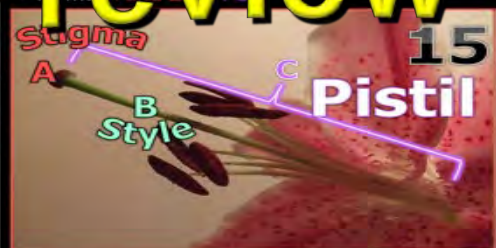


Leaf Identification, Life Cycles, Flowers, and Fruits

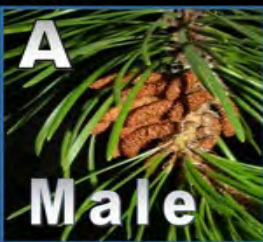
Preview is a compressed file



- Anther: Holds the pollen.



- Try again, Which is **male**, and which is **female**.



I plan

produce

together

16

What?

Ivy

- Blade: The entire leaf unit. Sometimes this is made up of several smaller leaflets.



- Which is the filament, and which is the anther? Where is the pollen?



14 Red Pine
Pinus resinosa

RED

9 Lessons

INTERACTIVE SLIDESHOWS

- These are the names for the green leaves that cover the outside of a flower bud to protect it before opening.

Sepals

17

answer is...

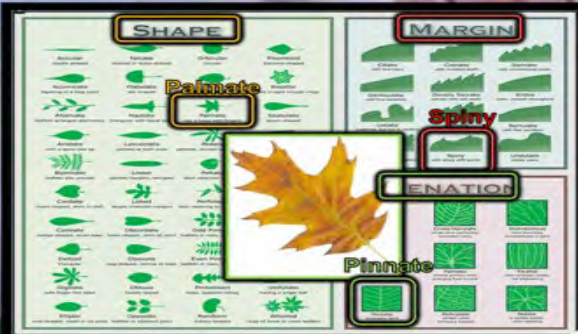
- Strawberries develop from flowers with many pistils.



Not a Berry



- Eastern Hemlock: The needles are narrow, flat and soft, less than 1 inch long. Dark green above, with two white lines below.



- Pome: This fruit has a core as the true fleshy fruit, and it's surrounded by a fleshy good accessory layer.

Apple



Pear



- Sugar Maple



- Which leaf below is a red maple, and which is a sugar maple?



A

Red Maple



B

Sugar



- Which is a Beech and Which is a Birch?



Birch



B

Beech

Define a leaf in or around the rubbing(s). Once we learn about leaf identification can you describe some identifiable leaf structures / name the tree this leaf came from?

Bloss: the entire _____ unit. Sometimes this is made up of several subleaves (lobes).

Veins: Cordons _____ (leaves).

Leaf Margin: the _____ of the leaf

Leaf Base: Name for the blade close to stem

Leaf Apex: the _____ of the leaf

The Petiole: Stem that connects the leaf blade to the stem.

Please identify some of the structures on these leaves:



How does this plant fit?



Poison Ivy: A North American _____ plant of the cashew family that secretes an irritant _____ from its leaves, which cause _____.

Please describe Poison Ivy in the Spring, Summer, Fall, and Winter. Describe how it will change.

Spring	Summer	Fall	Winter

Deciduous plants shed leaves that _____ leaves fall and grow them back in spring.
Evergreen: needles can survive _____ mean constantly growing and not shedding.

- needles can survive cold (and sometimes)

scale-like awl shaped shear shaped single needles bunched needles cluster needles

Catchers: all these capture some, water droplets

11	11	11
12	12	12
13	13	13
14	14	14
15	15	15

Seed Dispersal in Populus

Seed Dispersal Life Cycle:

- All plants disperse:
 - 1. reproduction: two parents: When the plant is mature, it produces seeds.
 - 2. dispersal: seeds are carried away from the parent plant.
- Populus disperses by wind: seeds are carried away from the parent plant.
- Germination: New seedling: seeds usually germinate in a favorable environment.

Which is the most common dispersal method for a tree?

