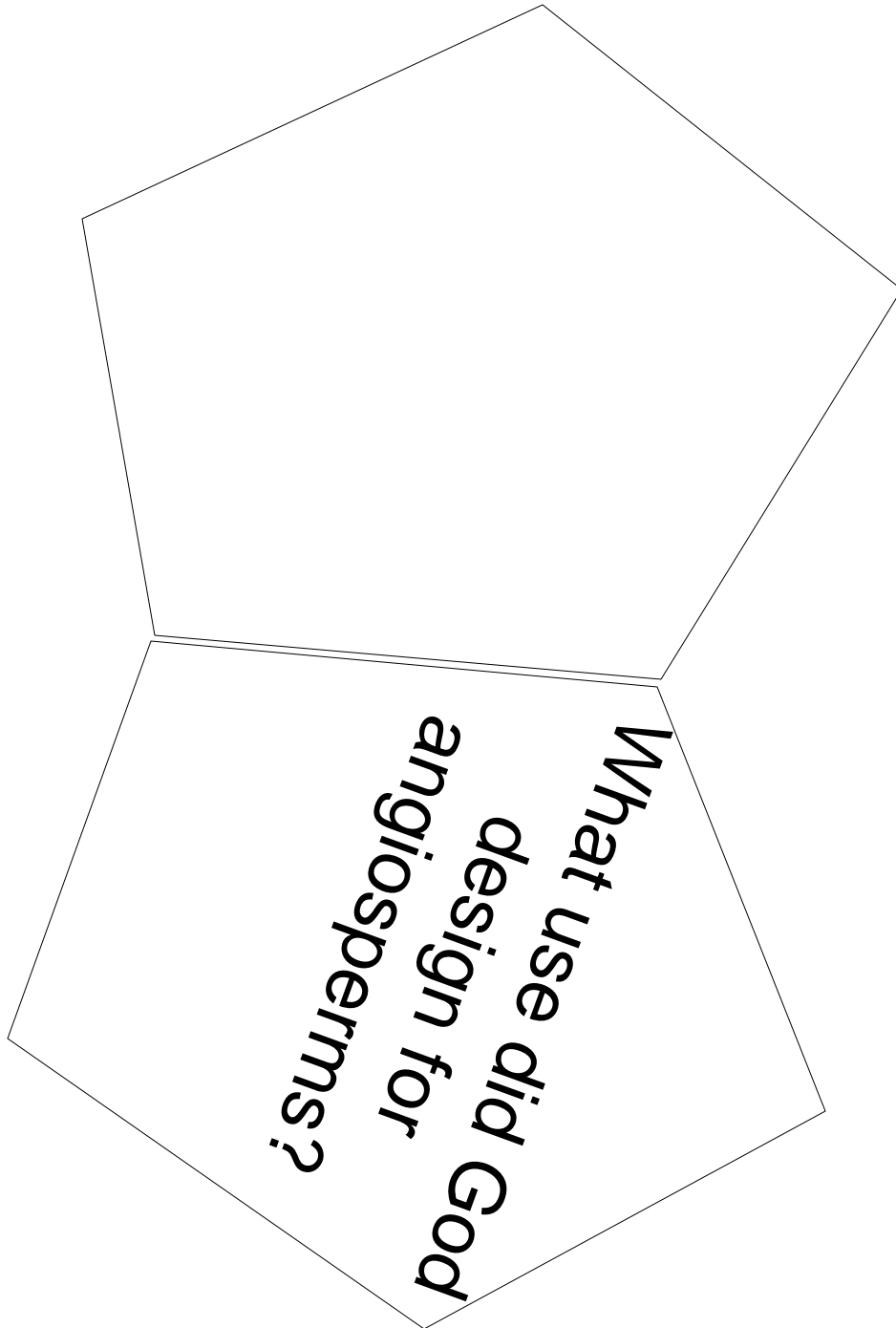


**Paper
Suggestion:
Green**

Lesson 2

Draw an open seed, like the one on page 24. Label these parts:
Epicotyl, Radicle, Cotyledons,
Plumule, Hypocotyl

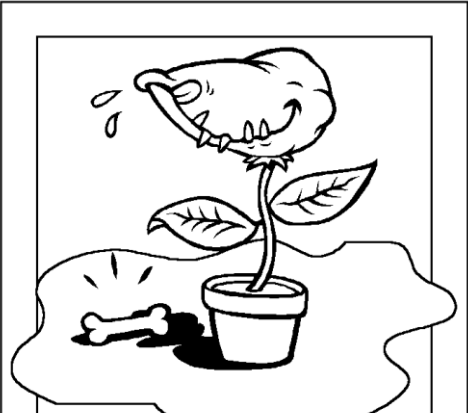
Lesson 3



Lesson 3



**Label the parts of
the flower.**



**Carnivorous
Plants**

**Venus Flytrap
Family**

**Bladderwort
Family**

**Pitcher Plant
Family**

Continue ON.....



Lesson 3

**Sundew
Family**

Petals

Sepals

Corolla

Calyx

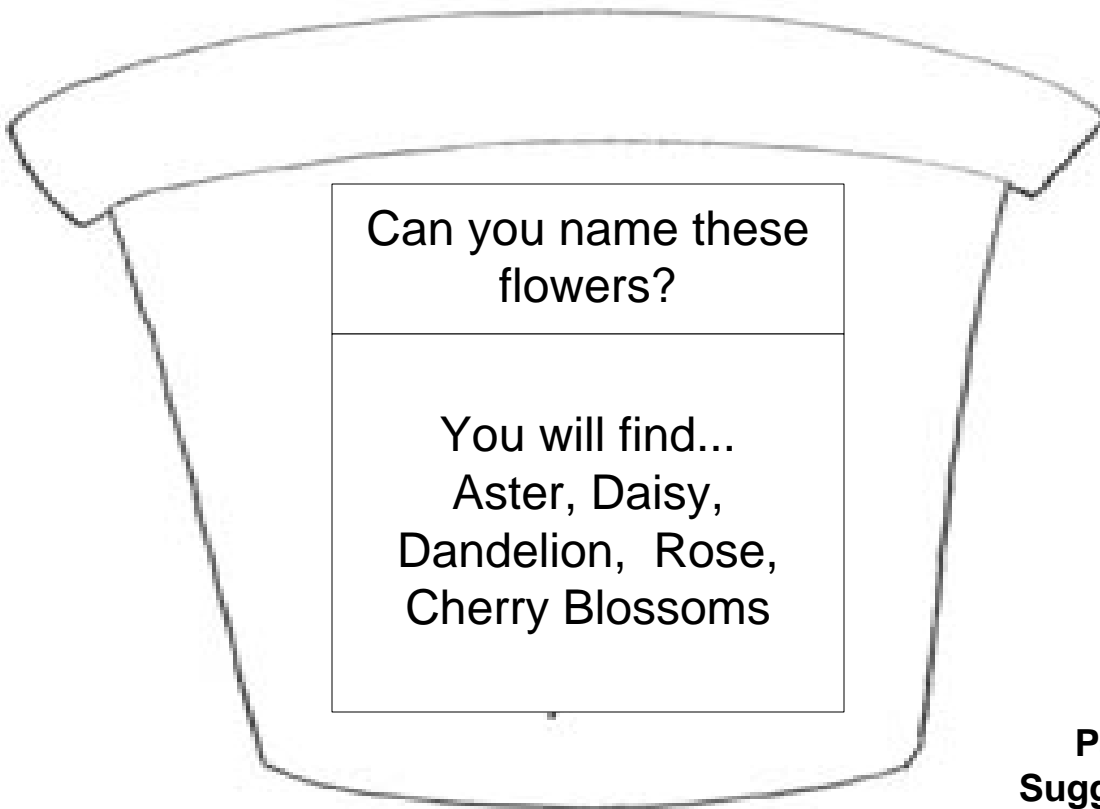
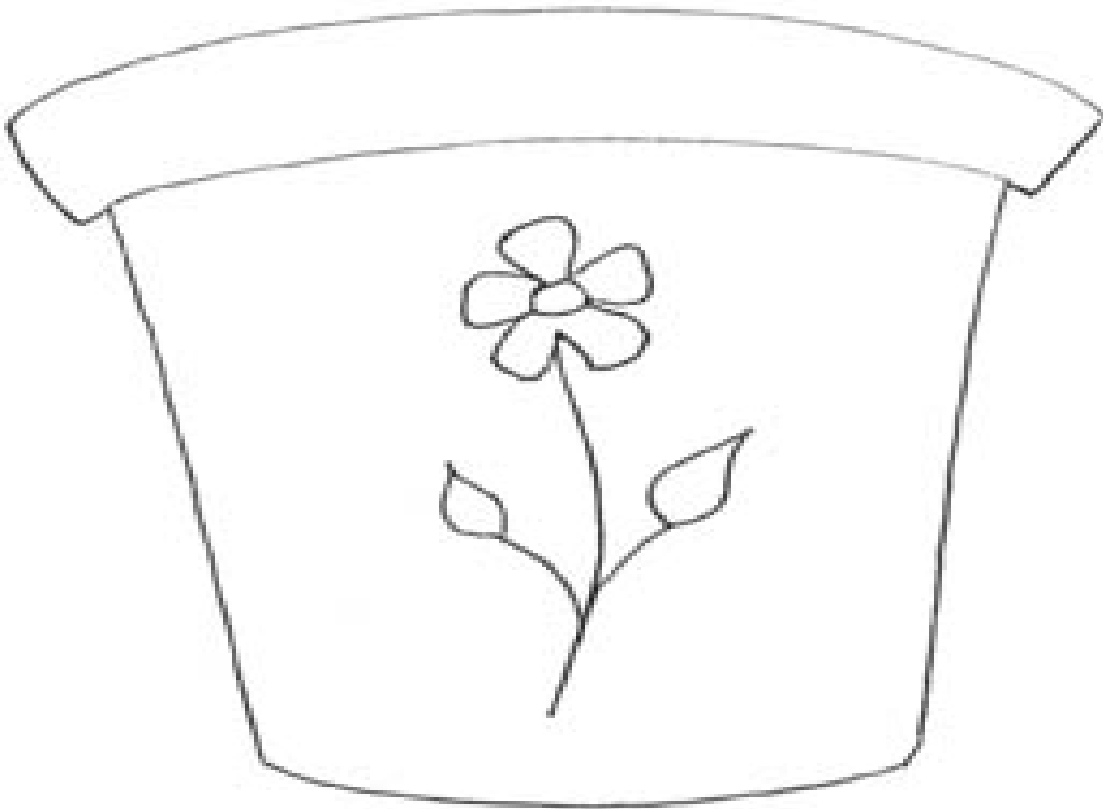
Nectar

Stamen

Lesson 3 Vocabulary

Lesson 3

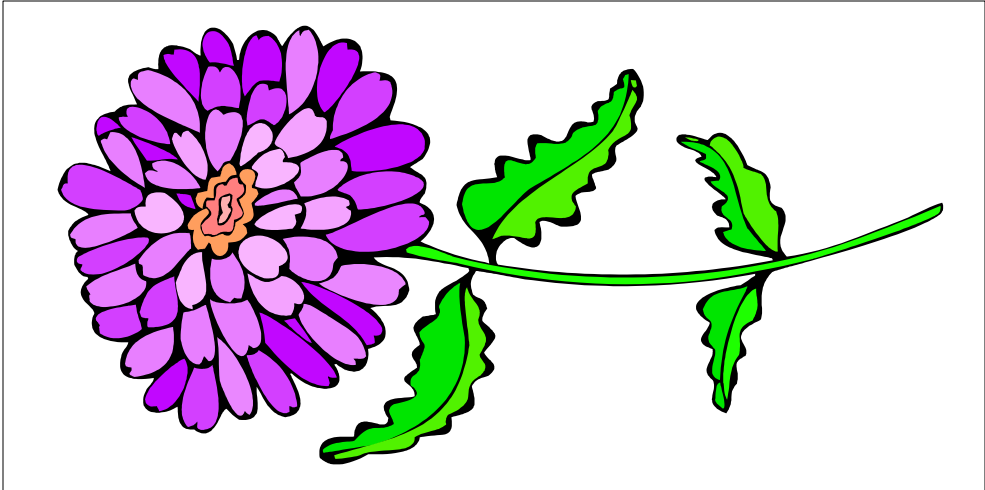
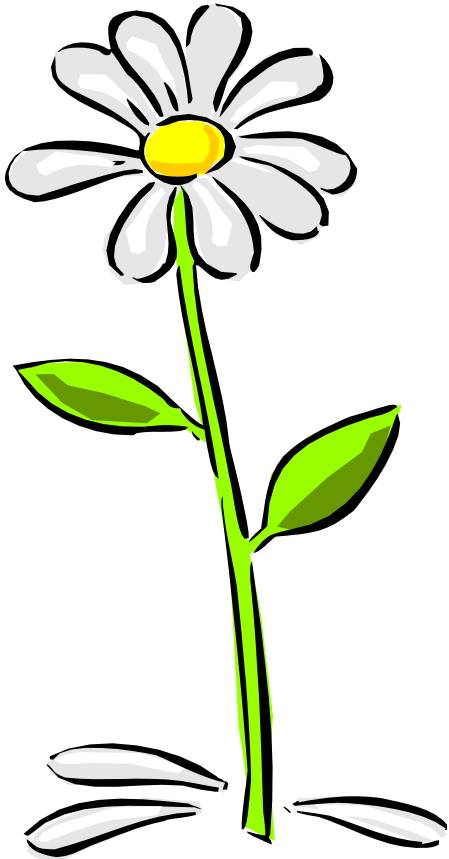
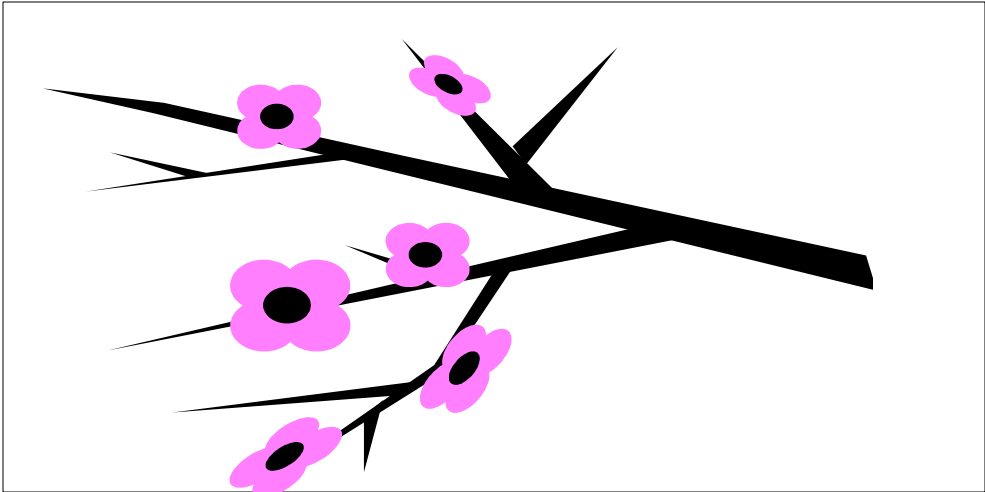
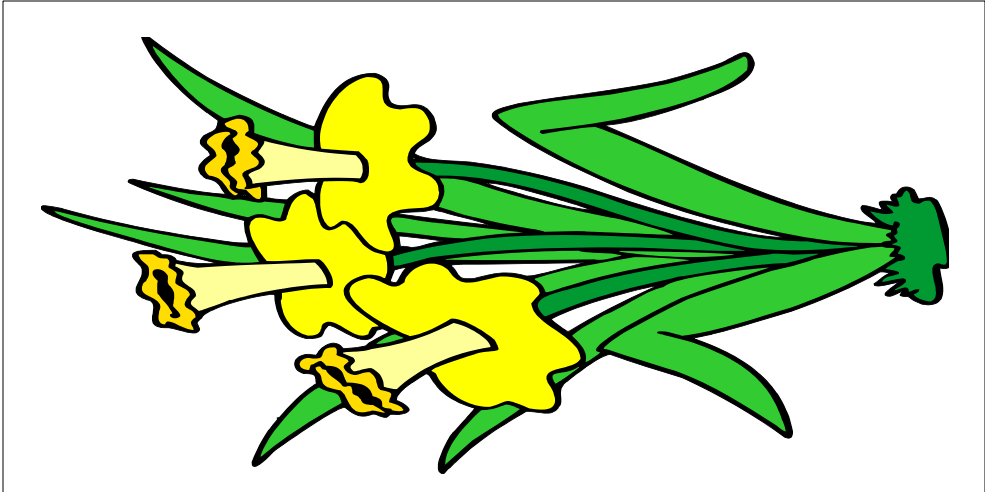
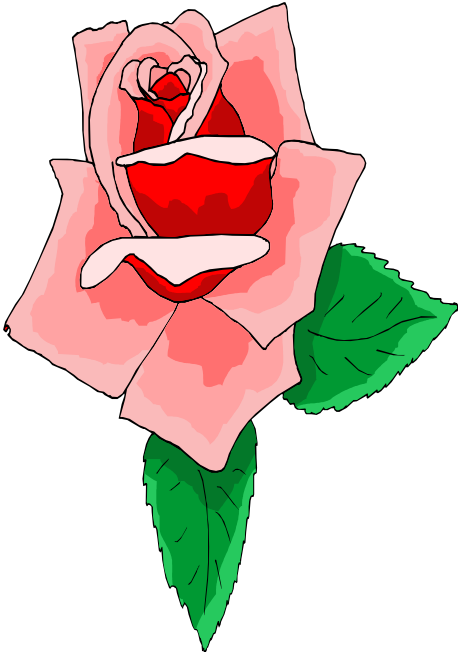
Filament		More Lesson 3 Vocabulary
Anther		
Carpel		
Stigma		
Style		
Ovary		



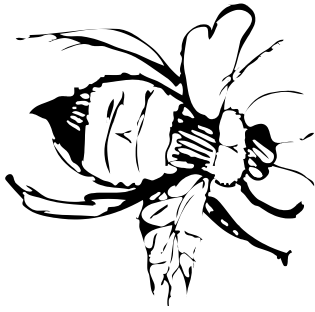
**Paper
Suggestion:
Any color
cardstock**

Lesson 6

**Paper
Suggestion:
White cardstock
w/colored ink**



What is Self-Pollination?



Bees

Paper
Suggestion:
Yellow paper

Why do bees make honey?

When do bees eat pollen and nectar?

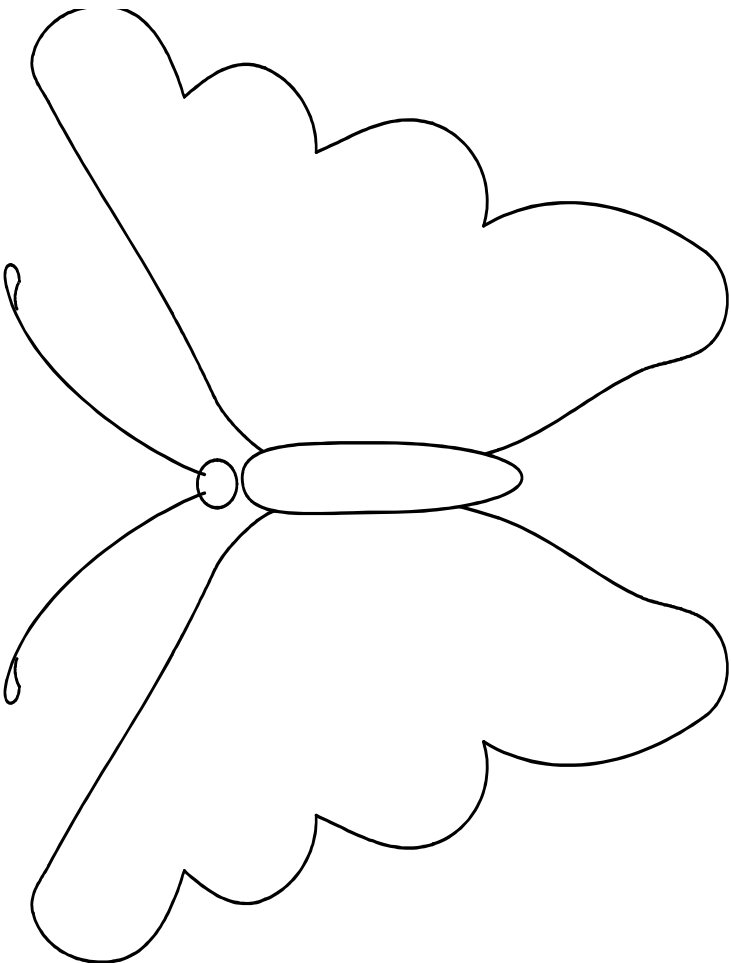
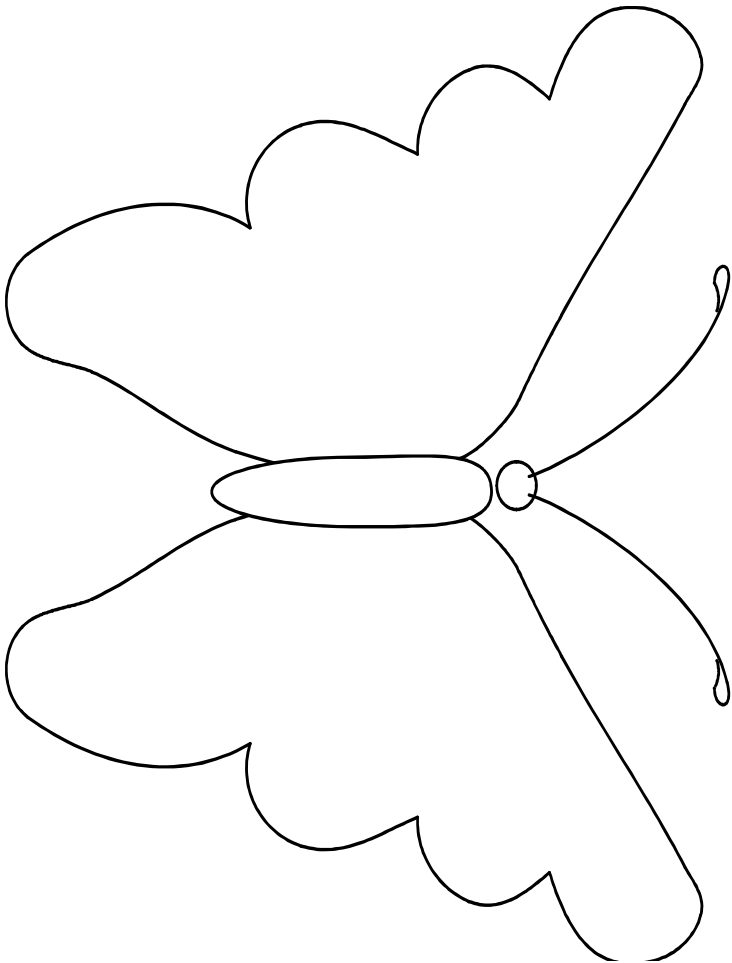
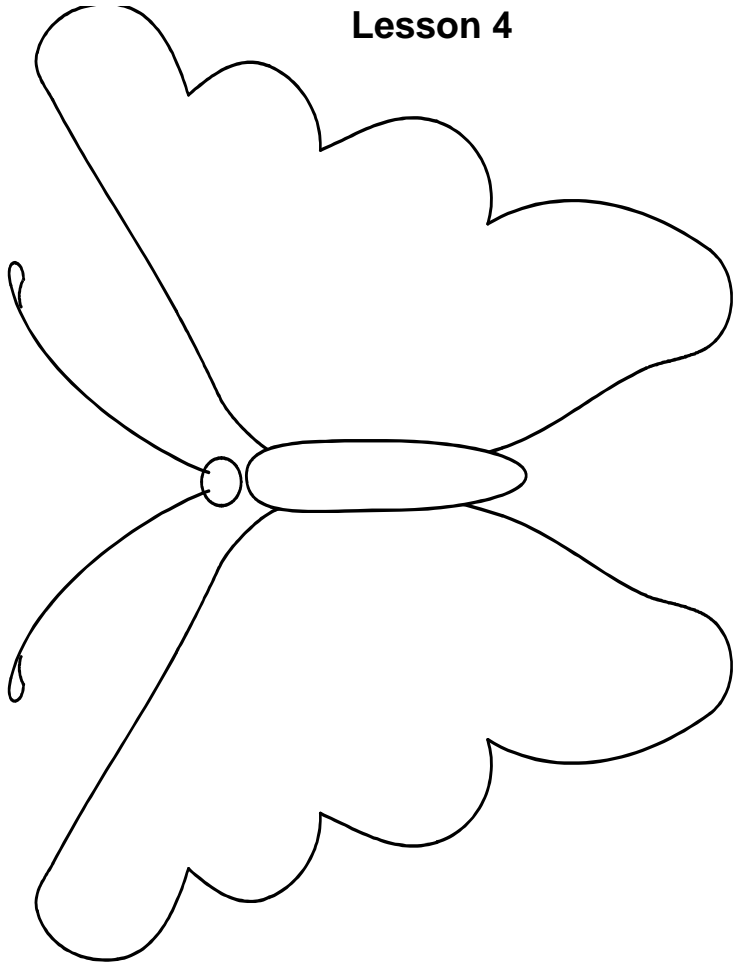
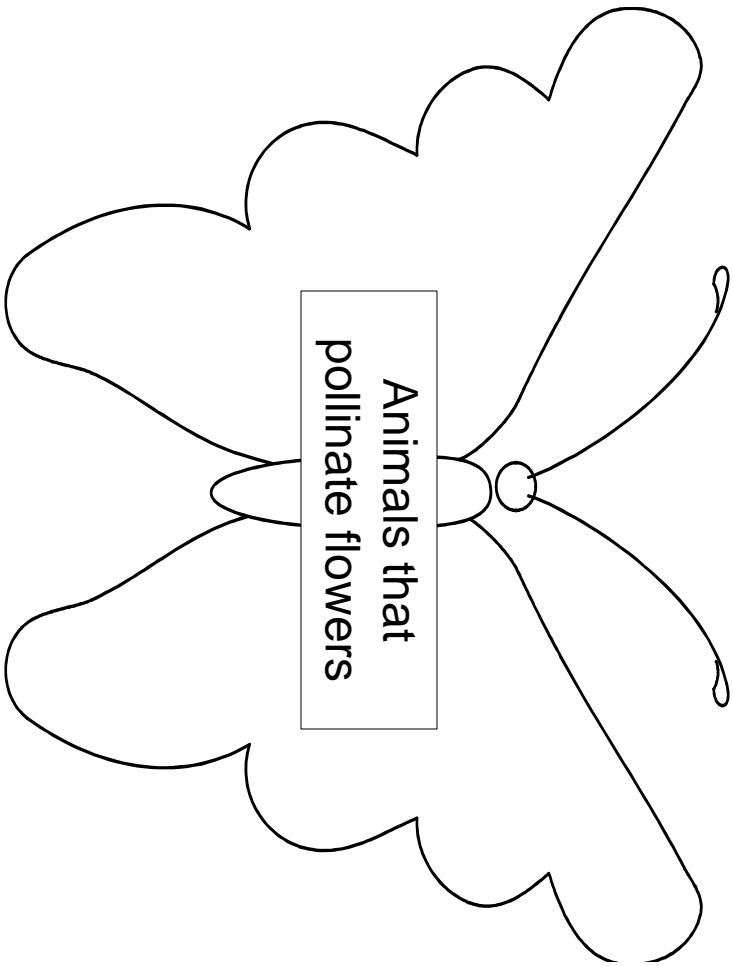
When do bees eat honey?