Wind

A

B

Populus disperses seeds: produce seeds enclosed in a fruit called a samara.

[illegible]

Write a sentence to describe the image.

Answer the questions below in order. If a plant that makes food...

Please write in pencil and copy it to the clipboard in the classroom.

[illegible]

Real-World Assessment Question

Activity: Flower Dissection

- Remove the petals of the flower.
- Label the parts of the flower on a diagram.
- Draw a cross-section of the flower.



Task 1: Label the parts of the flower.

Task 2: Draw a cross-section of the flower.

[illegible]

	
Scientific Name: <i>Pisum sativum</i> Common Name: Pea Distribution: Widely cultivated in temperate regions. Importance: Peas are a source of protein and are used in various dishes. Distribution: Widely cultivated in temperate regions.	Scientific Name: <i>Gravel</i> Common Name: Gravel Distribution: Found in riverbeds and construction sites. Importance: Gravel is used in construction and landscaping. Distribution: Found in riverbeds and construction sites.

[illegible]

The image shows a crossword puzzle book. The left page features a crossword puzzle grid with some letters filled in. The right page is titled "Part 5 Review Game" and contains a table for a game. The table has columns for "Question", "Answer", and "Score". The table is empty except for the headers. Below the table, there is a line for "Total Score" and a line for "Name".

Activities, Quizzes, Links, Assessments, and more...

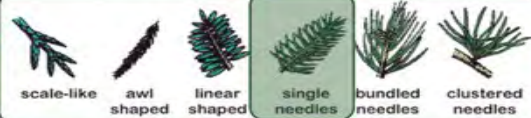
- Annuals: Seed germinates, grows, and produces new seed, before dying.



- Name this type of tree?



- These are the types of plants and shrubs that lose leaves in fall and grow them back in spring.



Needle Arrangement?



- The ovary in the flower contains the seeds. The ovary then becomes the fruits with the seeds inside.



- Which is a red oak, and which is a white oak?



- Please name A and B.
– Hint. You can try and unscramble the words.
angiosperm **gymnosperm**

Which one evolved first?



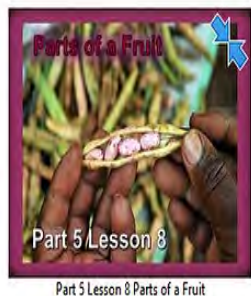
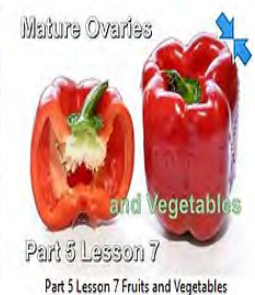
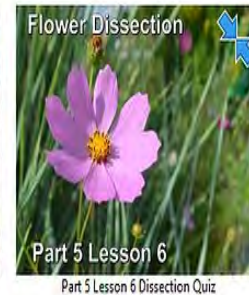
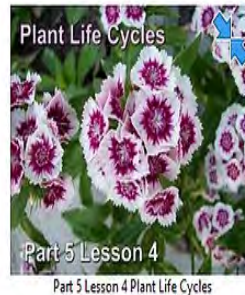
- What type of fruit is this plume? **Drupe**
– It developed from one ovary and has one seed.
– Please label the endocarp, mesocarp, and exocarp.



- Evergreens: Needles can survive winter, trees constantly grow and drop needles.
• Needles can survive cold (sap antifreeze).