Flower Color

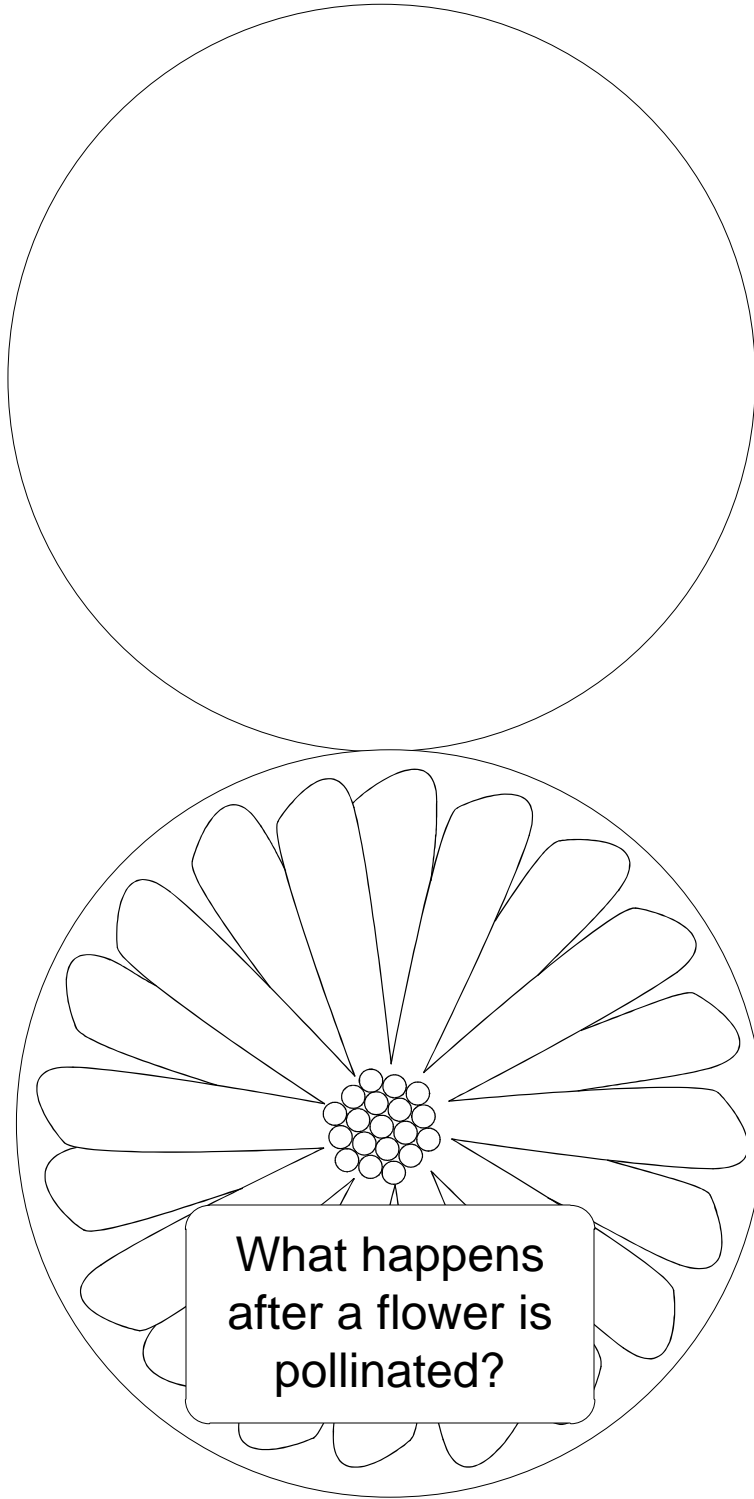
Nectar Guides

Ultraviolet Vision

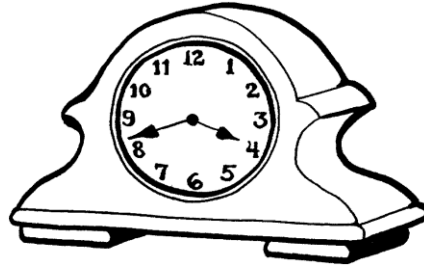
Animals that
pollinate flowers



Lesson 4



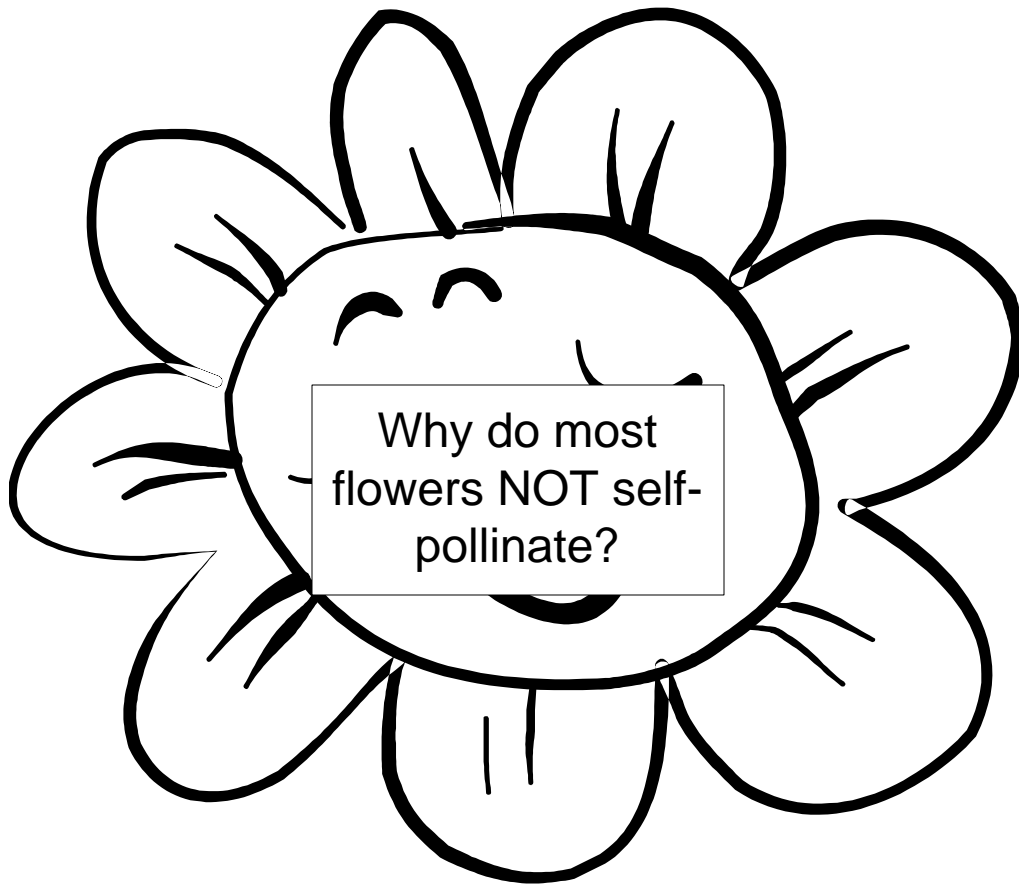
Lesson 4



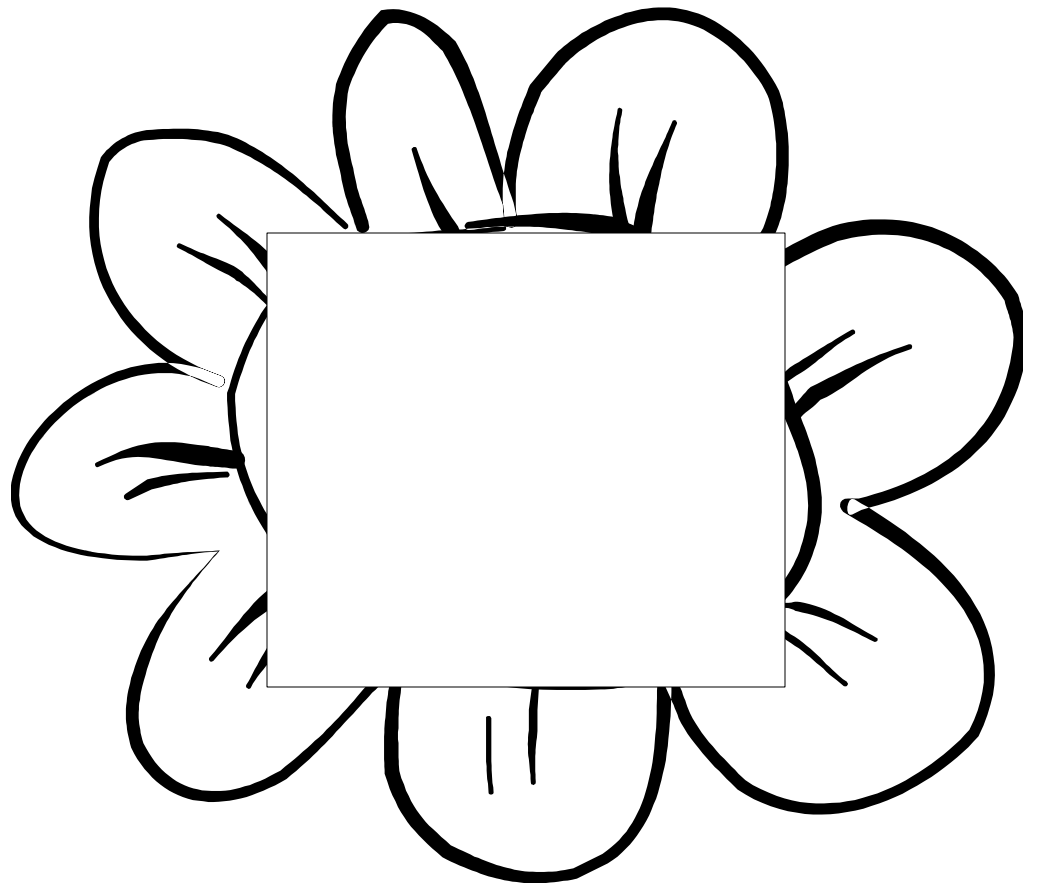
How does pollination
give evidence that the
days in Genesis were
24 hours long?

Lesson 4

Draw a picture of your
favorite flower



Why do most
flowers NOT self-
pollinate?





Human

Lesson 5

		Water
--	--	-------

			Wind
--	--	--	------

Lesson 5

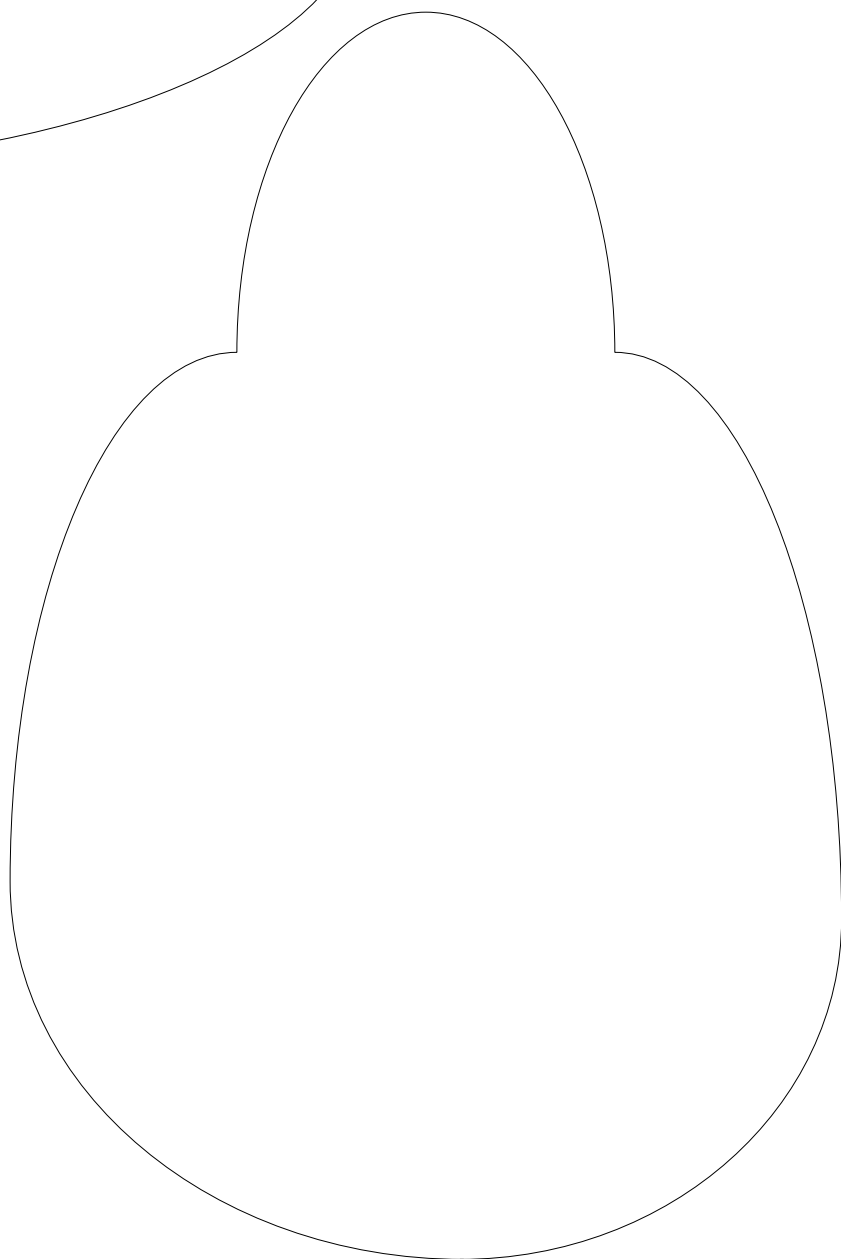
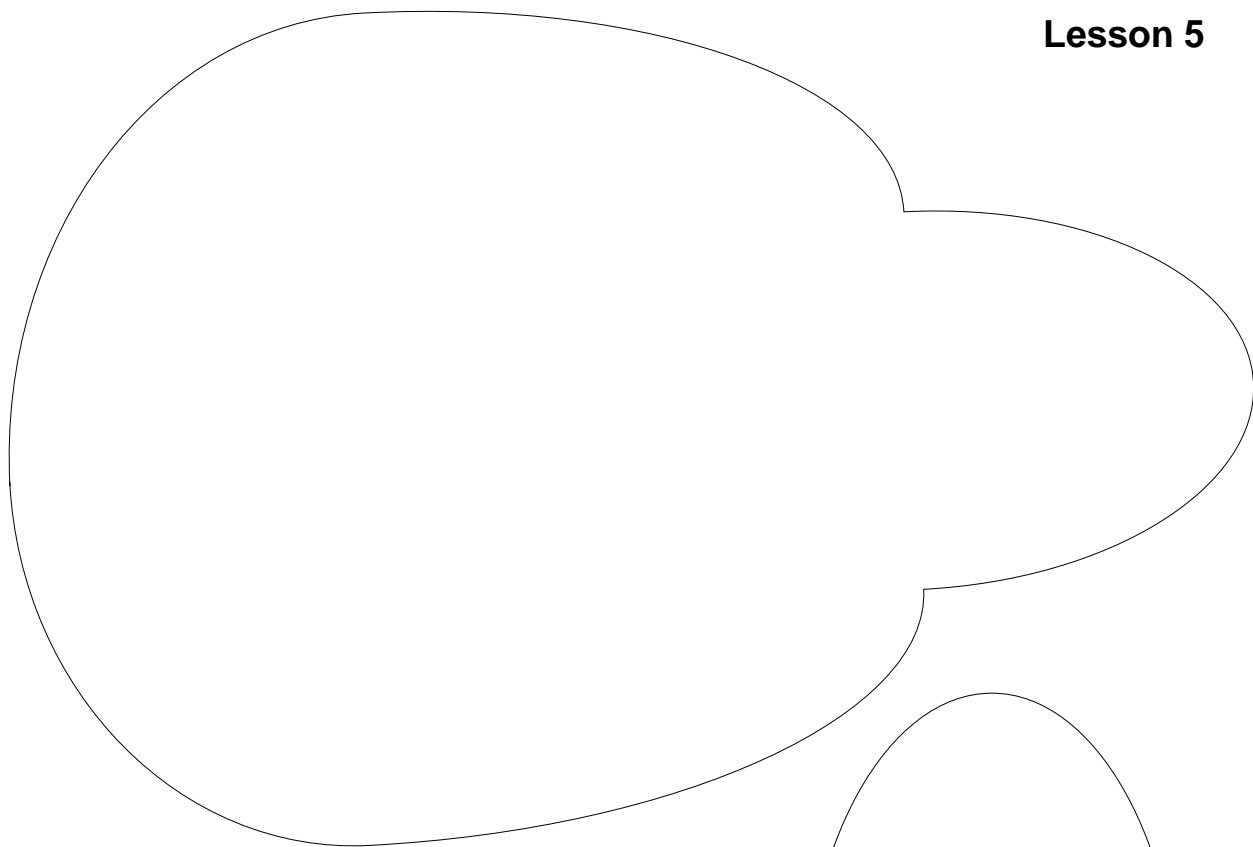
				Mechanical
--	--	--	--	------------

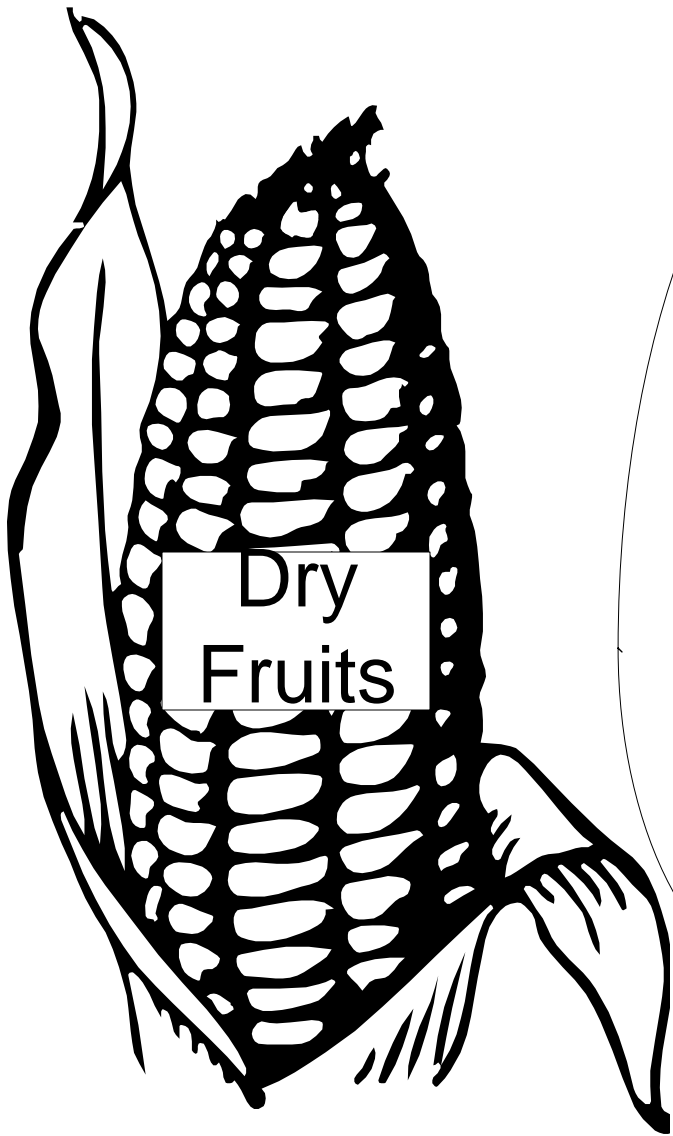
					Animals
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Lesson 5

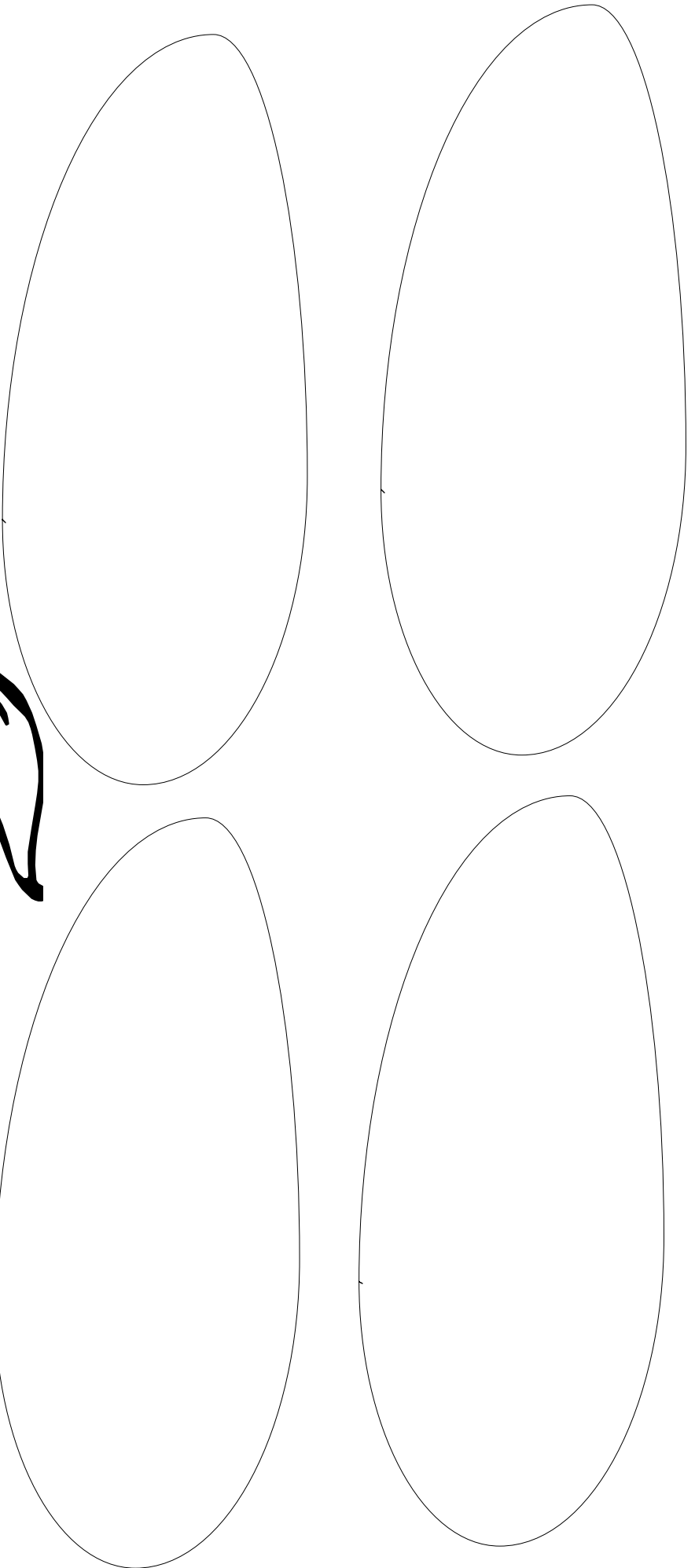


Lesson 5

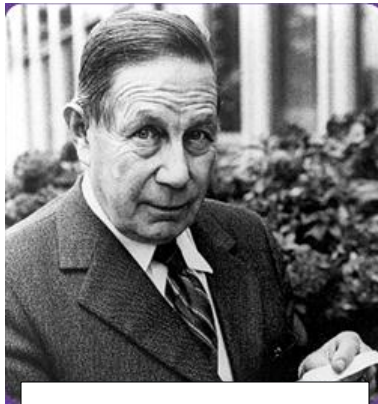




**Paper
Suggestion:
Yellow paper**



Lesson 5



George de
Mestral

Lesson 5

PHYLUM
BLADDERWORT
DICOT
BEES
POLLEN
PETAL
STIGMA

SEED
ANATOMY
GERMINATION
MONOCOT
MOTH
TAXONOMY
BUTTERFLY

HERBS
FRUIT
POLLINATION
FLOWER
NECTAR
ANGIOSPERM

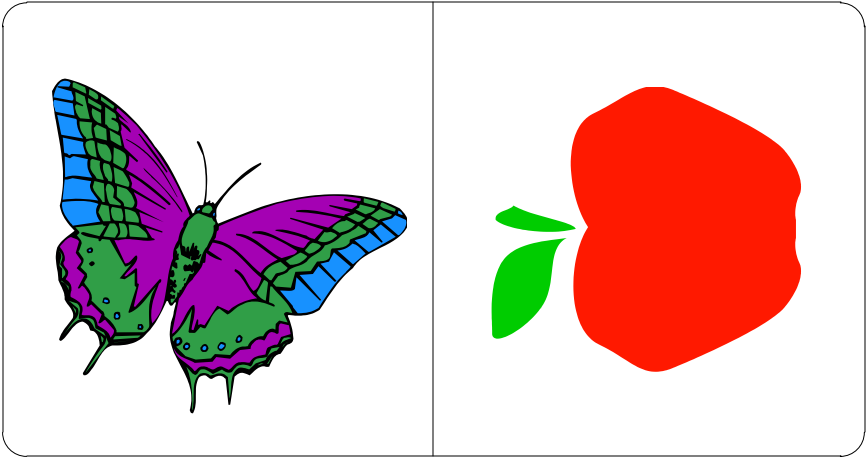
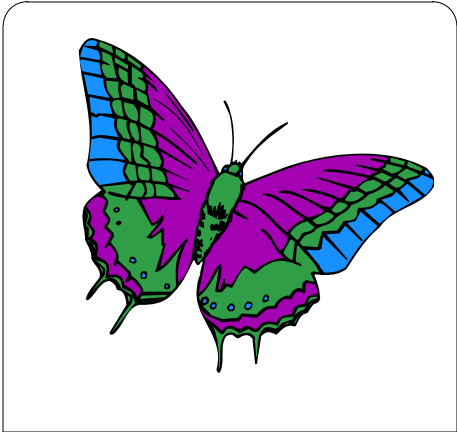
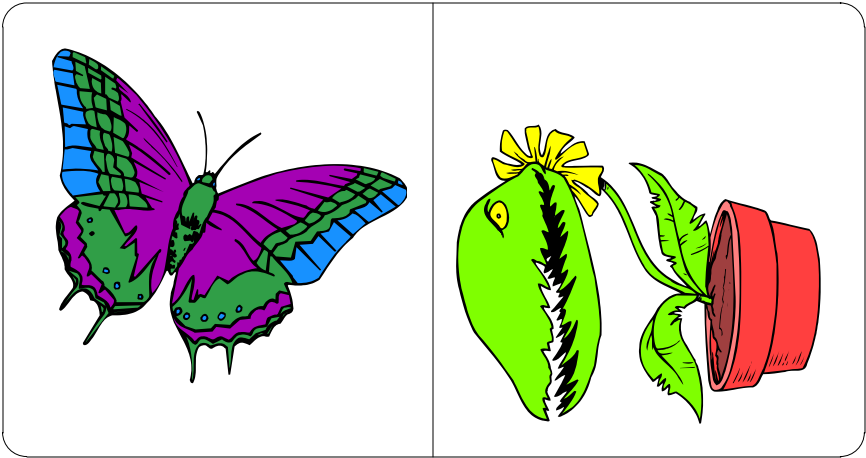
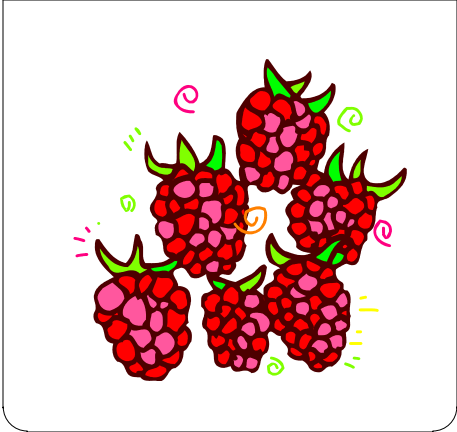
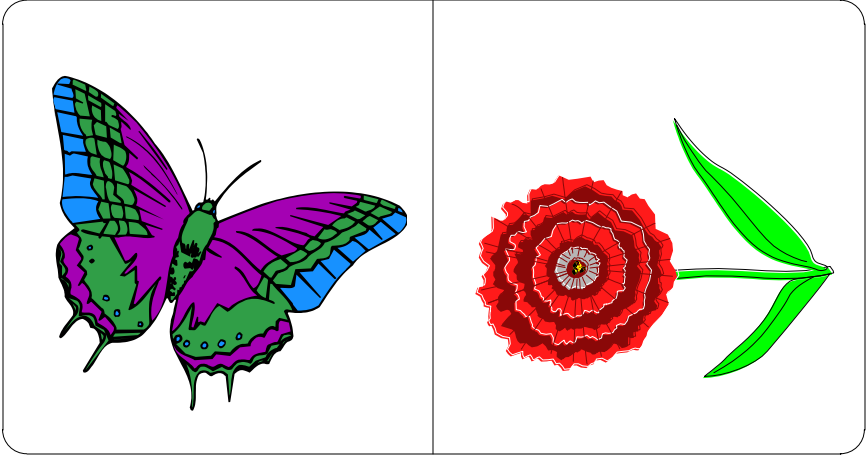
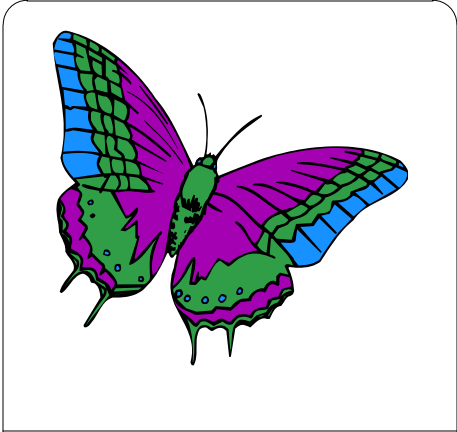
T T A X O N O M Y B H E R B S
I M P O L L E N S L Y E N F R
U S T I G M A B B A L A O H E
R H D E E S R C E D F M I E H
F R A T C E N Y E D R P T R T
M U L Y H P M R S E E Y A B E
T O C O N O M H P R T H N S E
D I C O T S T S A W T P I T N
S A F A E O O W A O U E L O M
B N N E M I T E M R B T L C R
R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

Lesson 5

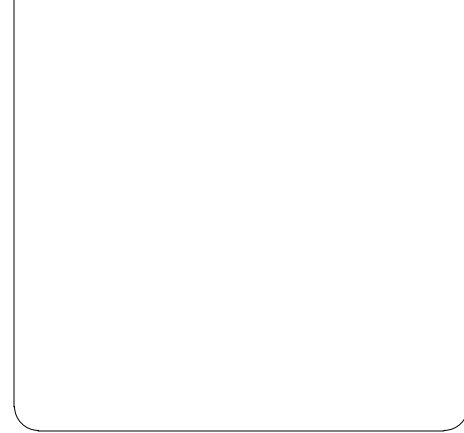
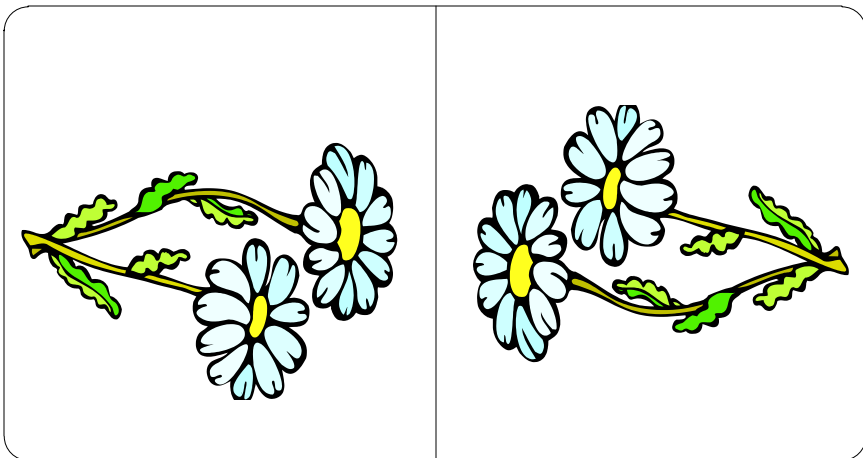
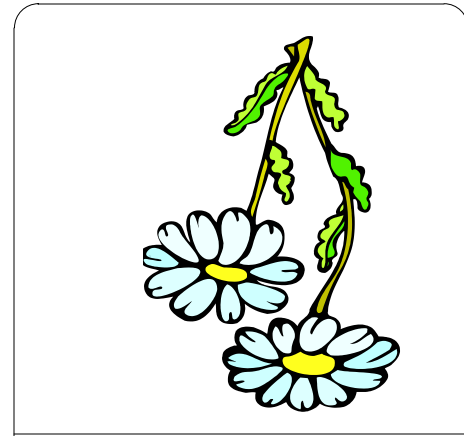
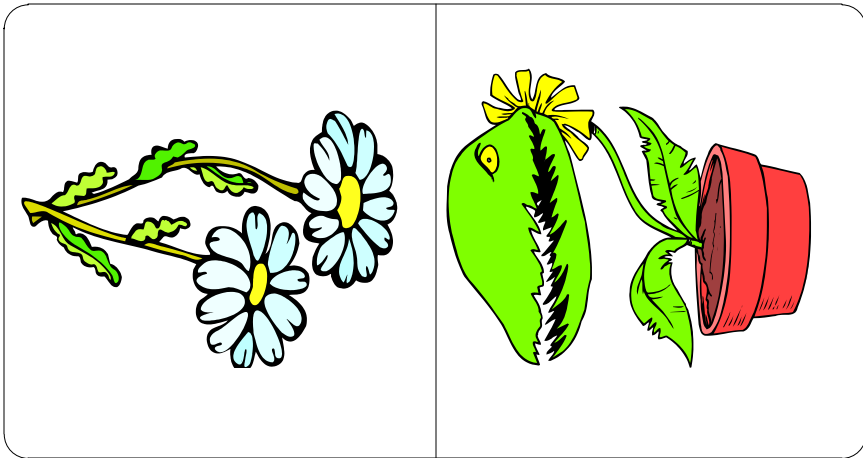
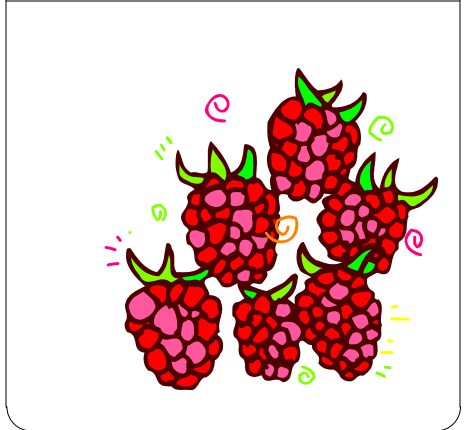
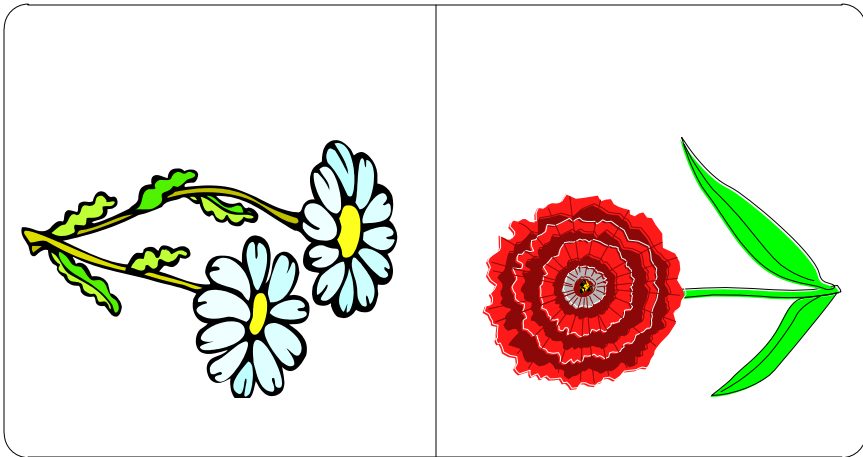
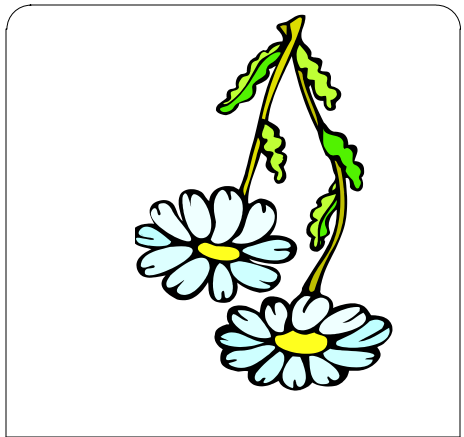
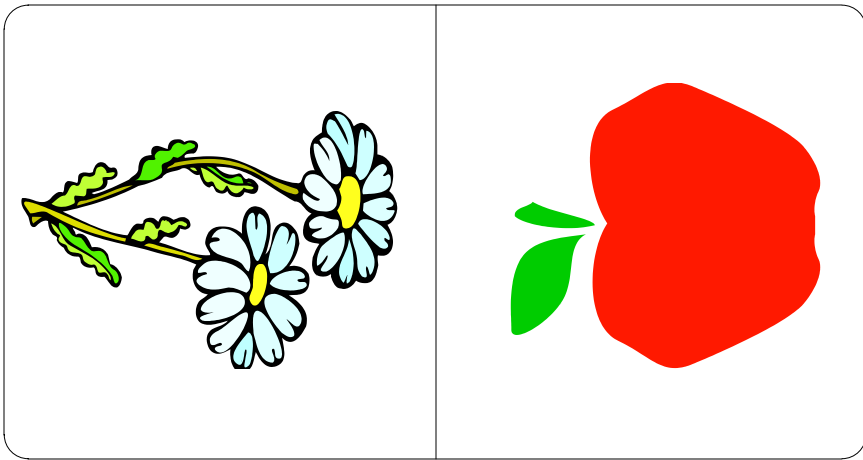
**Botany
Dominoes
Lessons 1 - 5**



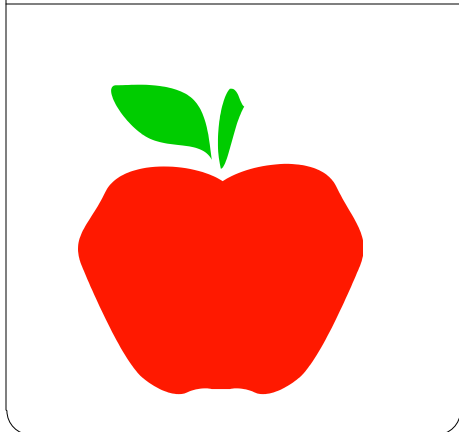
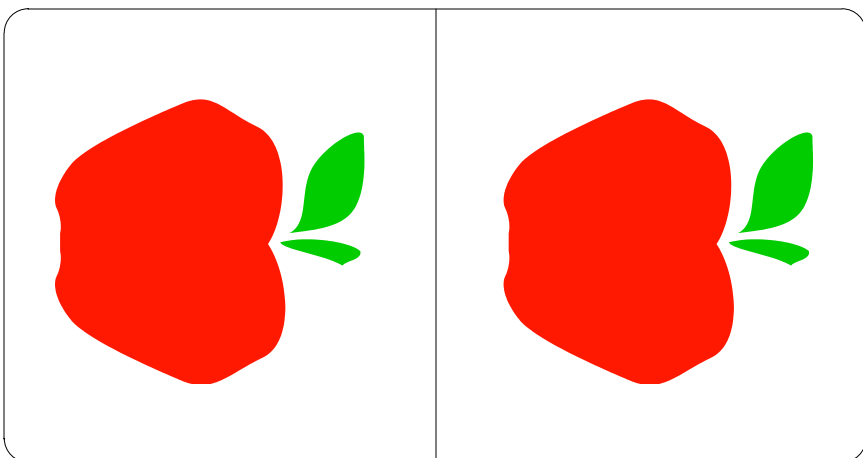
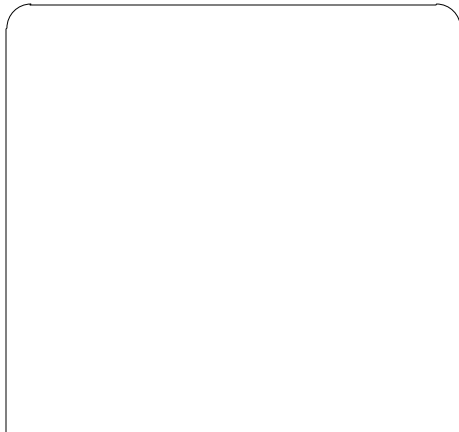
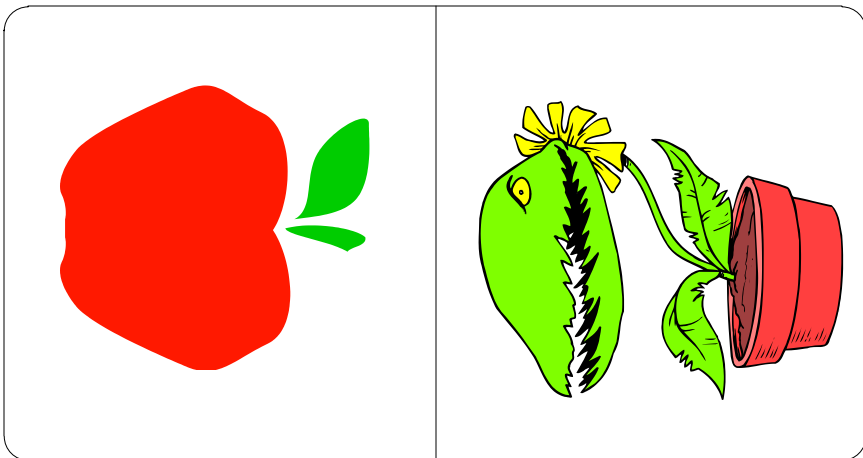
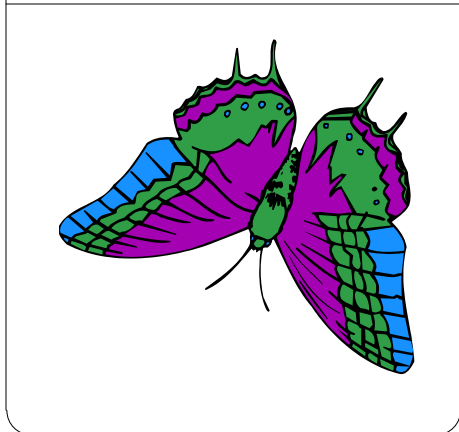
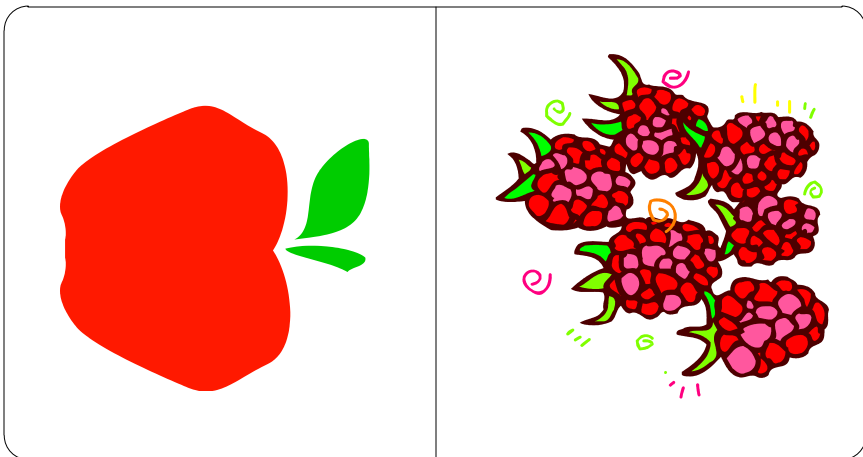
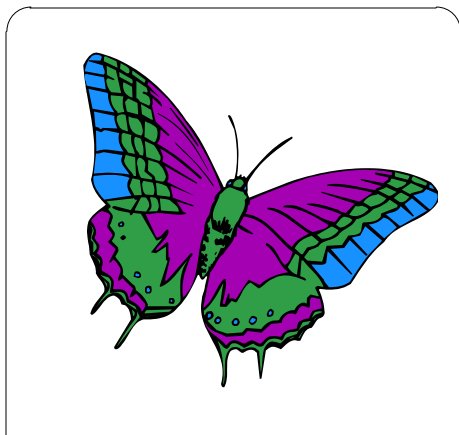
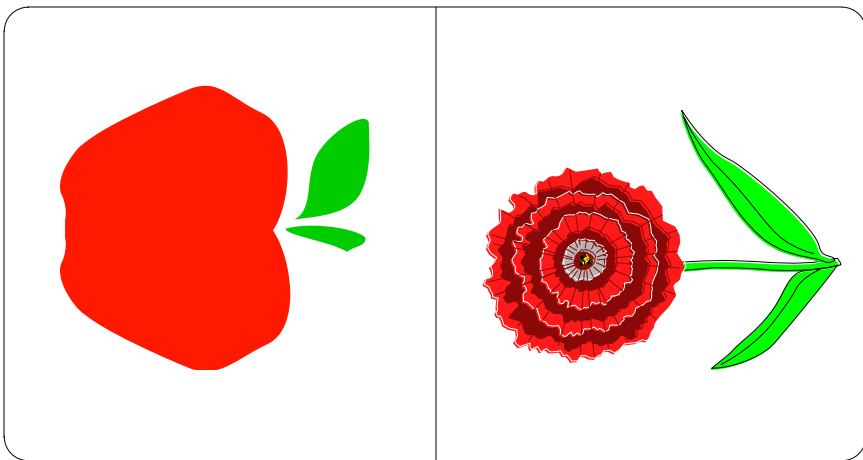
**Paper
Suggestion:
Any color
cardstock**



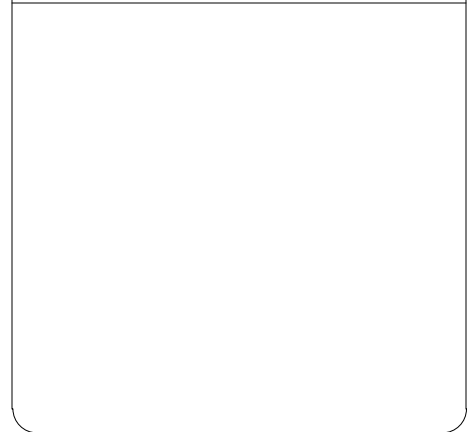
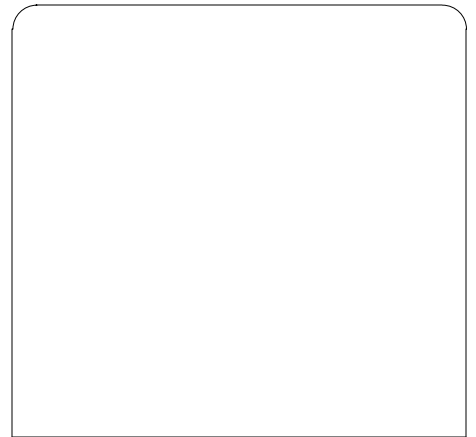
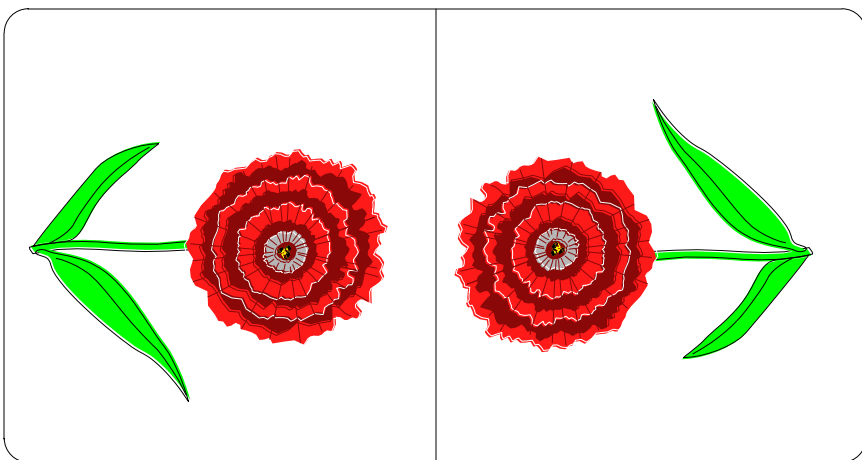
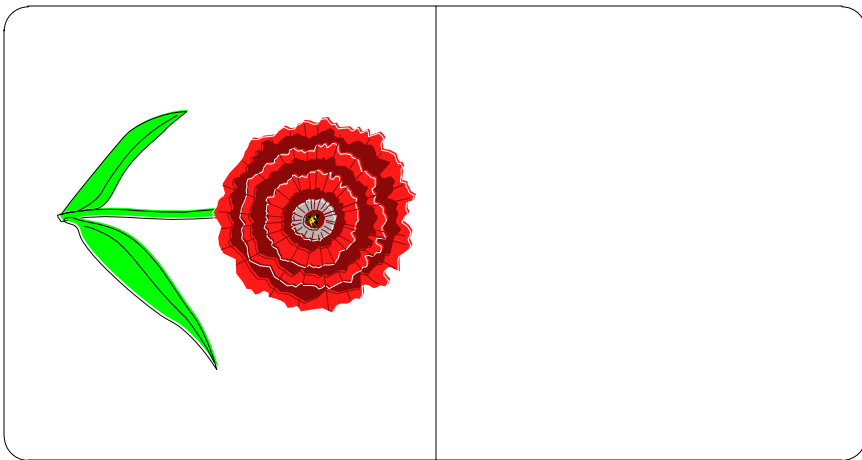
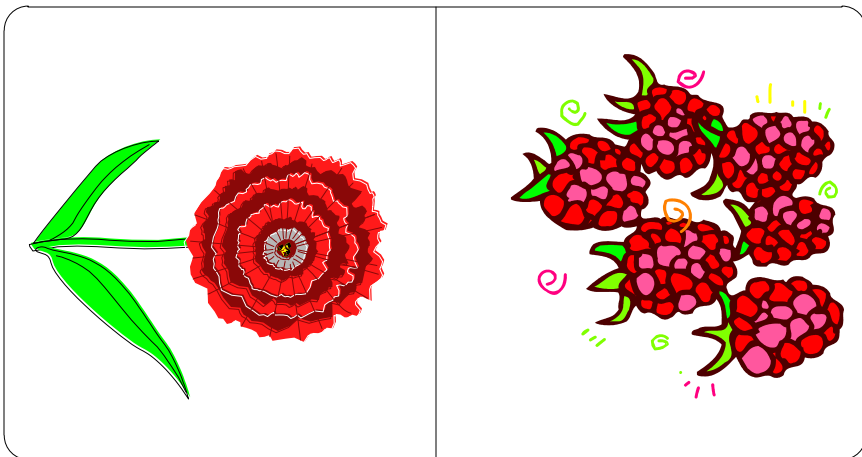
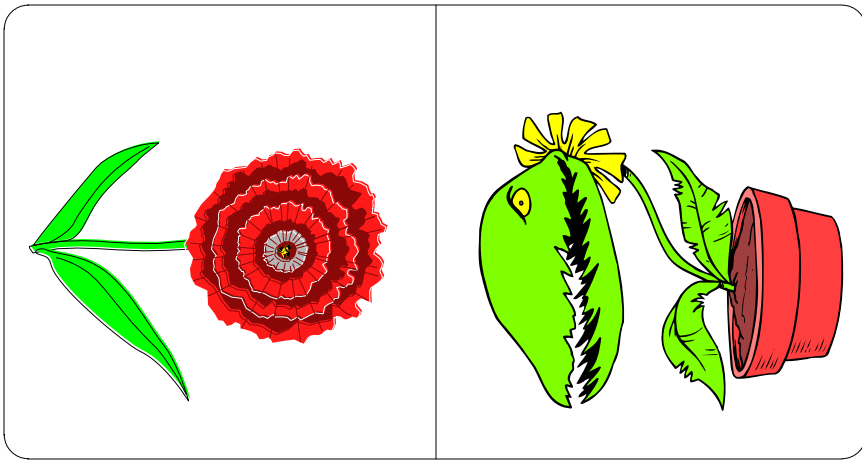
**Paper
Suggestion:
White cardstock
w/colored ink**