Botany Unit Part 5: 10 Lessons of 50 Minutes and 18 Page Work Bundle, Leaf Identification, Leaf Rubbing Activity, Blades, Venation, Leaf Margins, Leaf Base, Leaf Apex, Petiole, Simple vs. Compound Leaves, Identifying some common leaves, Maples, Oak, Beech, Pines, Poisonous Plants, Case Study on Poison Ivy, Poison Ivy Identification, Ivy Identification Quiz, Other Poisonous Plants, Deciduous Trees, Conifers, Identifying Conifers, Tree Identification Visual Quiz, , Plant Life Cycles, Seed Plant Life Cycles, Gymnosperm, Male vs. Female Cone, Angiosperm, Pollen, Annuals, Biennials, Perennials, Interpretive Dance Plant Life Cycles Group Activity, Flowers, Amazing Flowers Visual Tour, Parts of a Flower, Step by Step drawing on a flower with Parts, Matured Ovaries (Fruits), Stamen, Filament, Anther, Pistil, Stigma, Style, Ovary, Ovule, Sepal, Petals, Nectar Guides, How Flowers Attract Pollinators, Flower Dissection Lab, Visual Quiz Name that Part of a Flower, Exotic Fruits Visual Tour, Poisonous Berries, How Flowers become Fruits, Fruit or Vegetable Visual Standing Quiz, Parts of a Fruit, Epicarp, Mesocarp, Endocarp, Fleshy and Dry Fruits, Simple Fruits, Berries, Drupe, Pome, Aggregate Fruit, Multiple Fruit, Dehiscent Dry Fruit, Legumes, Indehiscent, Animals and Fruits / Seed Dispersal, Uses of Plants Wrap-up, Box Game Review, Crossword Puzzle, Unit Assessment



[Botany Unit Part 5](#)

SlideSpark Science



MIDDLE-LEVEL EDUCATIONAL RESOURCES

Interactive slideshows provide the roadmap for an amazing learning experience for students in grades 5-9. A Detailed set of work bundles chronologically follow the digital learning, providing a clear and intuitive roadmap to understanding. As the teacher or student advances through a slideshow, exciting hands-on activities, fantastic visuals, fill-in notes, review opportunities, video links, assessments, and much more are strategically placed throughout. Interactive learning unfolds step by step and supported by the work bundle to reach all types of learners. Everything you need to run to an amazing learning experience is provided in this one-of-a-kind science curriculum.

Each unit in the curriculum is designed to help teachers deliver the best possible learning experience for their students. Our interactive science slideshows are filled with questions and answers, important fill-in notes, hands-on activities, projects, games, built-in quizzes, and end of the unit assessment pieces. Students follow along with a work bundle that documents the entire learning experience for a fantastic review and assessment piece.

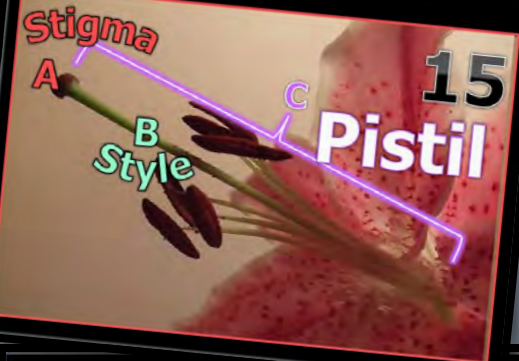
- All plants undergo sexual reproduction (two partners).
- When the sperm (pollen) and egg come together you get a zygote / baby plant.



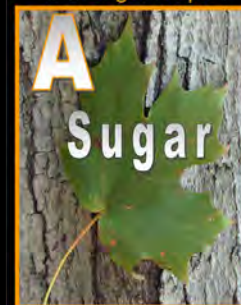
- Which plant is an **angiosperm**, and which is a **gymnosperm**?



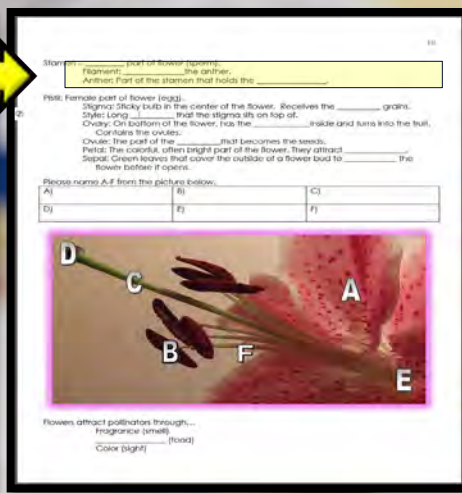
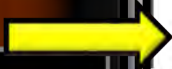
- Name **A** and **B** and **C**?