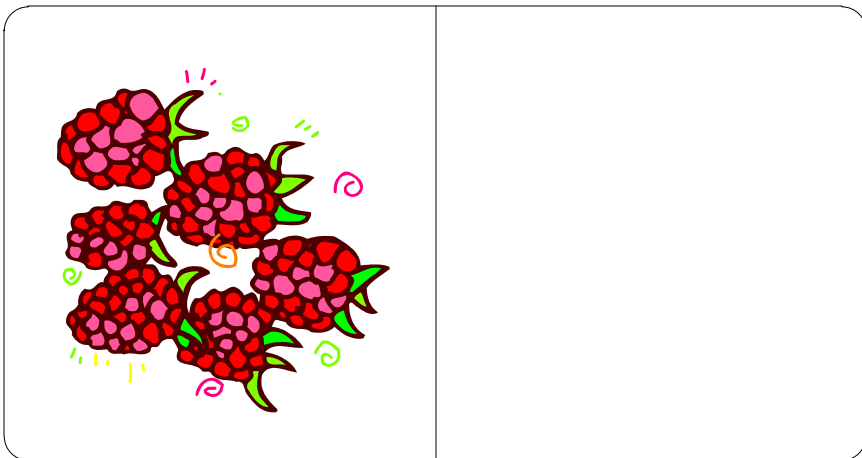
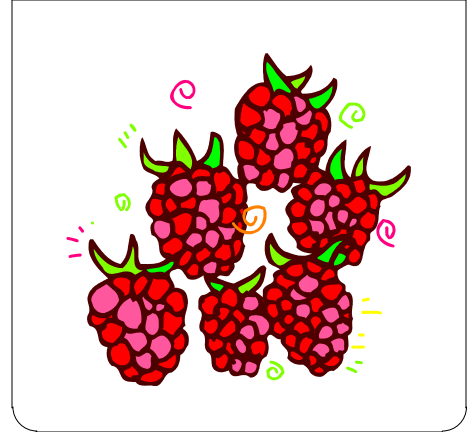
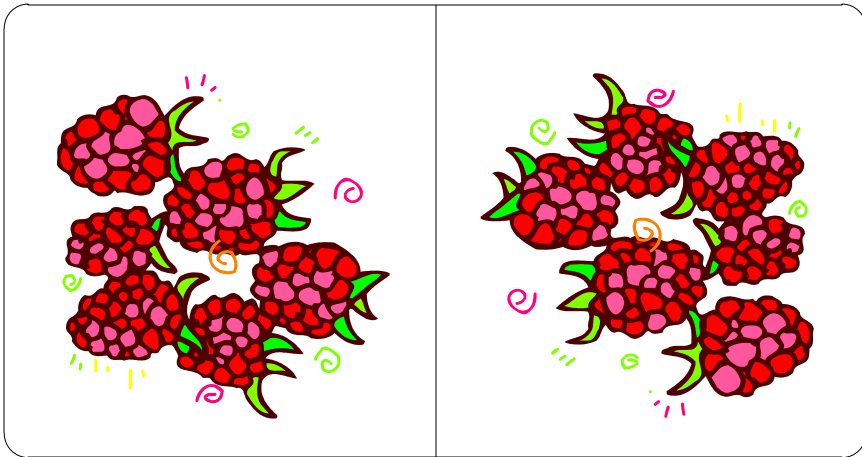
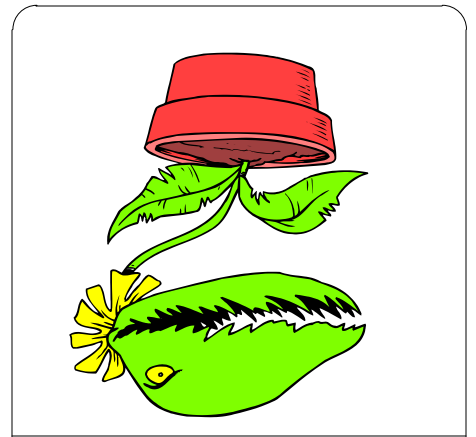
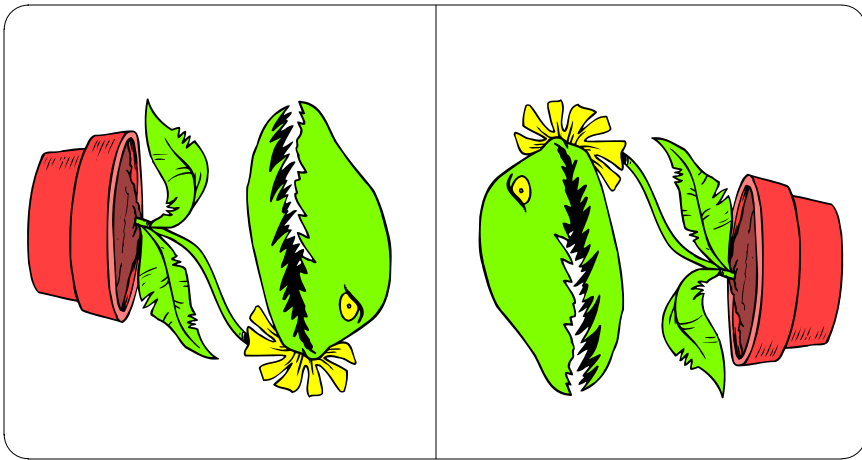
**Paper
Suggestion:
White cardstock
w/colored ink**



Paper
Suggestion:
White cardstock
w/colored ink



**Paper
Suggestion:
White cardstock
w/colored ink**



Paper
Suggestion:
White cardstock
w/colored ink

Amazing Fact

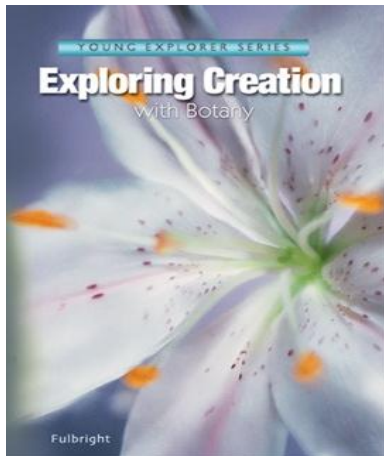
Amazing Fact

AMAZING FACT

Amazing Fact

“Exploring Creation With Botany” Lapbook (Lessons 6-13)

PLEASE NOTE: This is the second of 2 lapbooks for this book. This particular lapbook ONLY covers Lessons 6 through 13, while another lapbook covers Lessons 1-5. You will need BOTH lapbooks in order to complete the entire book in lapbook format.



This lapbook has been specifically designed for use with the book, “Exploring Creation with Botany” by Jeannie Fulbright and Apologia Science.

Templates are printed with colors that best improve information retention according to scientific research.

Designed by
Cyndi Kinney
of Knowledge Box Central
with permission from Apologia Science
and Jeannie Fulbright.



“Exploring Creation With Botany”

Lessons 6-13 Lapbook

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www.KnowledgeBoxCentral.com

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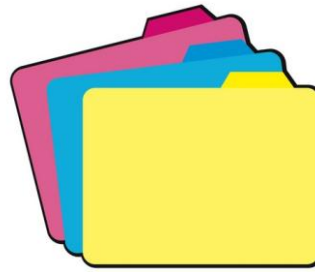
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This book is dedicated to my amazing family. Thank you to my wonderful husband, Scott, who ate a lot of leftovers, listened to a lot of whining (from me!), and sent lots of positive energy my way. Thank you to my daughter, Shelby, who truly inspired me through her love for learning. Thank you to my parents, Judy and Billy Trout, who taught me to trust in my abilities and to never give up.

How do I get started?

First, you will want to gather your supplies.



*** Assembly:

***Folders:** We use colored file folders, which can be found at Walmart, Sam's, Office Depot, Costco, etc. You will need between 1 and 4 file folders, depending on which product you have purchased. You may use manila folders if you prefer, but we have found that children respond better with the brightly colored folders. Don't worry about the tabs...they aren't important. Within this product, you will be given easy, step-by-step instructions for how to fold and assemble these folders. *If you prefer, you can purchase the assembled lapbook bases from our website.*

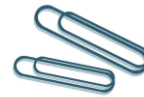
***Glue:** For the folder assembly, we use hot glue. For booklet assembly, we use glue sticks and sometimes hot glue, depending on the specific booklet. We have found that bottle glue stays wet for too long, so it's not a great choice for lapbooking. For gluing the folders together, we suggest using hot glue, but **ONLY** with adult supervision. These things get **SUPER** hot, and can cause **SEVERE** burns within seconds.



***Other Supplies:** Of course, you will need scissors. Many booklets require additional supplies. Some of these include metal brad fasteners, paper clips, ribbon, yarn, staples, hole puncher, etc.



You may want to add decorations of your own, including stickers, buttons, coloring pages, cut-out clipart, etc. Sometimes, we even use scrapbooking supplies. The most important thing is to use your imagination! Make it your own!!



Continue ON.....



Ok. I've gathered the supplies. Now how do I use this product?

Inside, you will find several sections. They are as follows:

1. **Layout and Pictures:** This section gives instructions and diagrams that will tell the student exactly how to assemble the lapbook base and where to glue each booklet into the base. Depending on the student's age, he or she may need assistance with this process, especially if you choose to allow the student to use hot glue.

2. **Student Instruction Guide:** This section is written directly to the student, in language that he or she can understand. However, depending on the age of the child, there may be some parent/teacher assistance needed. This section will also tell the student exactly what should be written inside each booklet as he or she comes to it during the study, as well as telling the student which folder each booklet will be glued into.

3. **Teacher's Guide:** This section is a great resource for the parent/teacher. In this section, you will find the page number where each answer may be found in the book. You will also find suggestions of extra activities that you may want to use with your student.

5. **Booklet Templates:** This section includes ALL of the templates for the booklets. These have been printed on colors that will help to improve retention of the information presented, according to scientific research on color psychology.

Colors & Shapes – Why Do They Matter?

After MUCH research and studies, science has shown that colors and shapes have psychological values. These influence the emotions and memories of each one of us. In our products, we have used specific colors and shapes in ways that will improve information retention and allow for a much more mentally interactive time of study. Some pages may have a notation at the bottom, where a specific color is suggested for your printing paper. This color suggestion is designed to improve information retention. However, if you do not have that specific color of paper, just print on whatever color you have. For the most benefit, follow the color suggestions, and watch your child's memory and enthusiasm truly soar!

Be creative!

Make it your own!

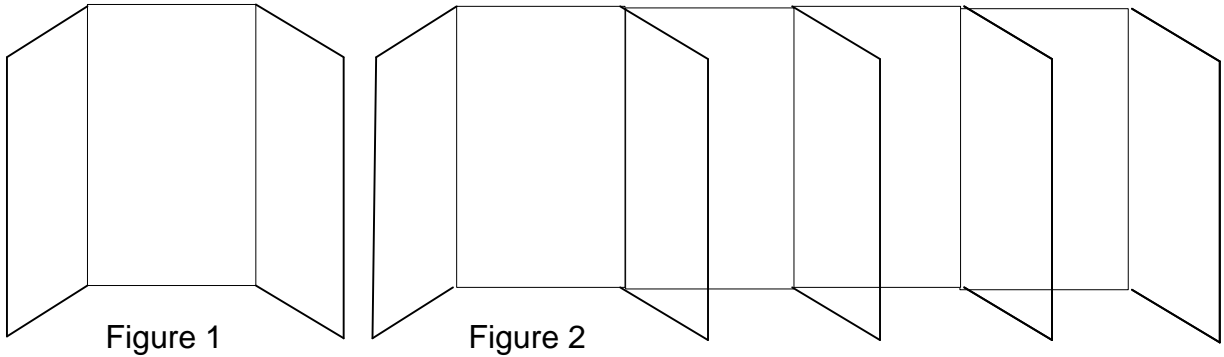
If you would like to send pictures of your completed lapbook, please do!

We would love to display your lapbooks on our website and/or in our newsletter.

**Just send your pictures, first initial & last name, and age to us at:
cyndi@knowledgeboxcentral.com**

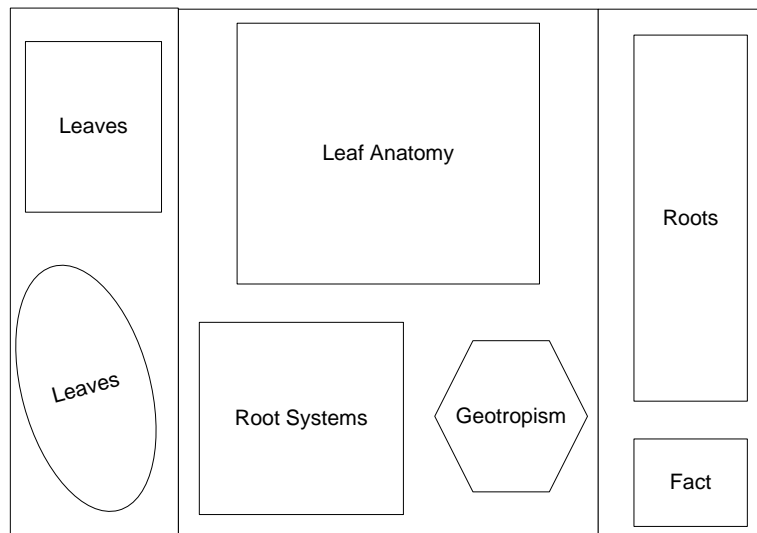
*Exploring Creation With
Botany: Lessons 6-13*
Base Assembly & Layout Guide

You will need 4 folders of any color. Take each one and fold both sides toward the original middle fold and make firm creases on these folds (Figure 1). Then glue (and staple if needed) the backs of the small flaps together (Figure 2).



This is the "Layout" for your lapbook. The shapes are not exact on the layout, but you will get the idea of where each booklet should go inside your lapbook.

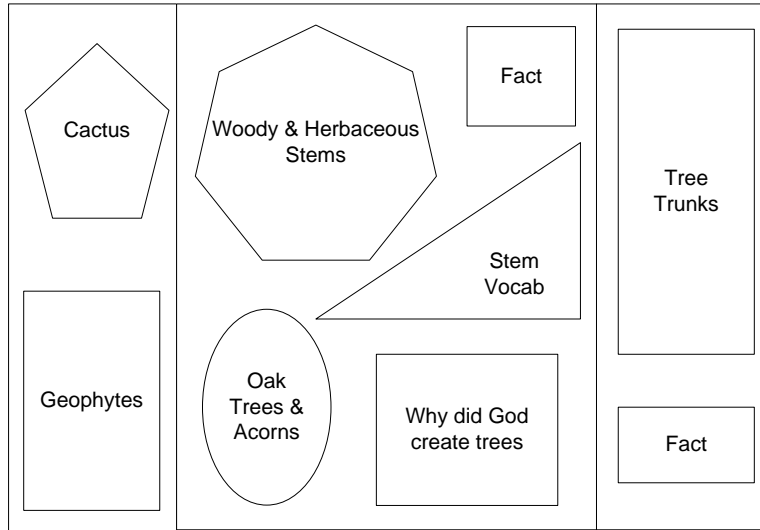
Inside of 1st Folder:



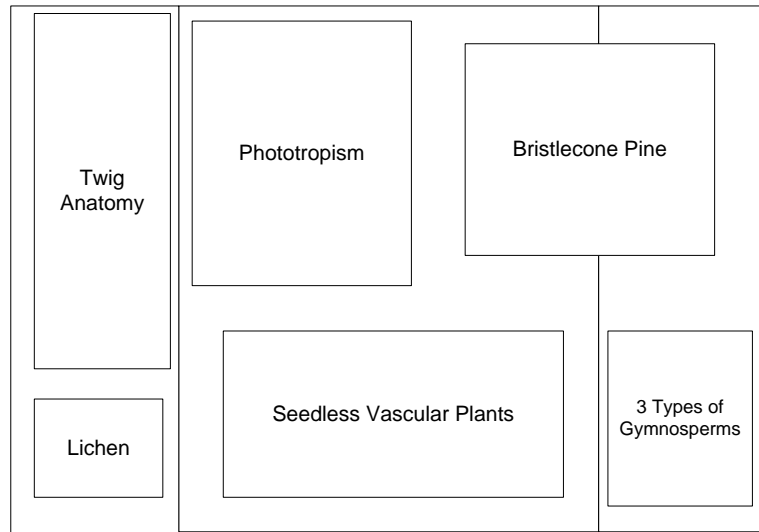
Continue ON.....



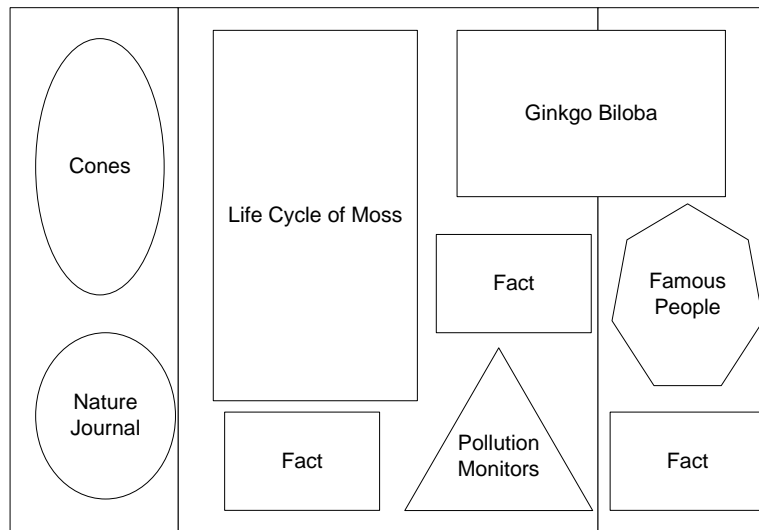
Inside of 2nd Folder:



Inside of 3rd Folder:



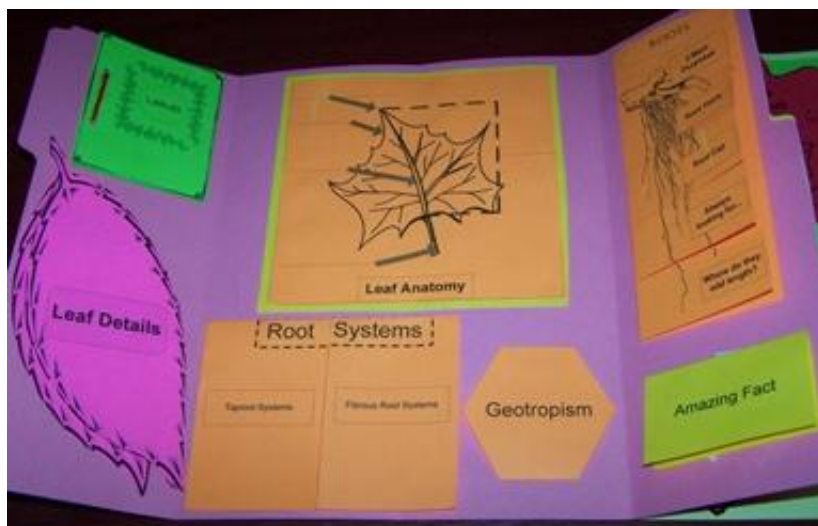
Inside of 4th Folder:



Below and on the next page, you'll find pictures of a completed lapbook. This should help in figuring out how to assemble the booklets and then how to put it all together!



Completed Lapbook



1st Folder

Continue ON.....



2nd Folder



3rd Folder

4th Folder



Exploring Creation With Botany

Lessons 6 – 13 Lapbook

Student Instruction Guide

Decorate the outside/ cover of your lapbook. The cover of your lapbook has purposely been left blank so that you may decorate it in any way that you choose. You may draw, paint, glue pictures, etc. You may print coloring sheets and glue them to the front. The ideas for the front cover are endless. Choose a topic or art project from this unit and HAVE FUN making it your own personalized lapbook!

Lesson 6:

- Leaves Booklet: Have you ever looked closely at a leaf? They are really fascinating. Did you know that they have mouths on them??? Answer these questions about leaves. You may even want to draw pictures.
- Leaf Anatomy Booklet: Can you name the parts of a leaf? Find a leaf outside and see if you can name the parts. Also, label them on this diagram.
- Leaf Details Booklet: How much have you learned about leaves? Tell about the different shapes, arrangements, and more! You can even color or decorate this leaf booklet on the outside if you like.

Lesson 7:

- Roots Booklet: Have you ever noticed the roots of a tree? Have you ever noticed that they have hair? Roots are amazing. See if you can answer these questions about them.
- Geotropism Booklet: Does it matter which side of a seed you have “pointing up” when you plant it in the ground? Why or why not? Explain geotropism. Isn’t God amazing!?
- Root Systems Booklet: What are the different types of root systems? They are taproot and fibrous root. Can you tell what the difference is? Maybe you will want to draw or glue a picture too.
- Geophytes Venn Diagram Booklet: Have you ever used a Venn Diagram? They are used to tell how things are both alike and different. In this one, you are comparing 3 different things: corms, tubules, and rhizomes.

Lesson 8:

- Stem Vocabulary Booklet: Have you ever broken open a stem? Did you know that there is sugar in there?? Try your best to define these words.
- Woody & Herbaceous Stems Booklet: Do you know what “woody” and “herbaceous” mean? They are funny words, aren’t they? See if you can answer the questions about these types of stems.
- Cactus Booklet: Have you ever seen a cactus? What is something that most trees have...but a cactus doesn’t? That’s right...Leaves! Why do you think that God did not give leaves to cacti (that is the word for more than one cactus)?
- Phototropism Booklet: This is a fun booklet. It will show you how phototropism works. Have you ever noticed how flowers seem to grow toward the sun? Explain how this works!

Lesson 9:

- Why Did God Create Trees Booklet: How many trees do you have in your yard? How about on your street? Trees are incredible, and God created them for very special reasons. Do you know what they are?
- Oak Trees & Acorns Booklet: Do you have any oak trees in your yard? If you do, then you probably also have acorns! And if that is the case, then you more than likely have squirrels! See if you can answer these questions about these amazing creations.
- Twig Anatomy Booklet: Twigs have a lot of little parts that have special functions. See if you can label them all.
- Tree Trunk Layers & Their Jobs Booklet: Did you know that the center of a tree trunk is dead? Tree trunks have 5 layers, and each layer has a different job. Do you know what they are?

Continue ON.....



Lesson 10:

- Bristlecone Pines Booklet: Did you know that a lot of people think that the earth is millions or billions of years old? God gave us many, many evidences that this is not true at all. In this booklet, tell about how the bristlecone pine trees confirm this. You may also want to color Noah's Ark.
- Gymnosperm Leaves Booklet: What is a gymnosperm? What kinds of leaves do they have? Can you name them and draw them? You may choose to glue a picture of them instead.
- Cones Booklet: Do you remember that conifers make their seeds in cones? What kinds of cones have you seen and held? See if you can answer these questions about them. You may choose to color the cone on the front...and maybe draw or glue pictures inside.
- Ginkgo Biloba Booklet: How are the ginkgo biloba leaves different from other gymnosperms? Tell about them here, and you may even want to draw a picture or glue one in.

Lesson 11:

- Seedless Vascular Plants Booklets: Do you remember learning about vascular and nonvascular plants in Lesson 1? This booklet is about a special kind of vascular plant: ferns.

Lesson 12:

- Life Cycle of Moss Booklet: Have you ever seen a moss-covered tree or rock? See if you can tell the stages of the life cycle of moss. It's a lot different than other plants.
- Lichen Booklet: Do you remember studying about lichens in Lesson 1? They aren't really plants, but there was a time when scientists thought that they were nonvascular plants. Tell about what they are here.
- Lichens as Pollution Monitors Booklet: Do you know what pollution is? How can lichens help with measuring the quality of our air?

Lesson 13:

- Famous People Who Kept Journals Booklet: Have you ever kept a journal? Do you know what one is? There were many people in the past who kept journals.....can you name a few?
- Nature Journal Booklet: What is a nature journal? If you haven't ever had one, this would be a GREAT time to start one!

There are also 5 Amazing Facts Booklets. In these, you may write about anything you have learned. Are there some interesting facts you have learned? Take your pick, and write about them here. You may also want to draw or glue pictures inside these booklets.

Lessons 1 – 5 are covered in a separate lapbook.

Exploring Creation With Botany

Lessons 6 - 13

Lapbook Assembly Guide

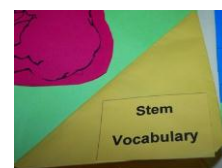
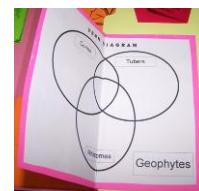
Inside of 1st Folder:

1. Leaves Booklet: Cut out each page of the booklet, and stack them together, with the title on top. Punch 2 holes on the left side of the stack, and secure with a ribbon or yarn, tied in a bow on the back of the booklet. We like to use green ribbon or yarn, so that it is the color of most leaves.
2. Leaf Details Booklet: Cut out all of the leaf shapes, and stack them together, with the title on top. Now, put a staple through the “stems” so that they are all secured together.
3. Leaf Anatomy Booklet: Cut out along the outer black line edges. Then, glue to a slightly larger piece of paper of a different color, so that there is a small border around the edges.
4. Root Systems Booklet: Cut out along the outer black line edges. Then, fold along the center line so that the title is on the front. Now, cut along the vertical line that is on the front cover, cutting through the title “Root Systems.” Now, you will have 2 “flaps” on front.
5. Geotropism Booklet: Cut out along the black line edges of the booklet. Fold along the center line so that the title is on the front.
6. Roots Booklet: Cut out along the outer black line edges of the booklet. Then, fold along the center vertical line, so that the words and graphic are on the outside. Now, cut along the dotted lines, creating “flaps.” See the picture.
7. Amazing Fact Booklet: Cut out along the outer black line edges of the booklet. Then fold along the center line so that the title is on the front.



Inside of 2nd Folder:

1. Cactus Booklet: Cut out along the outer black line edges of each page. Then fold along the center line so that the title is on the front.
2. Geophytes Booklet: Cut out along the outer black line edges of the Venn Diagram. Then glue to a slightly larger piece of paper of a different color, so that there is a small border around the edges. Now, fold down the center, vertically. Only one side of the booklet will be glued to the folder. See picture.
3. Woody & Herbaceous Stems Booklet: Cut out along the outer black line edges of each page. Then, stack them together, with the title on top. Punch a hole through the top of the trees, and secure with a metal fastener brad. The tree in the front will be smaller than the parts in the back. This helps to create the effect of being a real tree.
4. Stem Vocabulary Booklet: Cut out along the outer black line edges. Now, put the square on the table in front of you, with the words facing down. Fold each corner toward the center, so that the words are now showing on top. Once you have folded all 4 corners into the center, fold one corner over to meet the corner on the opposite side, creating a triangle. Cut out the label, and glue it to the outside. See picture on the right.



Continue ON.....



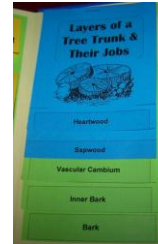
5. Oak Trees & Acorns Booklet: Cut out along the outer black line edges of each page. Then, stack them together, with the title on top. Place one staple through the stems to secure. See picture.

6. Why Did God Create Trees Booklet: Cut out along the outer black line edges of the booklet. Fold each curved side in toward the middle, so that the curved sides almost touch and the words are on the front. Now punch a hole in both circles on the curved edges. Secure with a loosely tied bow.



7. Amazing Facts Booklets (2): Cut out along the outer black line edges, and fold along the center line so that the title is on the front.

8. Layers of a Tree Trunk Booklet: Cut out along the outer black line edges of each page. Now, stack them together with the title on top and each page getting progressively longer. Secure with a staple in the center of the top of the stack. See picture on the right.



Inside of 3rd Folder:

1. Twig Booklet: Cut out along the outer black line edges of the booklet. Then glue to a slightly larger piece of paper of a different color, creating a small border around the edges.

2. Lichen Booklet: Cut out along the outer black line edges. Then fold along the horizontal lines, accordion-style, so that the title is on top, and a blank page is on the bottom.

3. Phototropism Booklet: This book is tricky. It is a pop-up book. You'll need to look at the picture below also. Ok...here goes. Cut out the large base booklet (with the title), and fold it along the center line, so that the title is on the front. Now, cut out the page with the writing lines on it, the flower with its base, the sun, and the fence. On the fence, notice that there is a dotted line...cut on that line ONLY. Glue the edge of the sun (about 4 rays and a small portion of the bottom of the center part (see picture)) to the page with the lines...notice that there is a curved line that indicated where this should be glued. Now, fold this page with the lines and the sun, so that the tips of the top rays touch the bottom of the page with the lines. Create a crease. Glue this page (below the crease – where the lines are ONLY) to the left side of the base booklet. When you unfold the page with the lines and sun on it, you will have a sun that is above the level of the top of the base booklet. Now, put some glue...VERY LITTLE GLUE (or staples) around the LEFT, RIGHT, and BOTTOM edges ONLY of the fence. Put this on the right side of the base booklet. Take your flower with its base attached, and put it into the little slice that you made in the fence. Your base is wider than the slice in the fence (so that it will stay in), so you will have to tilt it a little to get it into the slice. Now, you will have a flower that will move in and out (up and down).



4. Seedless Vascular Plants Booklet: Cut out along the outer black line edges of each page, noting that the tabs on top of each page are a different length. Stack the pages together, with the title page on top, and with the tabs getting progressively longer toward the back. Secure with 2 staples along the left side of the booklet. See picture.



5. Bristlecone Pine Booklet: Cut out along the outer black line edges of the booklet. Fold in the center, vertically, so that the picture of the ark meets in the middle.

6. 3 Types of Gymnosperm Leaves Booklet: Cut out along the outer black line edges of each page of the booklets. Stack them together, so that the title is on the front. Punch 2 holes in the top, and secure with a ribbon or yarn.

Continue ON.....



Inside of 4th Folder:

1. Cones Booklet: Cut out along the outer black line edges of each page. Stack them all together, so that the title and graphic are on top. Punch a hole through the top, and secure with a metal brad fastener.
2. Nature Journal Booklet: Cut out along the outer black line edges. Fold along the center line, so that the title is on the front.
3. Life Cycle of Moss Booklet: Cut out along the outer black line edges of the page. Glue to a slightly larger page of a different color, and leave a small border around the edges.
4. Amazing Fact Booklets (3): Cut out along the outer black line edges of each booklet. Fold along the center lines so that the titles are on the front.
5. Ginkgo Biloba Booklet: Cut out along the outer black line edges, and then fold along the center horizontal line so that the title and graphic are on the front. Now, fold along the center “imaginary” vertical line, so that the booklet will fit nicely in the fold of the base folder.
6. Famous People Booklet: Cut out along the outer black line edges. Fold along the center line so that the title is on the front.
7. Lichens as Pollution Monitors: Cut out along the outer black line edges. Fold along the center line so that the title is on the front.

Exploring Creation With Botany

Lessons 6 – 13 Lapbook

Teacher's Guide

Here, you'll find information to supplement your study. Jeannie Fulbright's book is so wonderfully filled with knowledge and wisdom. All of the information needed to complete all of the booklets can be found on the pages of her book. Below, I will tell you which pages hold specific "answers." Also, you'll find many other sites listed, where you may want to go for extra information, coloring pages, games, crafts, and ideas to extend your study.

I have been questioned as to why I merely give you the page numbers for the answers instead of the answers themselves. If I were to give you ONLY the answers, then there would be no need for you to have Jeannie's awesome book...right? Also, this will require the parent to actually read the book as well, which was Jeannie's intention from the beginning. So, I hope that you understand my decision to not "just give the answers." It really is a calculated plan on mine and Jeannie's part.

Lesson 6:

- Leaves Booklet: Answers found on pages 87-89
- Leaf Anatomy Booklet: Answers can be found on page 96
- Leaf Details Booklet: Answers can be found on pages 97-102

Additional Resources for Lesson 6:

- * Excellent graphics and explanations of leaf anatomy: <http://www.botany.uwc.ac.za/ecotree/leaves/InsideLeaf.htm>
- * Detailed explanation of photosynthesis: <http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookPS.html#What%20is%20Photosynthesis?>
- * Another site about photosynthesis: <http://photoscience.la.asu.edu/photosyn/education/learn.html>
- * Identifying Leaves / Nature Collage Idea: <http://www.activityvillage.co.uk/autumn%20crafts%20nature%20collage.htm>
- * Leaf Shapes: <http://www.theseedsite.co.uk/leafshapes.html>
- * Leaf Colors: <http://www.sciencemadesimple.com/leaves.html>

Lesson 7:

- Roots Booklet: Answers can be found on pages 107-110
- Geotropism Booklet: Answers can be found on page 111
- Root Systems Booklet: Answers can be found on pages 111-112
- Geophytes Venn Diagram Booklet: Answers can be found on pages 112-113

Additional Resources for Lesson 7:

- * This site has a good bit of information about root systems: <http://www.theteachersguide.com/plantsflowers.htm>
- * This site has a video about how plants grow in space: http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/How_Plants_Grow_in_Space.html

Lesson 8:

- Stem Vocabulary Booklet: Answers can be found on pages 117-118
- Woody & Herbaceous Stems Booklet: Answers can be found on pages 118-120
- Cactus Booklet: Answers can be found on page 121
- Phototropism Booklet: Answers can be found on pages 121-123

Additional Resources for Lesson 8:

- * Phototropism video: http://www.epress.com/w3jbio/vol17/firn/video_1.htm

Lesson 9:

- Why Did God Create Trees Booklet: Answers can be found on pages 125-126
- Oak Trees & Acorns Booklet: Answers can be found on page 127
- Twig Anatomy Booklet: Answers can be found on page 129
- Tree Trunk Layers & Their Jobs Booklet: Answers can be found on pages 131-132

Additional Resources for Lesson 9:

- * Tree Study (click on the name of the tree, and you will get information and pictures) - <http://www.marin.cc.ca.us/cnps/TreeStudyKit.html>
- * Tree Craft: <http://www.kinderart.com/littles/treetrunk.shtml>
- * How a Tree Grows Lesson: <http://www.woodmagic.vt.edu/html/Activities/htg3.htm>

Lesson 10:

- Bristlecone Pines Booklet: Answers can be found on pages 135-136
- Gymnosperm Leaves Booklet: Answers can be found on page 139
- Cones Booklet: Answers can be found on pages 139-142
- Ginkgo Biloba Booklet: Answers can be found on page 143

Additional Resources for Lesson 10:

- * Meet Methuselah, the world's oldest bristlecone pine: <http://sonic.net/bristlecone/>
- * More bristlecone pines: http://gorp.away.com/gorp/resource/us_national_park/nv/pin_gb.htm
- * Gymnosperm: <http://www.backyardnature.net/gymnos.htm>
- * Pinecone bird feeder craft: <http://www.kidsdomain.com/craft/birdfeeder2.html?trnstl=1>
- * Ginkgo Biloba Tree Information: <http://www.xs4all.nl/~kwanten/thetree.htm>

Lesson 11:

- Seedless Vascular Plants Booklets: Answers can be found throughout the entire lesson

Additional Resources for Lesson 11:

- * Click on the name of the fern, and you will see pictures: <http://www.marin.cc.ca.us/cnps/FernStudyKit.ht>
- * Nice site about ferns: <http://www.home.aone.net.au/~byzantium/ferns/about.html>

Lesson 12:

- Life Cycle of Moss Booklet: Answers can be found on pages 152-153
- Lichen Booklet: Answers can be found on pages 154-155
- Lichens as Pollution Monitors Booklet: Answers can be found on page 156

Additional Resources for Lesson 12:

- * Life Cycle of Moss with animation: <http://www.sumanasinc.com/webcontent/animations/content/moss.html>
- * Lots of great information about lichens: <http://www.lichen.com/>
- * More lichen information: <http://www.backyardnature.net/lichens.htm>

Lesson 13:

- Famous People Who Kept Journals Booklet: Answers found throughout lesson
- Nature Journal Booklet: Answers found throughout lesson

Additional Resources for Lesson 13:

- * Great site for starting your own nature journal (free pages): <http://www.nwf.org/Kids/Ranger-Rick/Parents-and-Educators/Ranger-Ricks-Nature-Notebook.aspx>

Additional Resources:

- * SO CUTE site with TONS of information and fun: <http://www.treetures.com/Meet2.htm>
 - * LOTS of lessons about trees: http://www.inhs.uiuc.edu/chf/pub/tree_kit/teacher/index.html
 - * Great idea: <http://sftrc.cas.psu.edu/LessonPlans/Forestry/WoodLike.html>
-

Cactus Paint:

Need: starch, water, green paint, salt, paper

Directions: Use green salt paint-- mix together 1/4 cup concentrated starch, 1/4 cup water, 2 tbsp. green tempera paint and 1 cup table salt. Paint a cactus using this paint! when the paint dries- it will have a neat texture

Snack

Crunchy Cacti

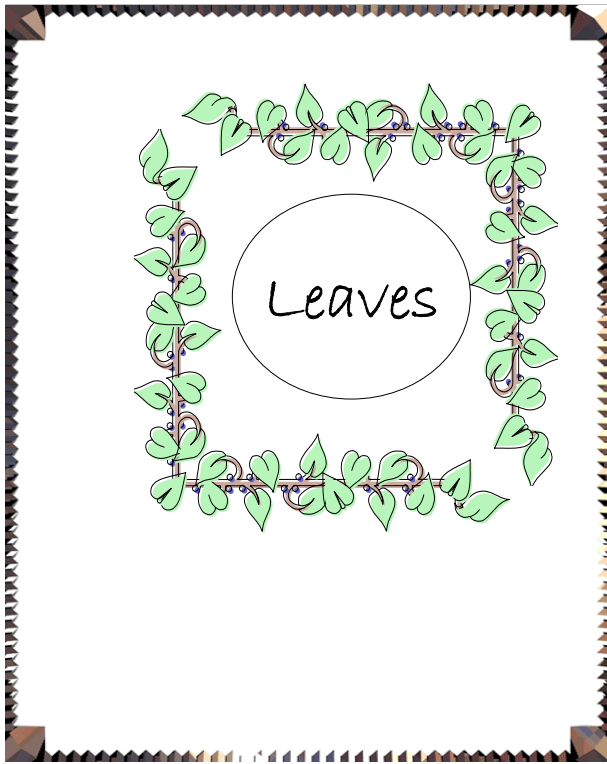
Ingredients: 1 12 oz. package butterscotch chips

2 tablespoons peanut butter

1 6 oz. can chow mein noodles

Green food coloring

Directions: Melt chips, stir in peanut butter and food coloring. Add noodles and coat well. Remove from heat. Working atop wax paper, have each child fashion a golf-ball sized portion of the mixture into a cactus shape. Allow to harden, peel the cactus from the paper and chow down. Makes approximately 15 to 20 crunchy cacti.



What are
"stomata," and
what is the
origin?

Why are leaves of
a plant so
important?

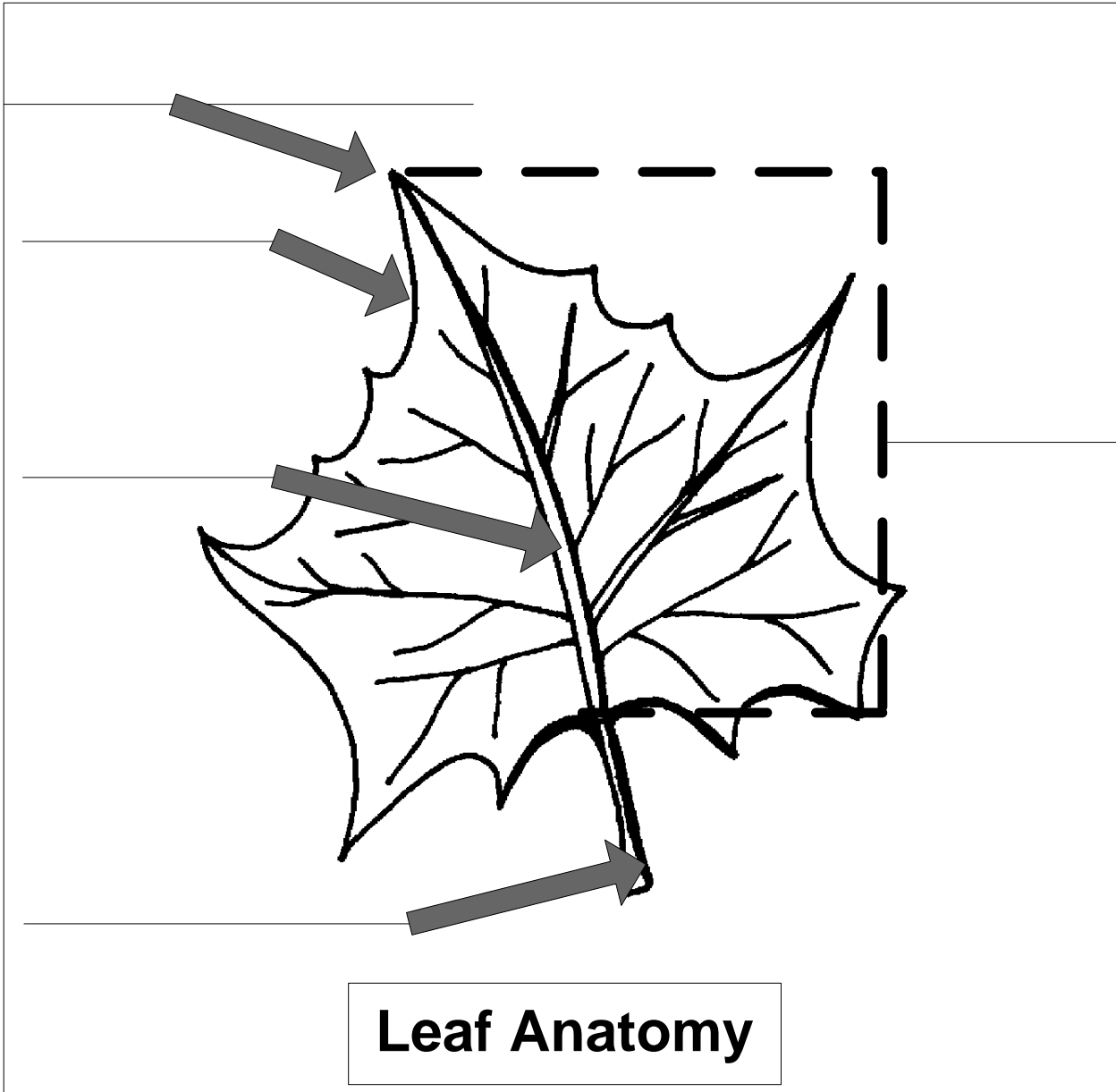
What would
happen if a plant
lost all of its
leaves?

How does the leaf
use Carbon
Dioxide?

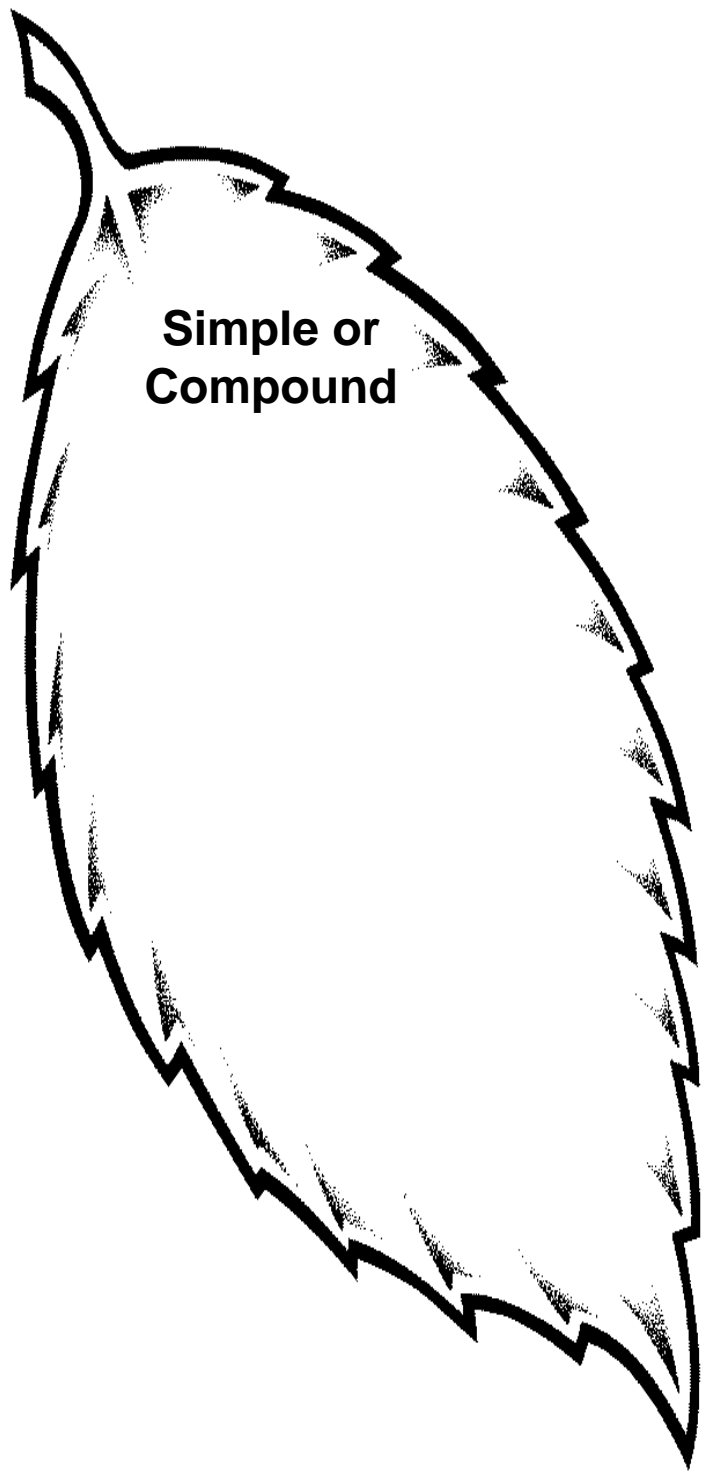
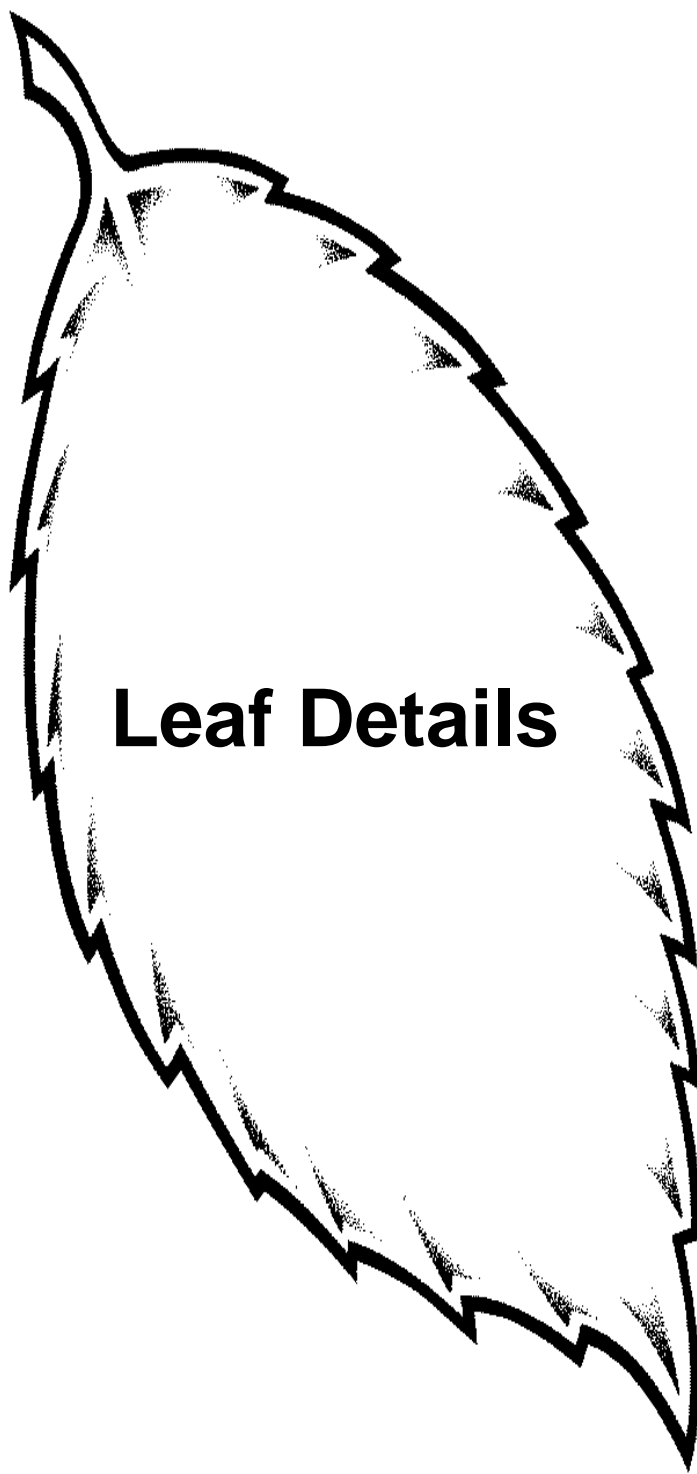
Photosynthesis