- Which leaf below is a **Red Maple**, and which is a **Sugar Maple**?



- Anther: Holds the pollen.



Red Slide Notes: Help students record important information in a fun and easy-to-understand way. Designed red-colored slides contain a few pieces of crucial information that students must record into their work bundle to complete the notes. Students will use these important notes throughout the work bundle.

The set-up of the slideshows are designed to make learning fun and interactive for students. With a mix of questions and answers, teachers can use these slides to get their students thinking and actively participating in their education. Plus, the answers are always revealed on the next slide, providing students with immediate feedback and helping teachers assess their understanding.

• Activity! Answers

- A-Anther
- B-Filament
- C-Stigma
- D-
- E-



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• Activity! Answers

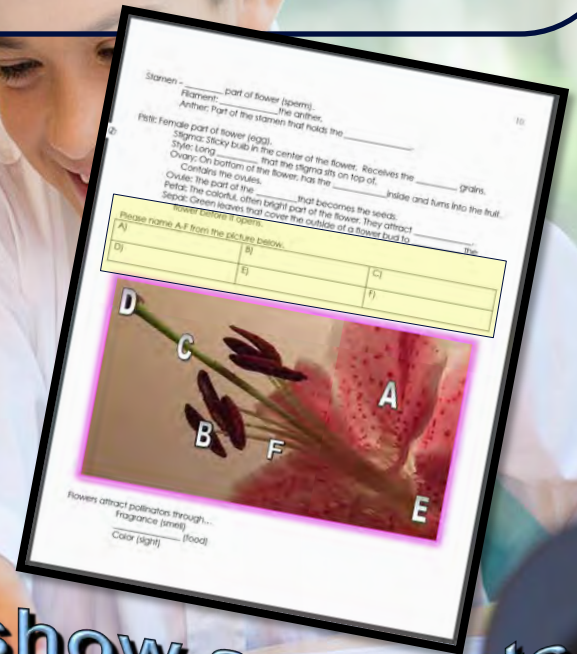
- A-Anther
- B-Filament
- C-Stigma
- D-Style
- E-



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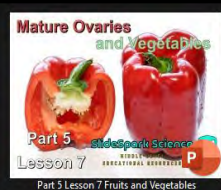
Next Slide

slideshow supports
Work Bundle



Lesson Planning

Daily lessons space exciting hands-on activities, red slide notes, video and academic links, projects, simulations, readings, built-in quizzes, and review opportunities throughout the slideshows. A typical day may have many different learning styles being targeted. Daily lesson planning becomes advancing through the slideshow roadmap the night before. Each lesson is roughly 50 minutes, but sometimes things can speed up or slow down. The best strategy is just to go at your classes own pace. The work bundle chronologically follows the interactive slideshow and you can always spend extra time assessing the quality of the writing within. If you don't quite finish a lesson, you can always pick it up the next day where you left off. The only real trick in timing is not starting a larger activity if you don't have the available time to complete. The slideshows have been designed to be a low stress, go at your classes own pace experience. Most activities are designed to be cost effective, using general materials that can be gathered from your local stores.



Lessons chronologically follow a single work bundle

Follow Along Work Bundle

Each science unit includes a single printable work bundle that stays with students from start to finish. Just print and distribute on day one—no daily handouts needed. The bundle follows the unit chronologically and includes everything: fill-in notes, diagrams, quizzes, lab activities, with follow up questions and much more. It's used daily, supports the end-of-unit quiz game, and is handed in for an additional assessment. Answer keys, some writable .pdf versions, and digital versions are also included for flexible classroom use..

Part 3: Lesson 3: Conifers

Herbivory to the touch

2 lines visible

Spiky to the touch

Deciduous: Plants and animals that _____ leaves in fall and grow them back in spring.

Evergreen: Needles can survive _____ trees constantly grow and drop needles.

- Needles can survive cold (sap anthesis)

scale-like awl shaped linear shaped single needles bundled needles clustered needles

Conifers, as their name hints, bear cones.

Quiz: 1-11, Name that tree based on the leaf / needles.

1)	2)	3)
4)	5)	6)
7)	8)	9)
10)	11)	

Part 5: Lesson 4: Plant Life Cycles

Seed Plant Life Cycles

All plants undergo _____ reproduction (two partners). When the sperm and egg come together you get a _____ / baby plant.

Gymnosperm: non-flowering, seeds usually arranged on a _____

Which is the male cone (pollen producer) and which is female (egg)?

A) _____ B) _____

Angiosperm: flowering, covered seed, produce seeds enclosed in a fruit (ovary).

Which plant is an angiosperm, and which is a gymnosperm?

A) _____ B) _____

Annual: Seed germinates, grows, and produces _____ seeds, before dying.

Biennial: Plant _____ through the winter and _____ seeds before dying.

Perennial: Plants that live for _____ years, producing seeds each year.

Please label the life cycles below. Which picture is an annual, biennial, and perennial?

Plant Life Cycles Dramatic Set

- Each life cycle group has three groups (Annual, Biennial, Perennial)
- Each group will have 15 minutes to set up an interactive display that explains their life cycle
- Groups rotate through the cycle with cards out, interact with drama, and drama
- Groups are not a winner or loser, just a winner (just recommended)

Notes for Dramatic Plant Life Cycle Set

Review Games / Assessments

This unit concludes with a review quiz. Answers are provided in slideshow form so students can self assess. A blank template sheet is provided in the work bundle. Students can benefit from working together in small table groups with quiet communication. You can decide if you want to allow the use of work bundles or not. These are a nice review opportunity and get the students looking through their work bundles for the answers.



Part 5 Review Game **Lesson 9** Name: _____
1-10 = 10 pts. * = Bonus + 1 pt.
(Secretly write owl in correct space +1 pt)
Final Question = 5 pt wager

IDENTITY CRISIS	THE WONDER YEARS	BOYS AND GIRLS	TOOTY FRUITY	BIG BERRY
1) _____	6) _____	11) _____	16) _____	*21) _____
2) _____	7) _____	12) _____	17) _____	*22) _____
3) _____	8) _____	13) _____	18) _____	*23) _____
4) _____	9) _____	14) _____	19) _____	*24) _____
5) _____	10) _____	15) _____	20) _____	*25) _____

Final Question Wager _____ pt. Answer: _____

Part 5 Review Game **Lesson 10** Name: _____
1-10 = 10 pts. * = Bonus + 1 pt.
(Secretly write owl in correct space +1 pt)
Final Question = 5 pt wager

IDENTITY CRISIS	THE WONDER YEARS	BOYS AND GIRLS	TOOTY FRUITY	BIG BERRY
1) Write Owl (Quercus 600)	6) Penicillin (owl +1)	11) Pollen	16) Letter C	*21) CRUNCH BERRIES
2) Maples	7) Blotches	12) Letter A (Has male and female)	17) Sepals	*22) FRUIT STRIPES
3) Non-vascular tissue (Dandelion 600)	8) Deciduous	13) A=Anther B=Stamen C=Stamen	18) Fruit	*23) BLUEBERRIES FOR SALE
4) Network (through a series of connections)	9) Sexual Egg Zygote	14) Ovary	19) A=Vegetable B= fruit	*24) PAUL BUNYAN AND SAGE
5) How fast your animal	10) Angiosperm Gymnosperm	15) A=Stigma B=Style C=Petal	20) Drupe Exocarp Mesocarp Endocarp	*25) FRUIT OF THE LOOM

Final Question Wager _____ pt. Answer: _____

Plant Life Cycles

Quiz Game

• Which one below is the perfect flower?

A Male
Female

B Female

answer is... **12**

• Name A and B and C?

Stigma
A

B
Style

C
Pistil

15

• These are the names for the green leaves that cover the outside of a flower bud to protect it before opening.

Sepals

answer is... **17**

• Which one is a Berry, Aggregate, Pome and Dehiscent Fruit?