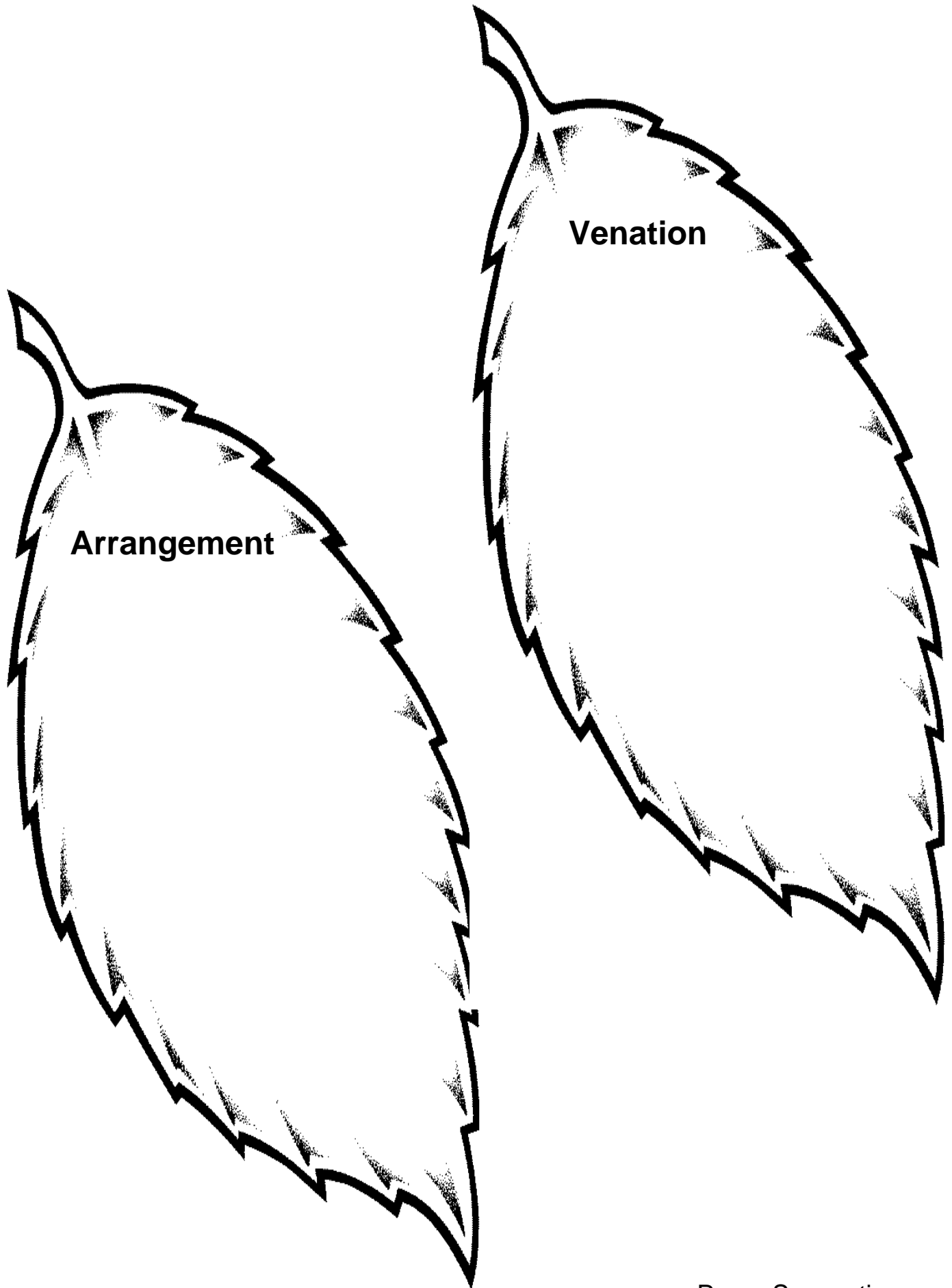
Chlorophyll

Transpiration



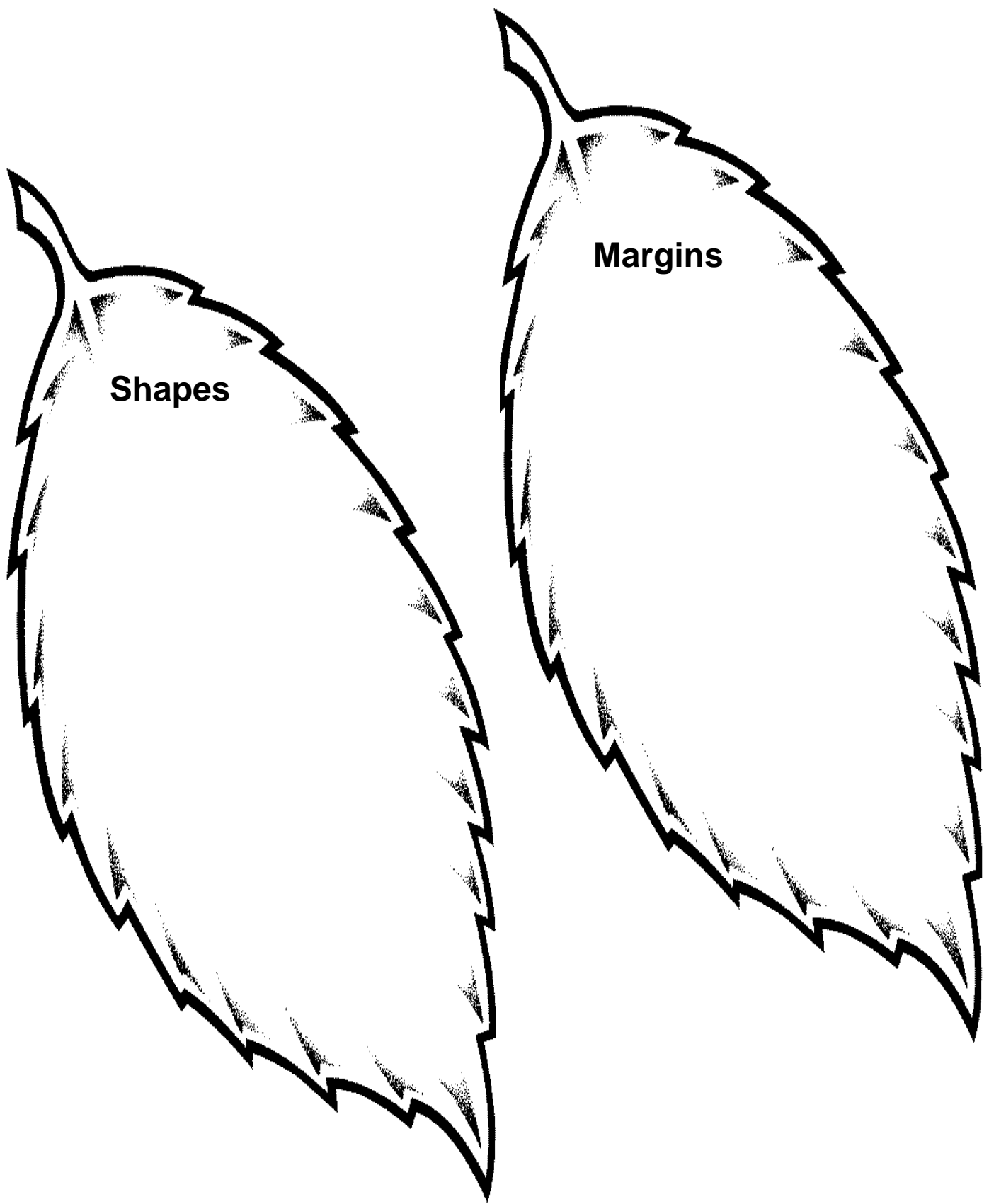
Lesson 6





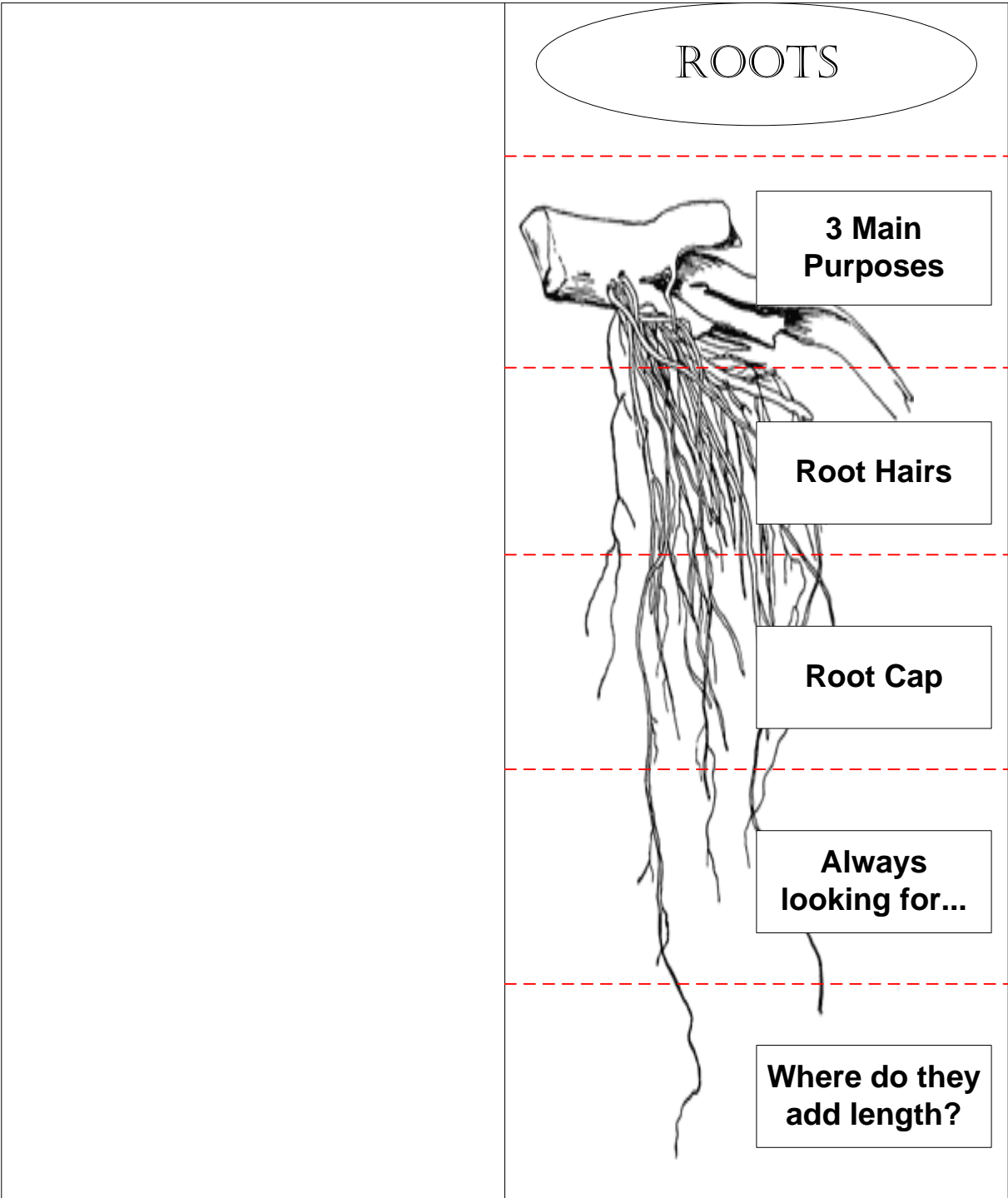
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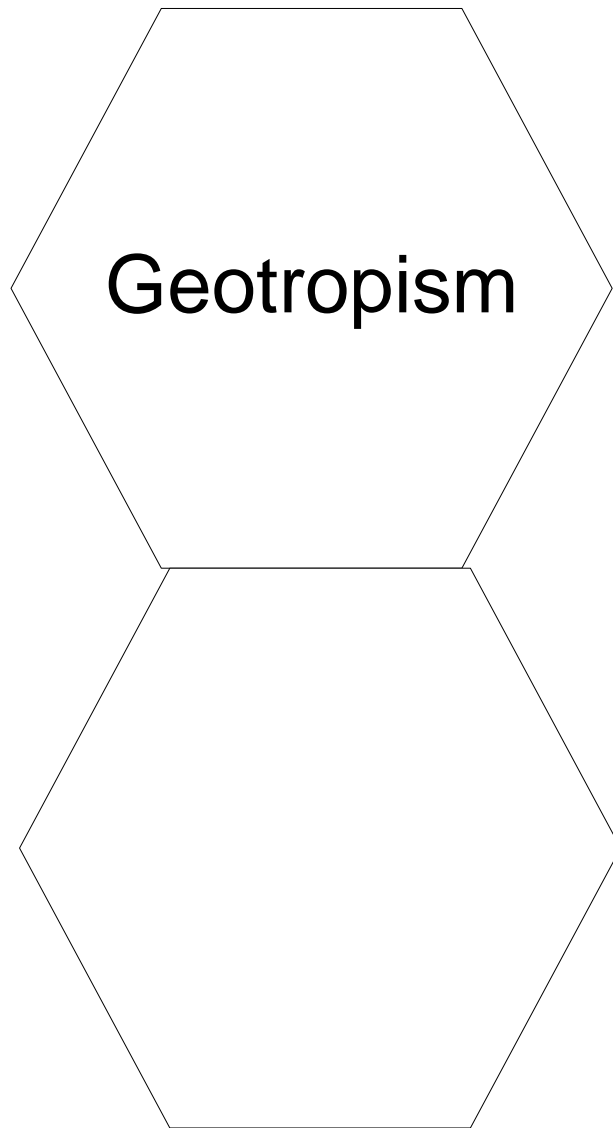
Venation



Shapes

Margins



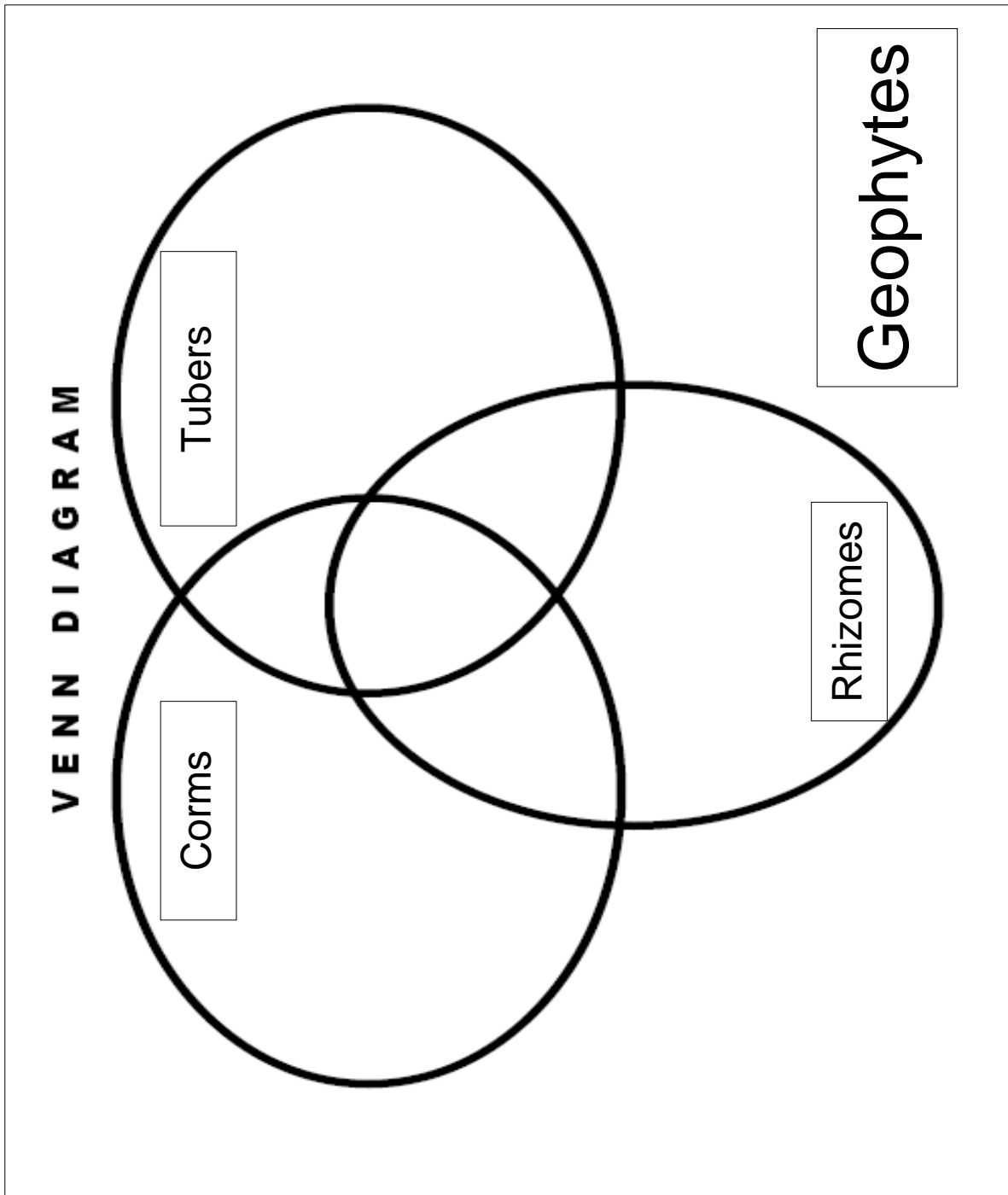


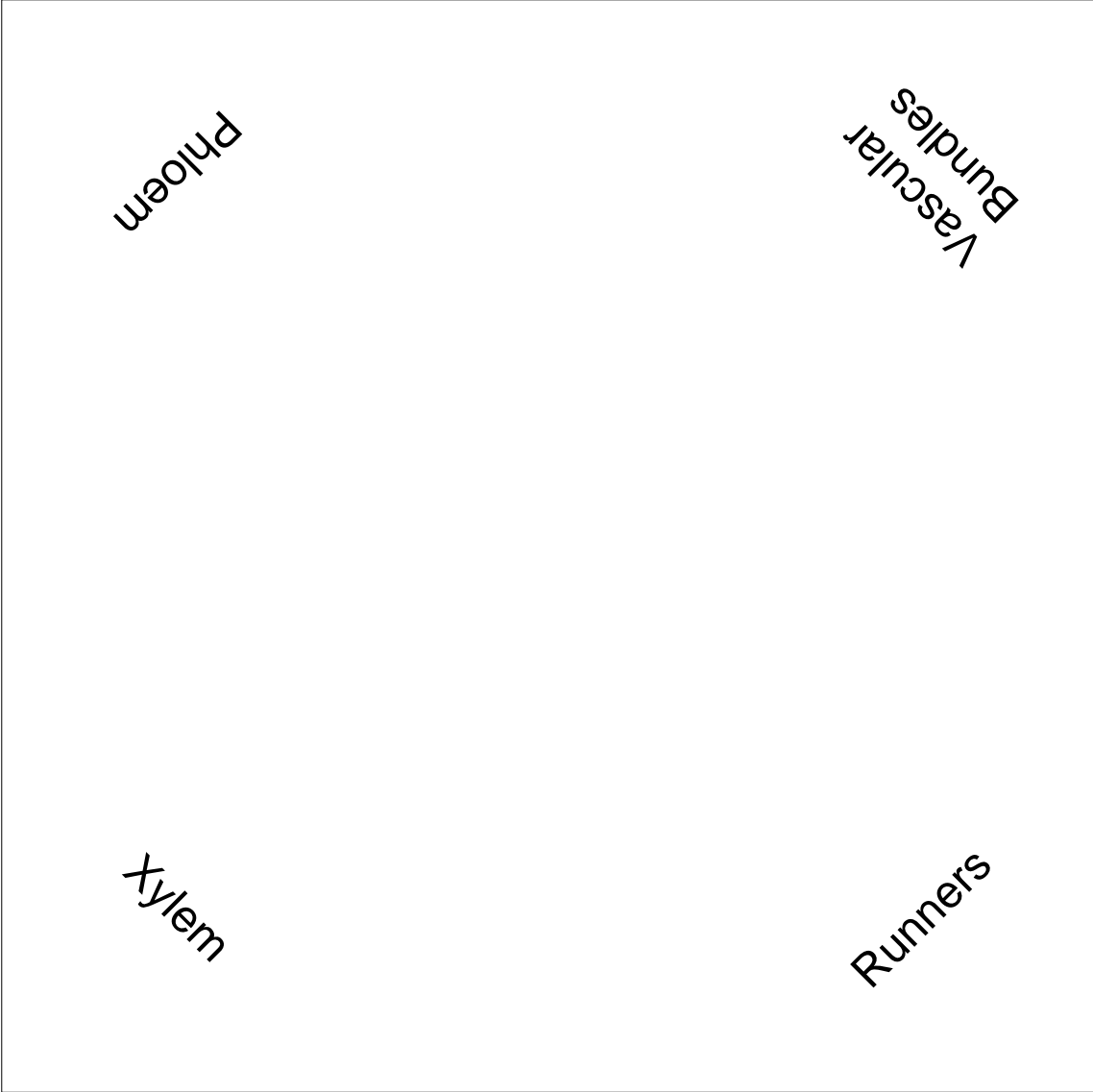
Root Systems

Taproot Systems

Fibrous Root Systems

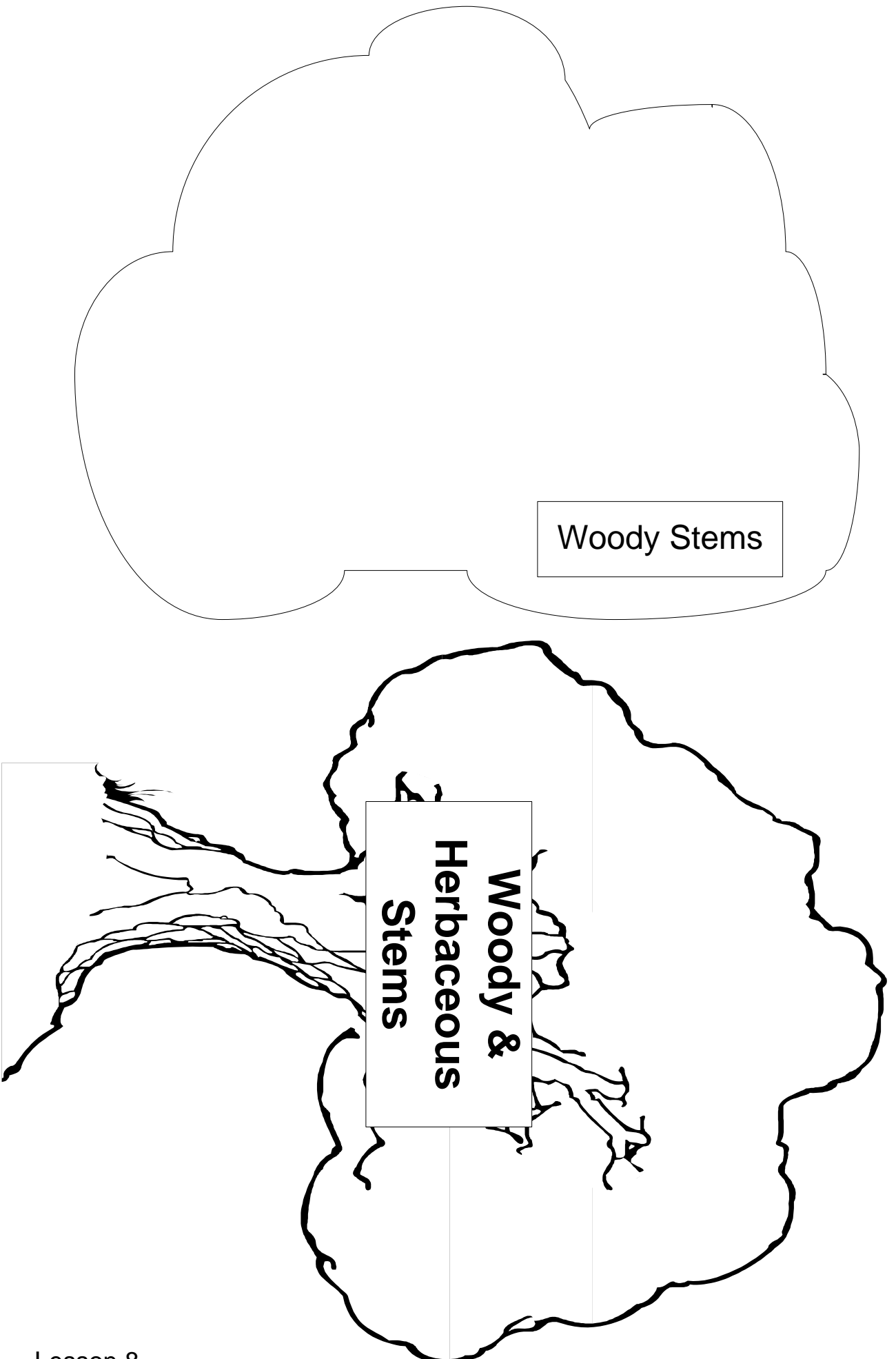
Geophytes





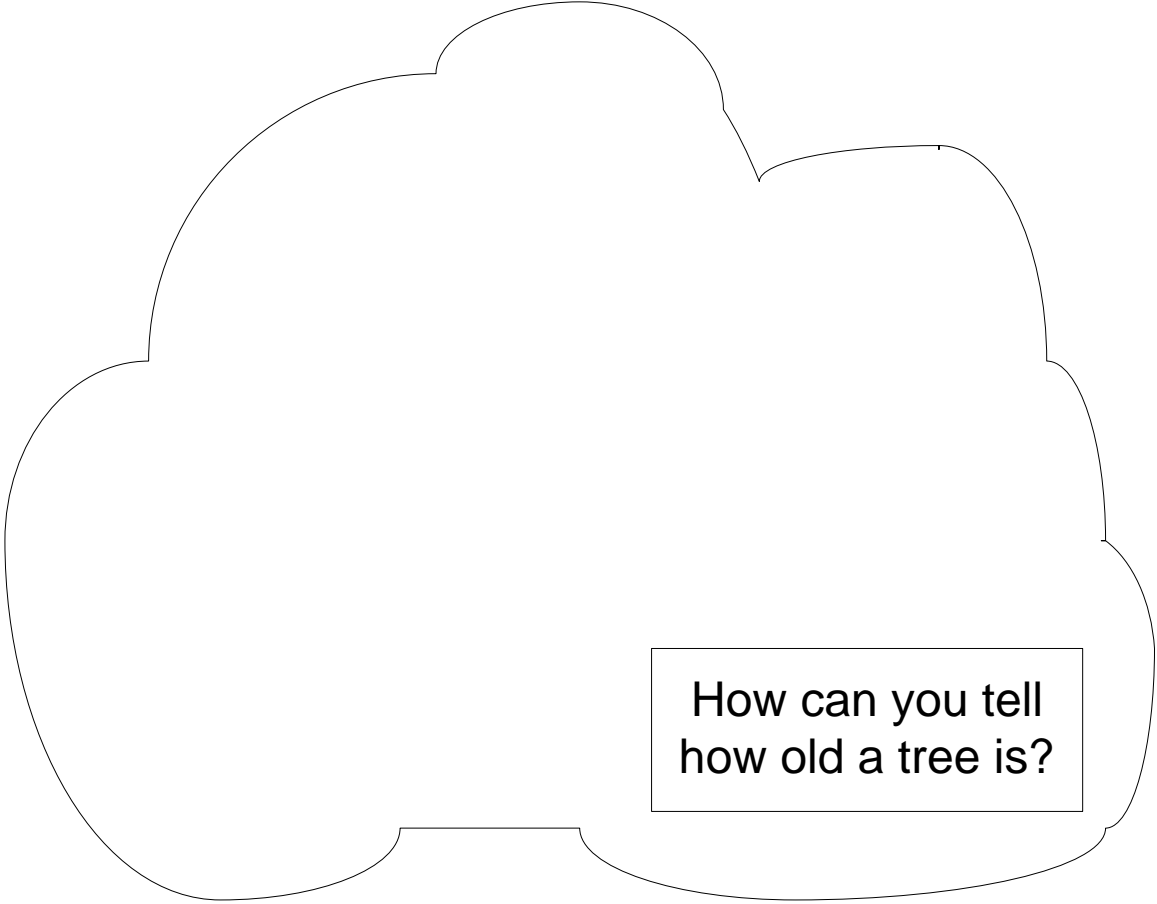
Lesson 8

**Stem
Vocabulary**

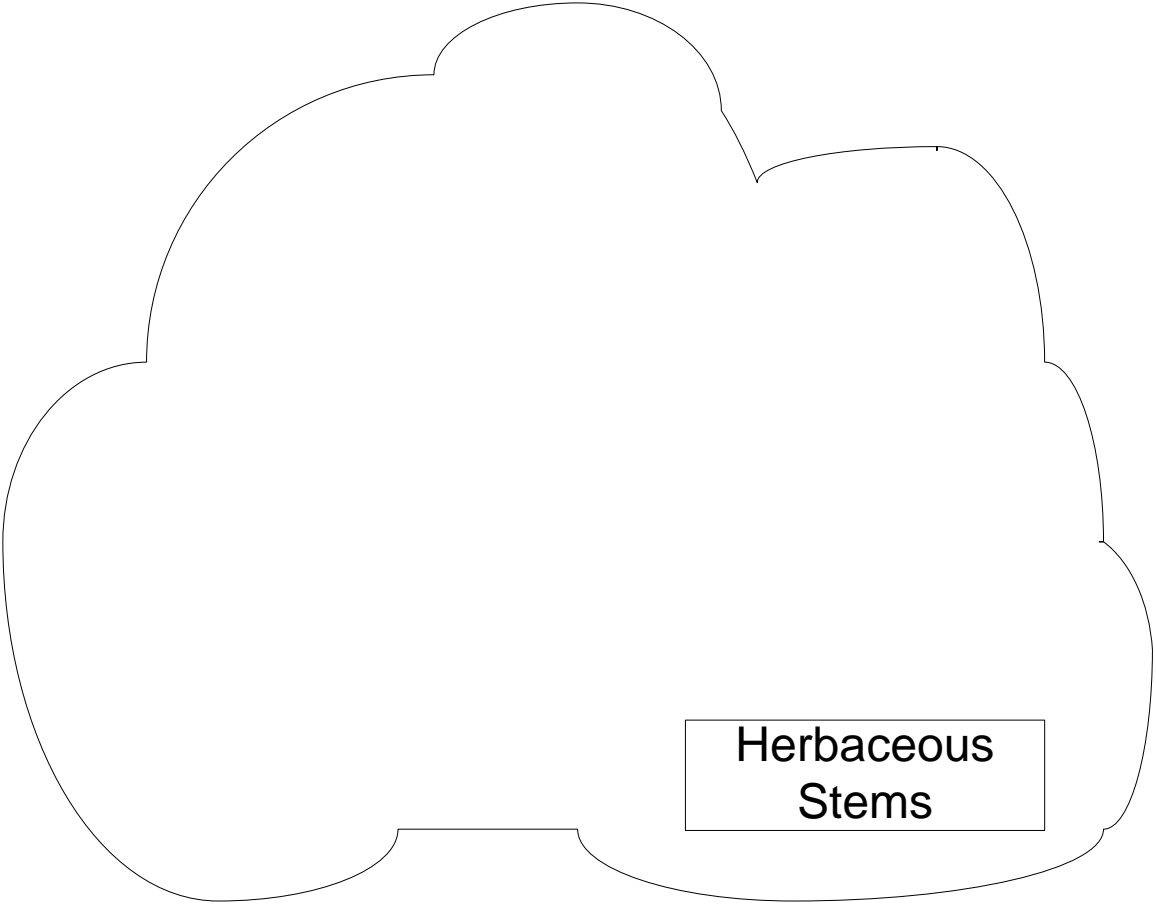


Woody Stems

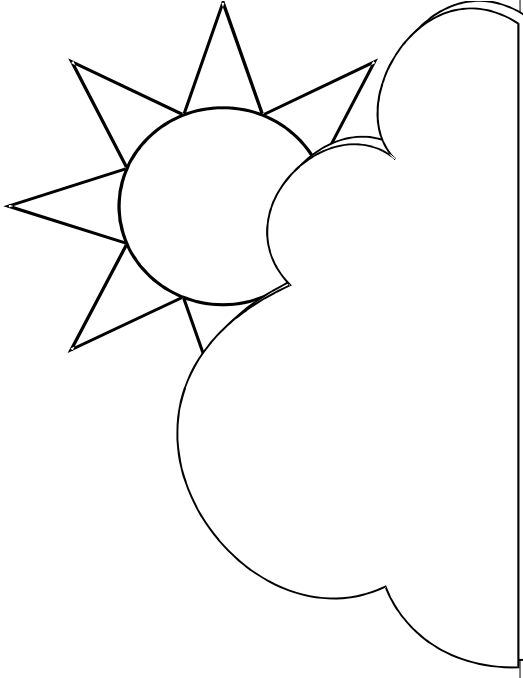
Woody &
Herbaceous
Stems



How can you tell
how old a tree is?



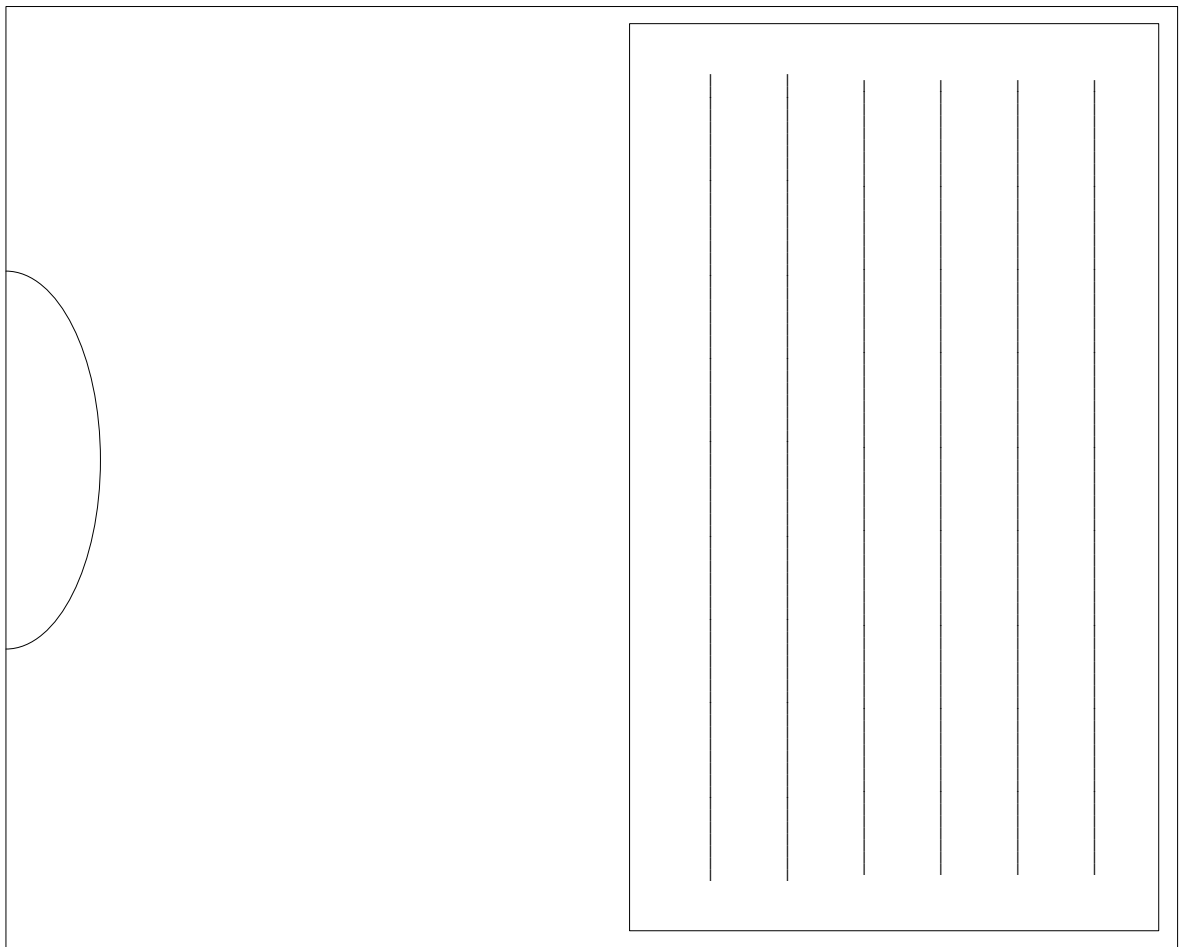
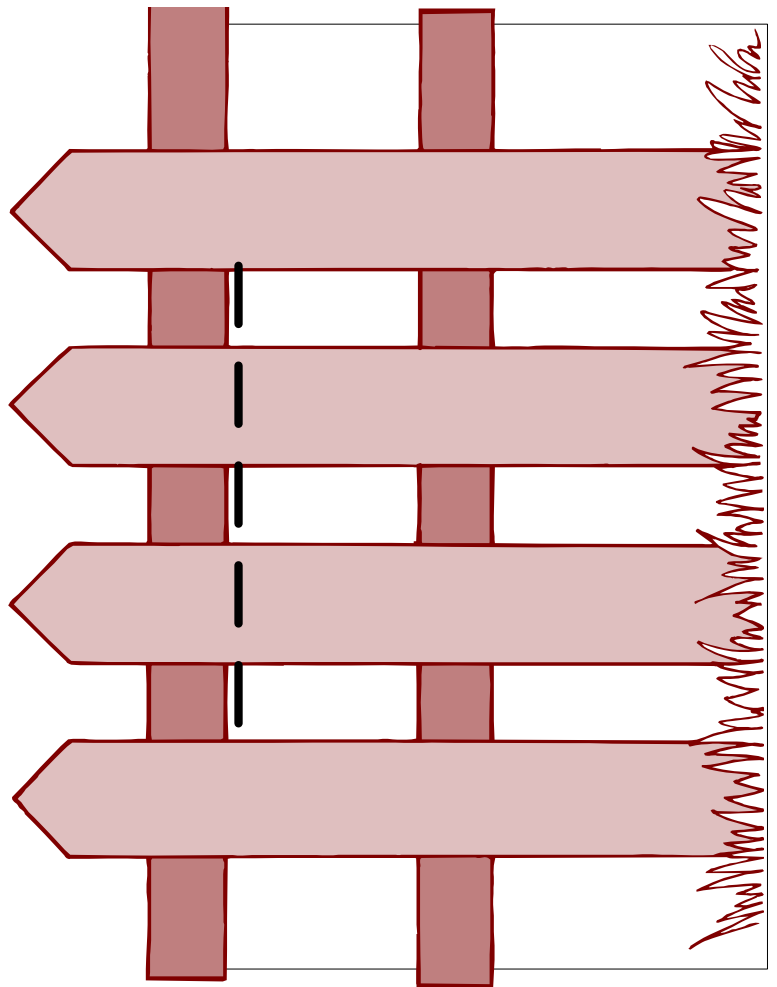
Herbaceous
Stems



**What is
Phototropism?**

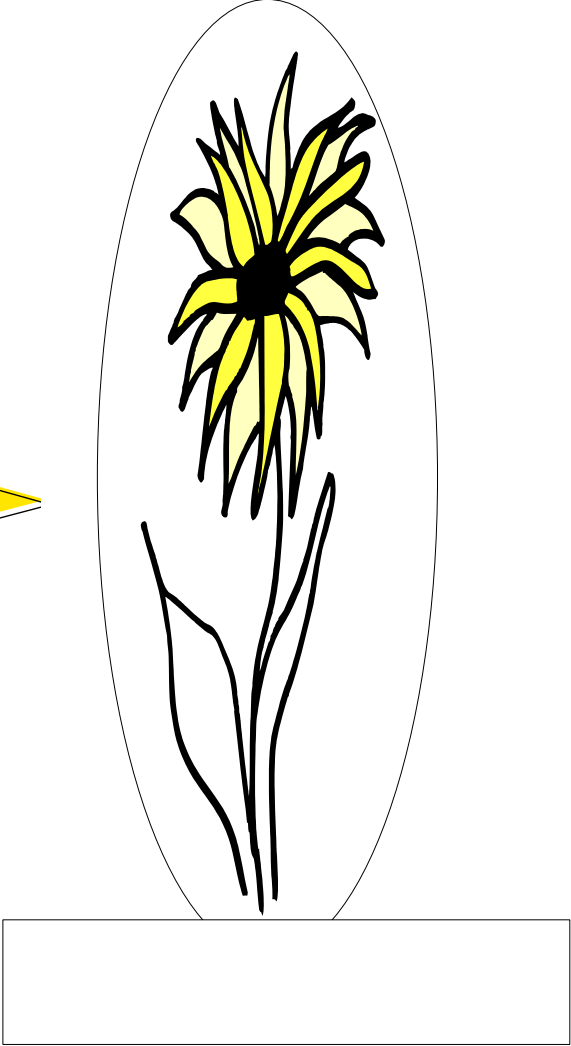
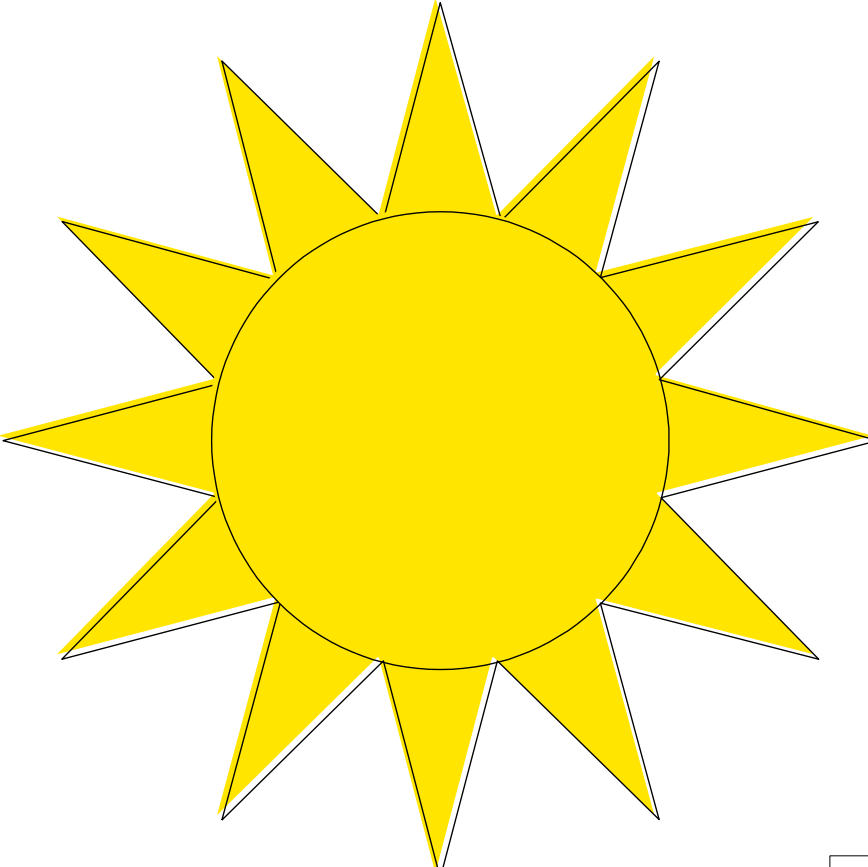
This is part of the inside of the Phototropism booklet. Print on white cardstock with colored ink.

Lesson 8

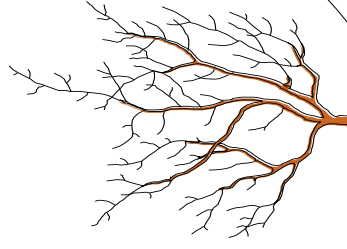


Lesson 8

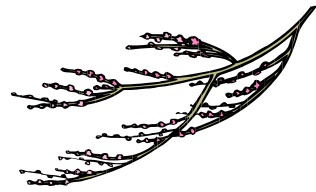
This is part of the inside of the Phototropism booklet. Print on white cardstock with colored ink.

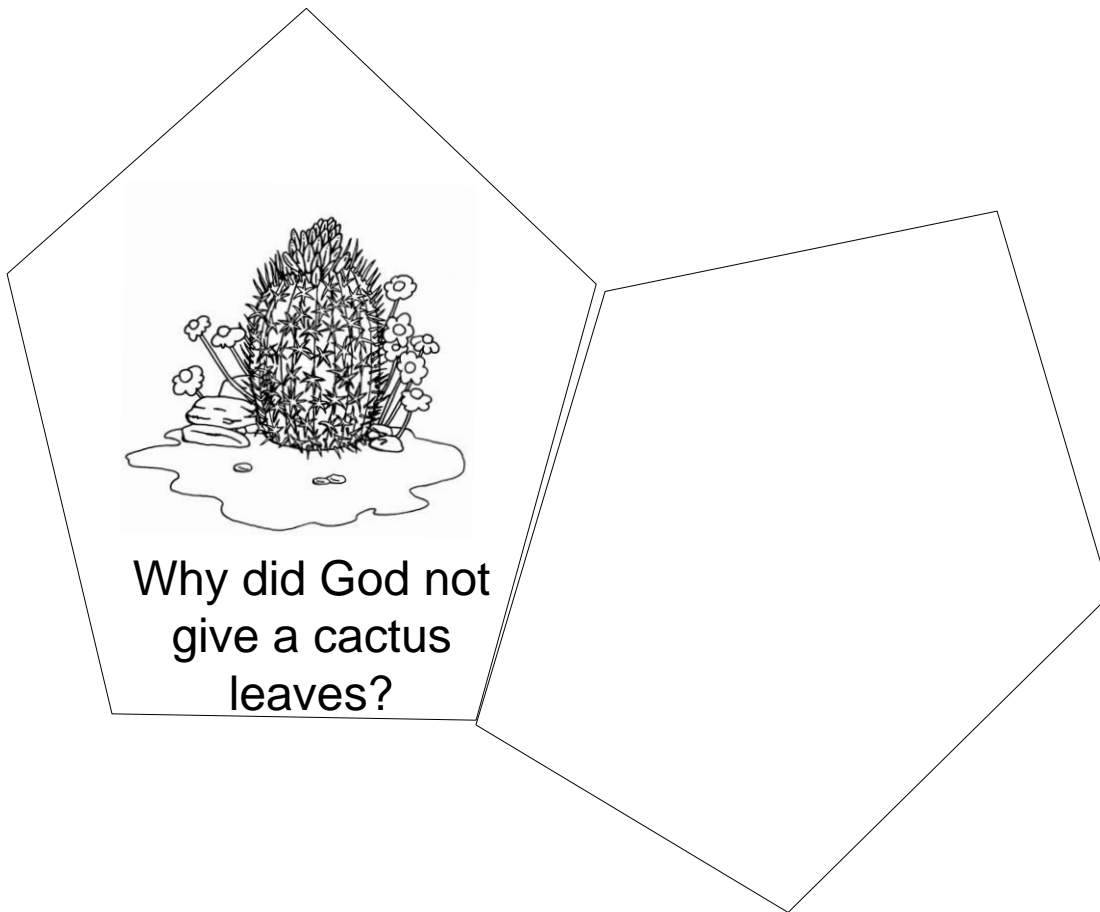


Why Did God



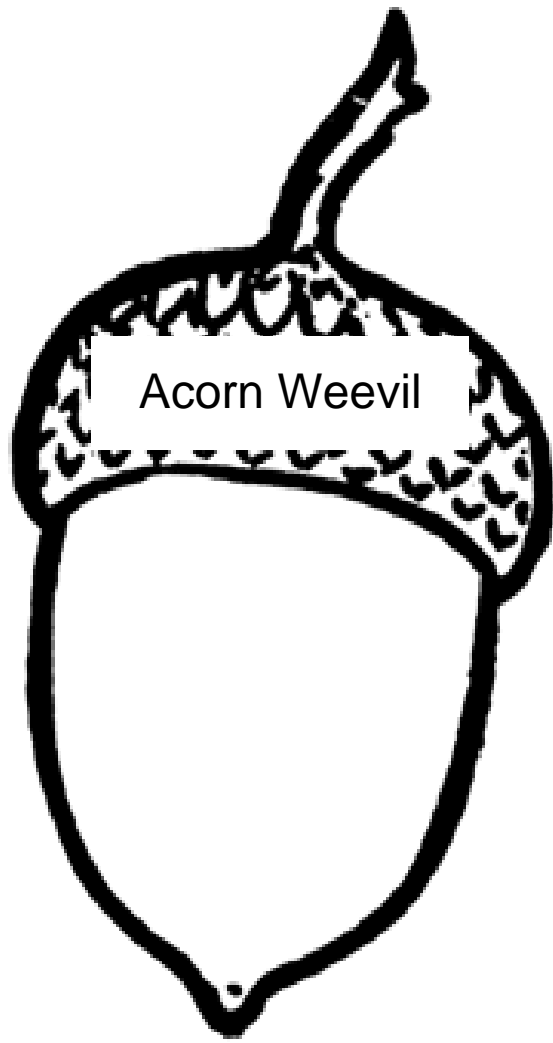
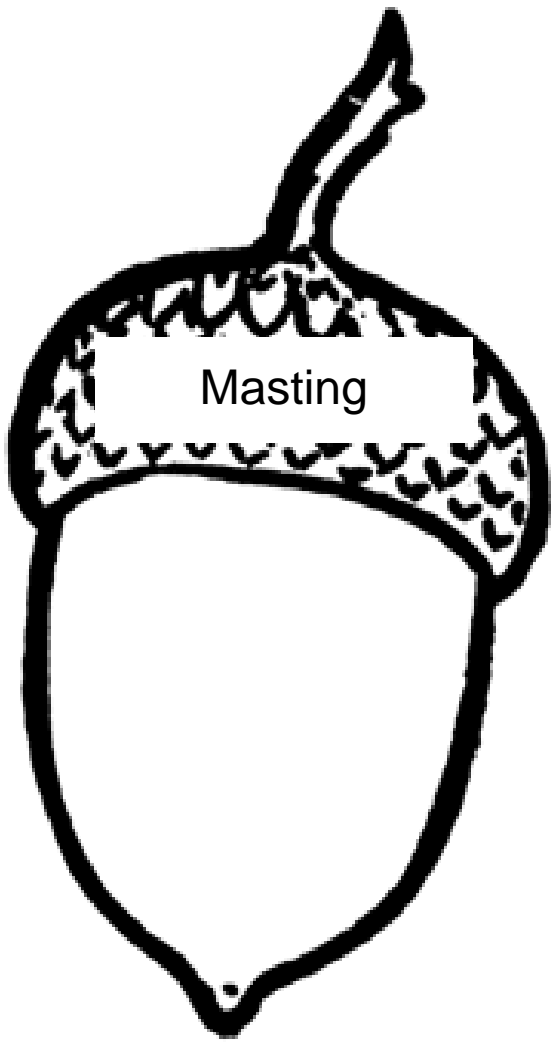
Create
Trees?

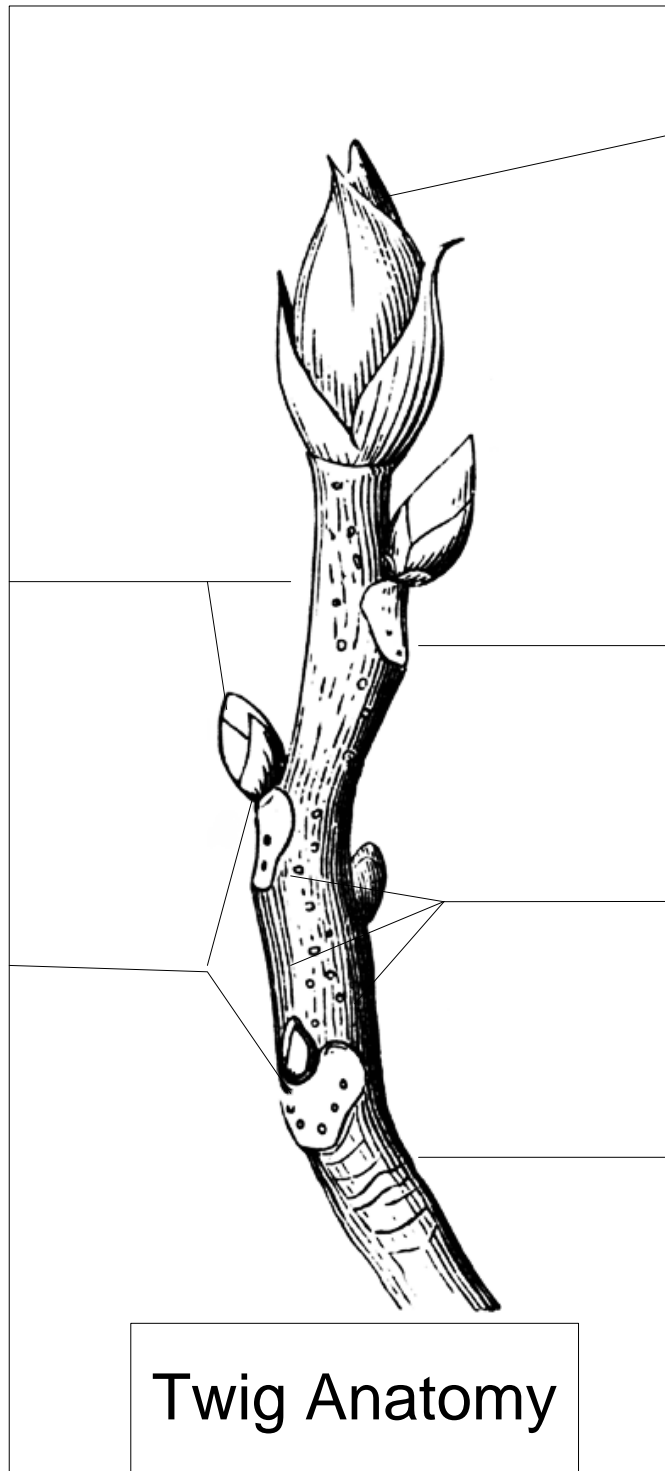




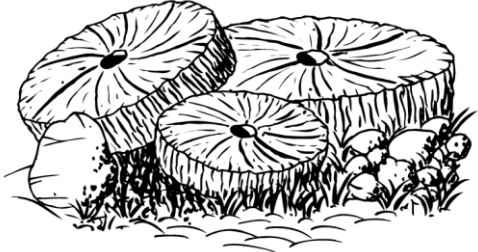
Why did God not
give a cactus
leaves?