A Aggregate

B Dehiscent

C Pome

D Berry

• Name A, B, and C?

Anther
A

B
Filament

C
Stamen

Pollen

13

C = A and B

This the name for plant  e for many years producing seeds ?

6

Perennial

answer is...

- Carrots are examples of **biennials**. They live through their first winter and produce seeds before dying.

7 **Biennials**



- Name this type of tree?

Cedar

3

North Atlantic White Cedar
Chamaecyparis thyoides

answer is...

20 Questions

- Please name A and B.
— Hint. You can try and unscramble the words.
angiosperm **gymnosperm**

Which one evolved first?

10



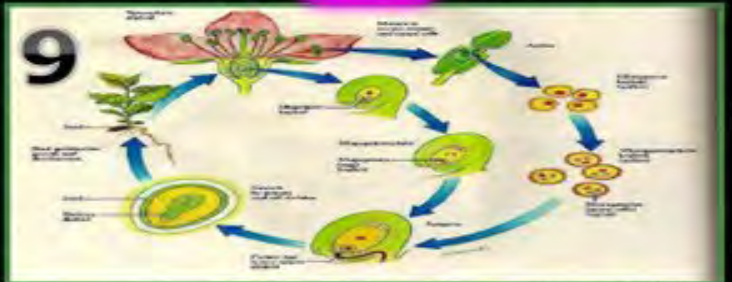
- These are the types of plants and shrubs that lose leaves in fall and grow them back in spring.

Deciduous 8

answer is...



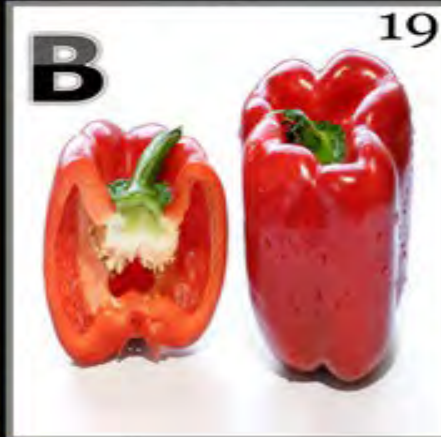
- All plants undergo **sexual** reproduction (two partners). When the **sperm** and **egg** come together you get a **zygote** baby plant.



- These are the names for the green leaves that cover the outside of a flower bud to protect it before opening.



- Which is a fruit and which is a vegetable?



- Identify this type of tree



- What type of fruit is this plum? **Drupe**
 - It developed from one ovary and has one seed.
 - Please label the endocarp, mesocarp, and exocarp.



- Identify this tree.



with
Answer Version

- Identify this type of tree.



- This is the name for a matured ovary in the pistil that contains the seeds.



- This is at the bottom of the flower. It has the seeds inside and turns into the fruit when fertilized. (contains ovules)



- What is this....



- Flowers attract pollinators through all of the following except...

- A.) Fragrance (smell)
- B.) Nectar (food)
- C.) Storms (wind)
- D.) Colors (sight)



Activities / Labs

Our science activities are designed to help students explore and understand complex scientific concepts in an engaging and interactive way. Each science unit includes several hands-on activities that encourage students to collect data and think critically about the world around them. Our easy-to-follow slideshow provides detailed visuals, simple materials, and clear directions, making it easy for both students and teachers to navigate the activities.

• Activity! Flower Dissection.

- Remove the parts of the flower (Be delicate)
- Line them up in your journal and label them.
- Once labeled, place clear tape on top.



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Part 3 Lesson 4: Flower Dissection

Activity! Flower Dissection.

- Remove the parts of the flower (Be delicate)
- Line them up in your journal and label them.
- Once labeled, place clear tape on top.

Quiz Wk 1-10, Name that part of the flower. Some answers can be used more than once.

	1)	2)	3)
4)	5)	6)	
7)	8)	9)	
10)	11)		

Plant Life Cycles Dramatic Dance.