Layers of a Tree Trunk & Their Jobs



Heartwood

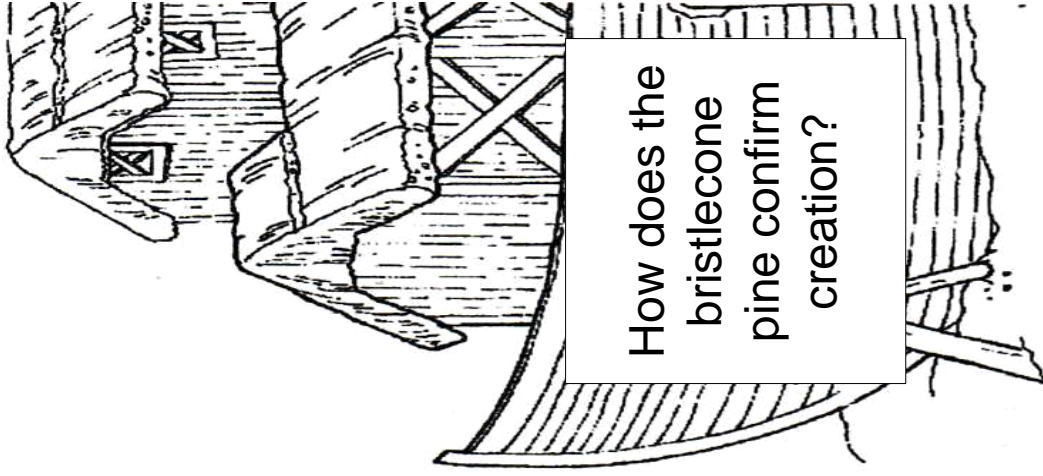
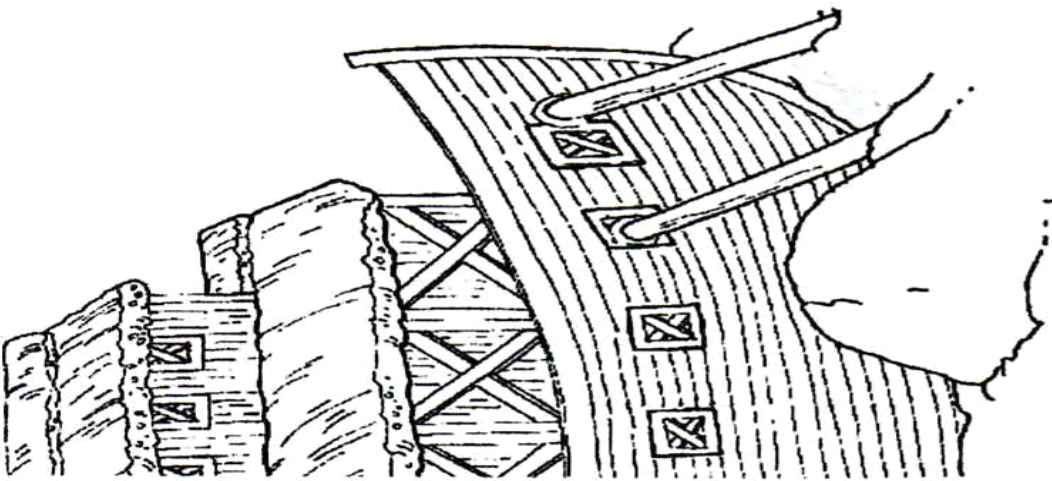
Sapwood

Vascular Cambium

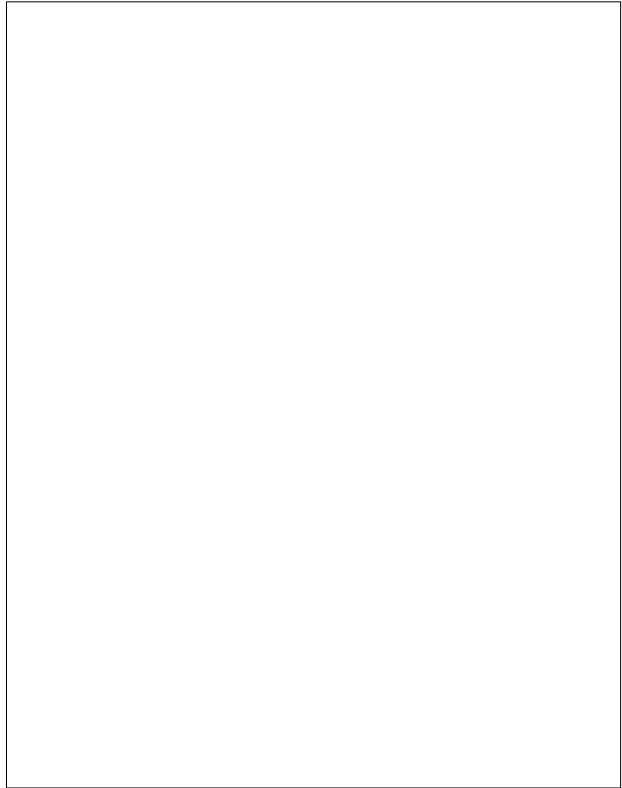
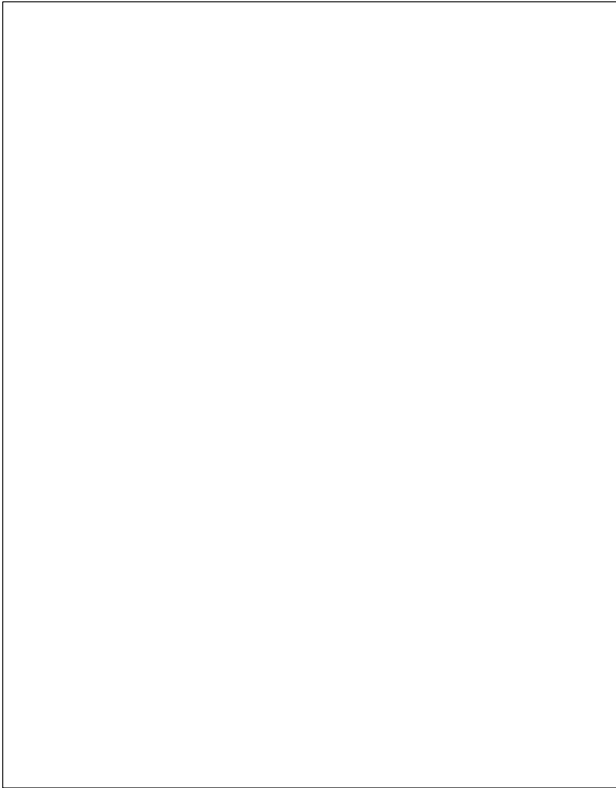
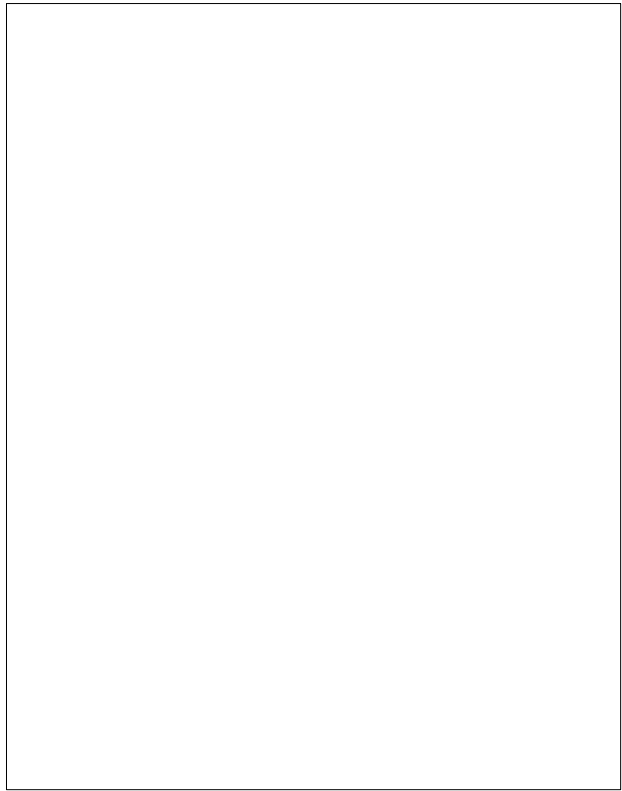
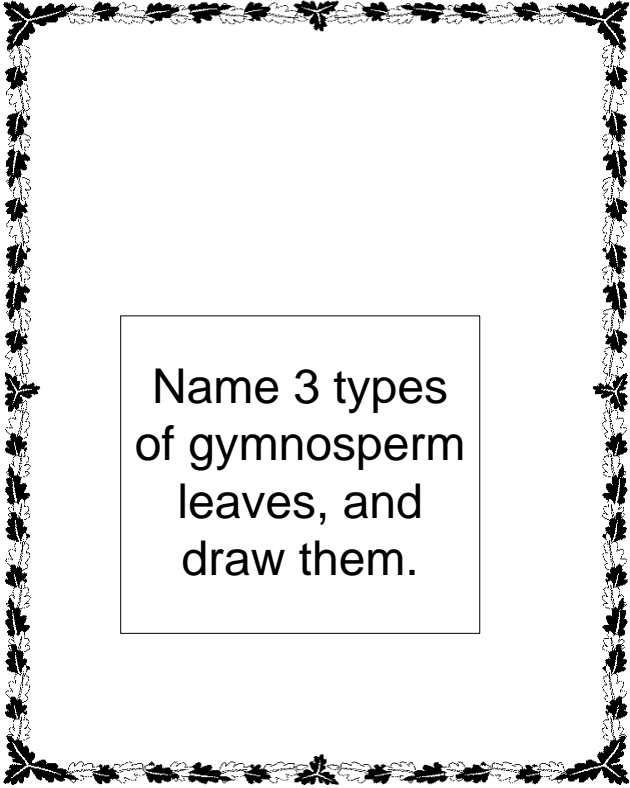
Lesson 9

Inner Bark

Bark



How does the
bristlecone
pine confirm
creation?

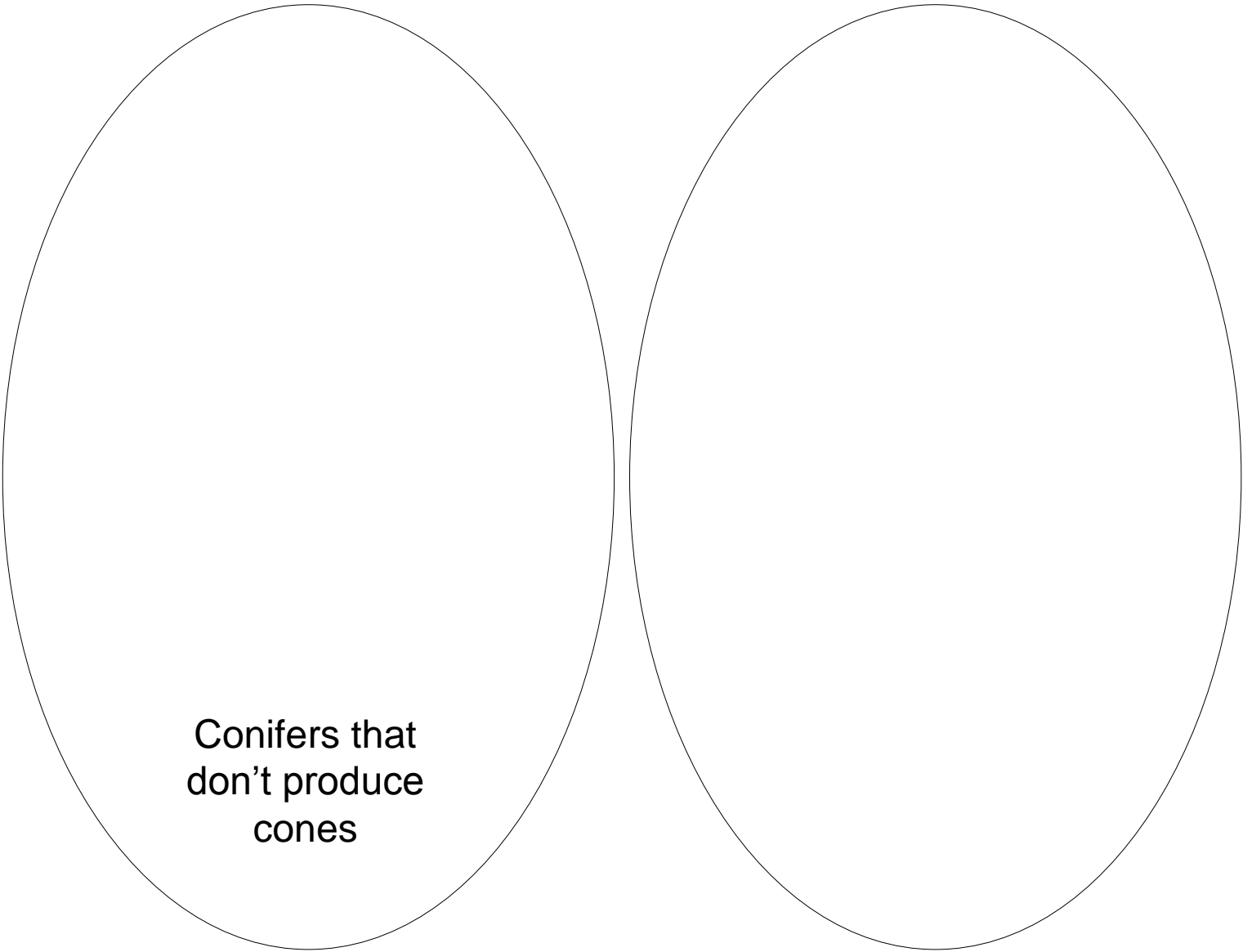




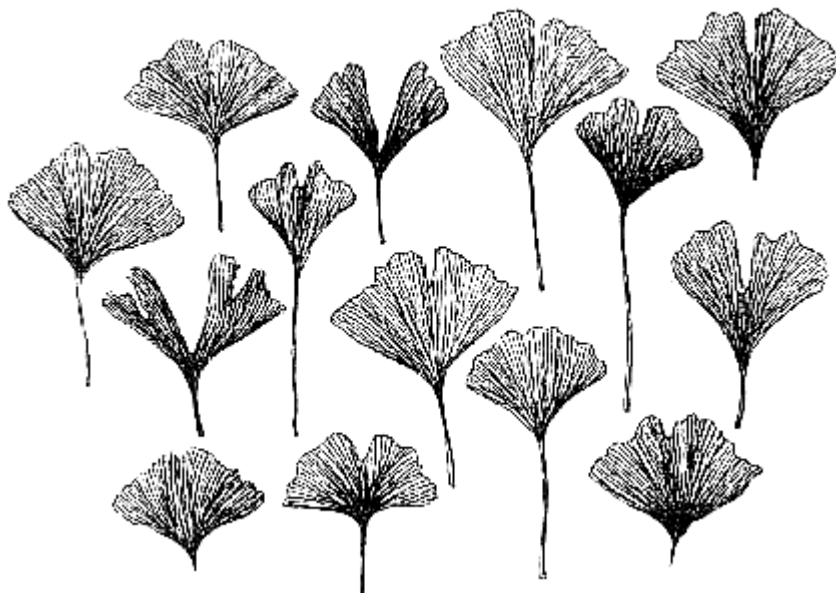
CONES

Pollen Cones

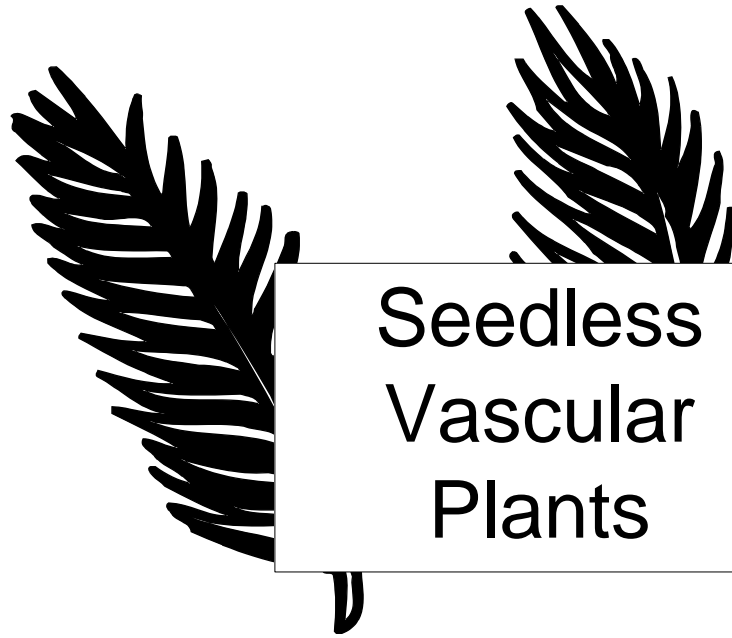
Seed Cones



Conifers that
don't produce
cones



Ginkgo Biloba



Seedless Vascular Plants

General

What are sporangia?

What is a seed?

What is a spore?

		Ferns
--	--	-------

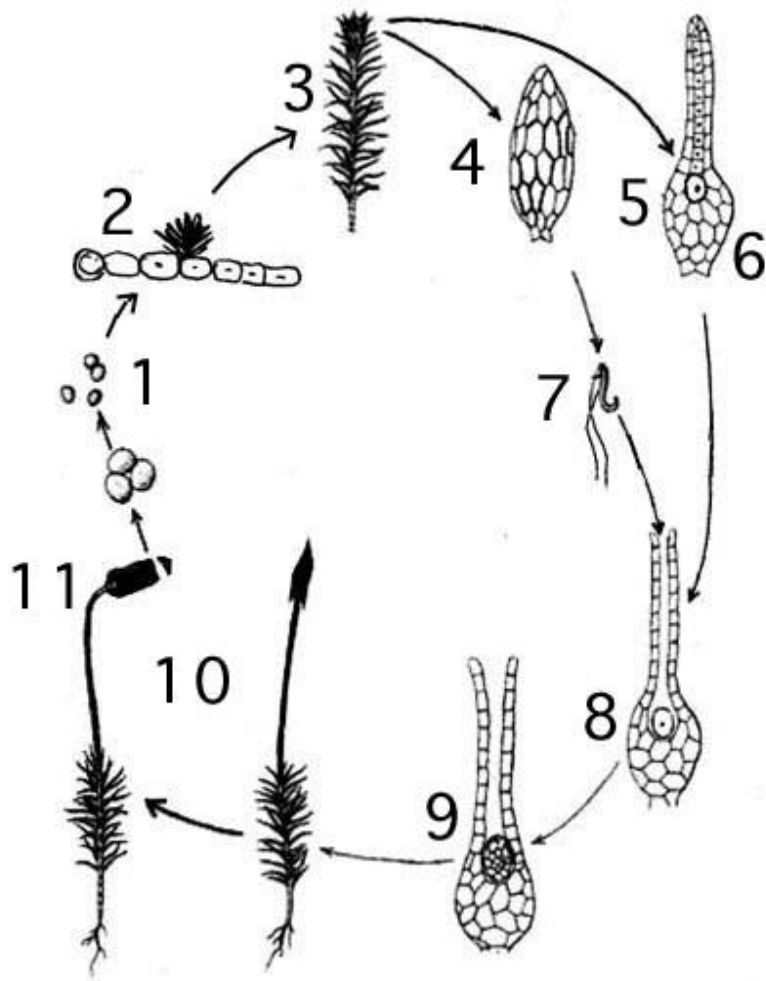
<table border="1"><tr><td>What makes ferns different from other plants?</td></tr></table>	What makes ferns different from other plants?
What makes ferns different from other plants?	

		Fronds
--	--	--------

		Reproduction

		Tree Ferns

Life Cycle of Moss



1	_____
2	_____
3	_____
4	_____
5	_____
6	_____

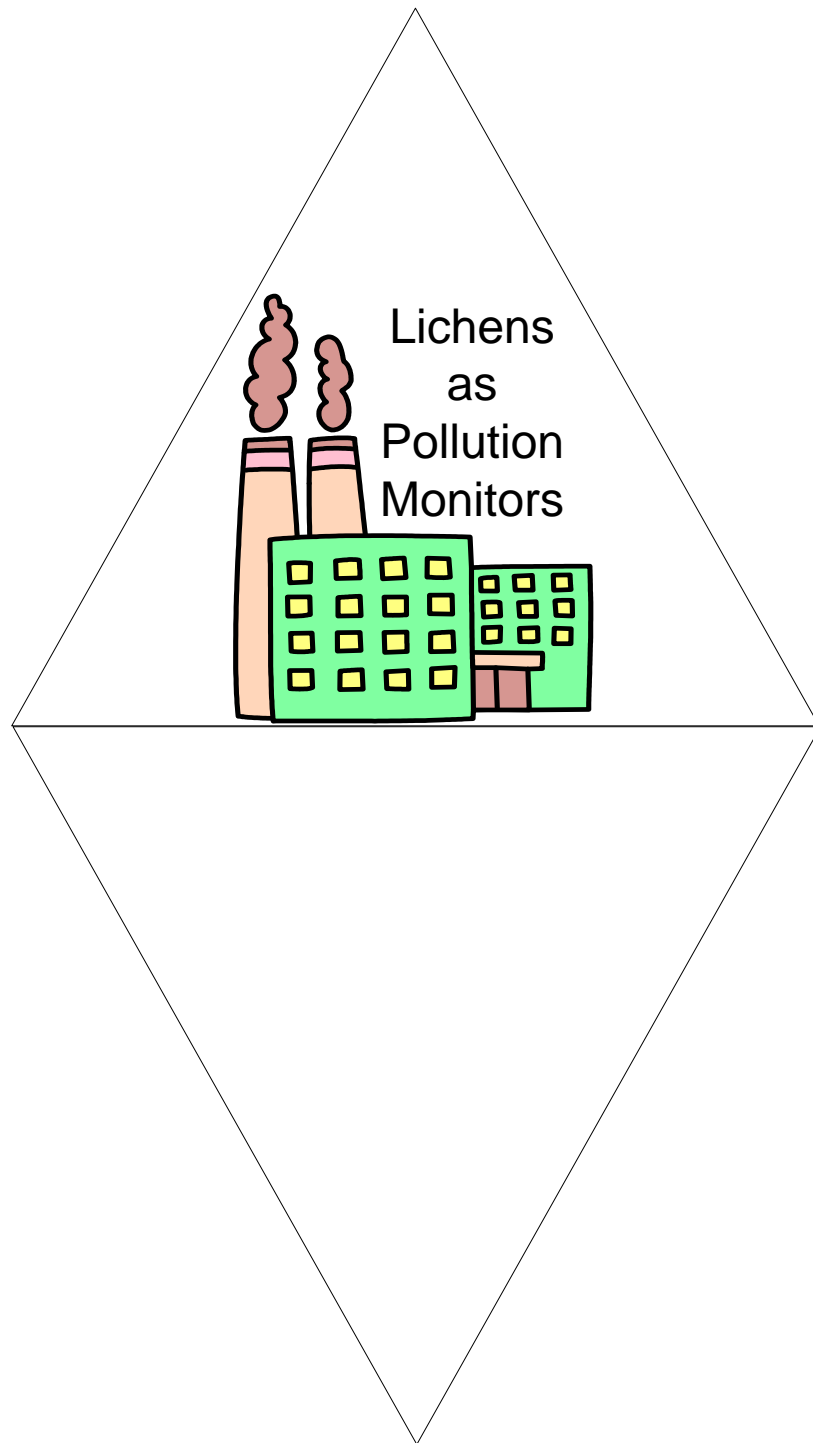
7	_____
8	_____
9	_____
10	_____
11	_____

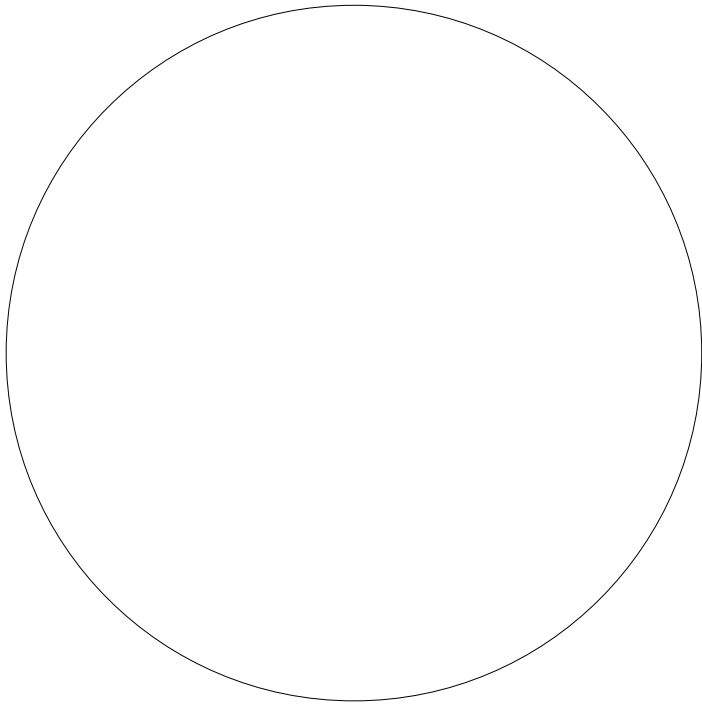
Lichen

What is fungus?

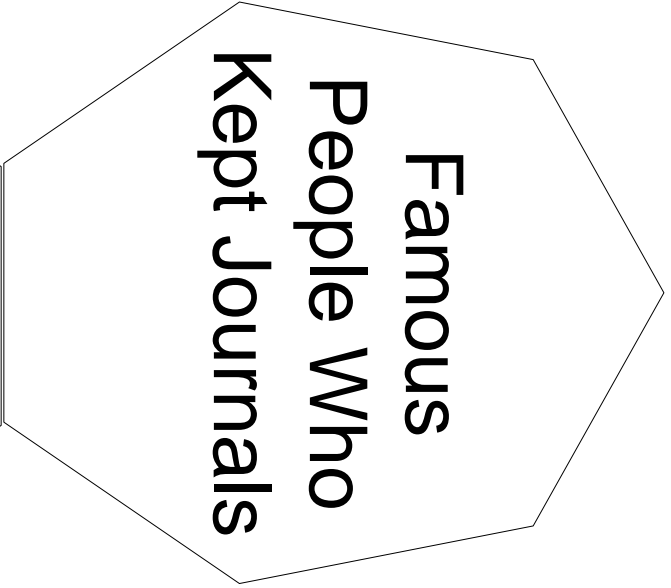
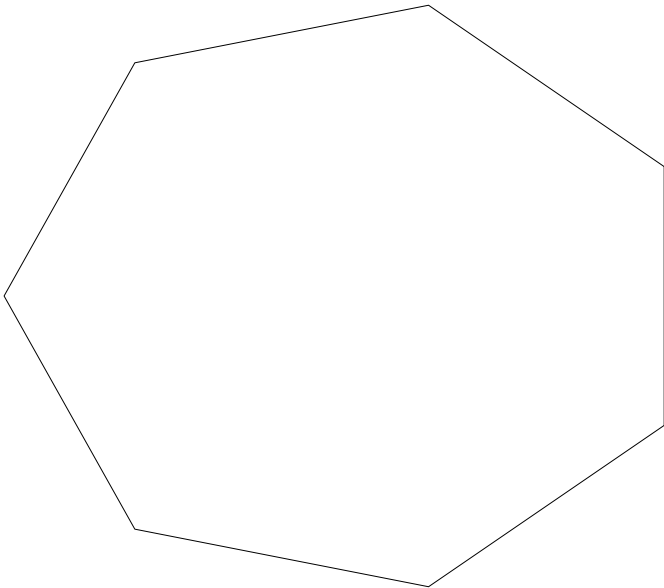
What is algae?

Symbiosis





What is a
Nature
Journal?



Famous
People Who
Kept Journals

	Amazing Fact
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	Amazing Fact
--	--------------

Amazing Fact

Amazing Fact

Amazing Fact

Amazing Fact