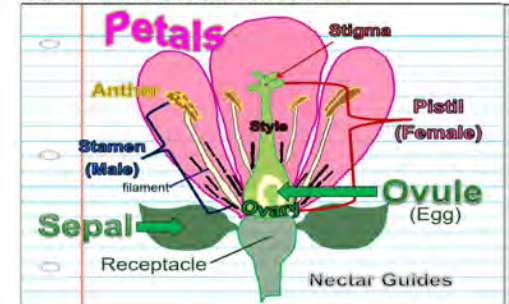
- Class will be divided into three groups (Annuals, Biennials, Perennials)
- Each group will have 15 minutes to plan an interpretive dance that explains their life cycle.
- Group should not discuss the cycle with words but instead with dance and drama.
- Group can have a narrator only if really needed. (Not recommended)

Notes for Dramatic Plant Life Cycle Skit

Part 3 Lesson 5: Parts of a Flower

Flower: The reproductive organ of a plant that makes the **seed**.

Please draw a flower and label it as described in the slideshow.



Stamen – **Male** part of flower (sperm).

Filament: **Supports** the anther.

Anther: Part of the stamen that holds the **pollen**.

Pistil: Female part of flower (egg).

Stigma: Sticky tube in the center of the flower. Receives the **pollen** grains.

Style: Long **tube** that the stigma sits on top of.

Ovary: On bottom of the flower, has the **seeds** inside and **turns** into the fruit.

Contains the ovules.

Ovule: The part of the **ovary** that becomes the seeds.

Petal: The colorful, often bright part of the flower. They attract **pollinators**.

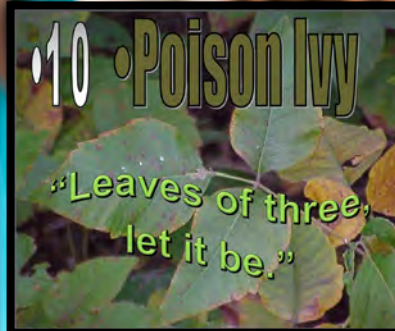
Sepal: Green leaves that cover the outside of a flower bud to **protect** the flower before it opens.

Built-in Assessment

Each unit contains several built-in assessment questions that students answer in their work bundle. With the question revealed before the answer, the teacher can easily call on individual students or table groups to respond. These provide an effective and efficient way for teachers to assess student learning.

- Quiz Wiz –Poison Ivy Identification. 1-10, Write Poison Ivy for the slides that are, and Not Ivy for the others.

**QUIZ
WIZ**



Name this plant!



Poison Ivy: A North American _____ plant of the cashew family that causes an itchy rash from its seeds, which can cause _____.

Please describe Poison Ivy in the Spring, Summer, Fall, and Winter. Sketches work as well.

Spring	Summer	Fall	Winter

Quiz Wiz –Poison Ivy Identification. 1-10. Write Poison Ivy for the slides that are, and Not Ivy for the others.

1)	2)	3)
4)	5)	6)
7)	8)	9)
10)		

Work Bundle

Built-in Video Links

Our science education program is designed with the modern, multimedia learner in mind, and our video and academic links are a perfect complement to our educational materials. These short clips are embedded into the slideshow at just the right places for a fantastic review. Whether you're studying biology, chemistry or physics, the links are an excellent way to reinforce your learning.

- Visit the link below and try and identify this tree species.

– <http://www.oplin.org/tree/leaf/byleaf.html>



Poison Ivy, the stuff you don't know yet.

<https://www.youtube.com/watch?v=zKEjXRKa0A>



- Video Link! Flowers opening and closing time lapse.

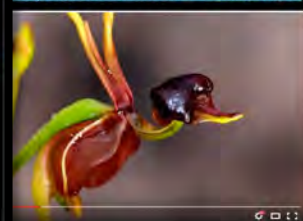
– <http://www.youtube.com/watch?v=E1xv0T2auJU>



- Video! 10 Neat looking flowers.

ne names are a little inappropriate.

www.youtube.com/watch?v=3qNik3FAB5c



- Video Link! Plant Life Cycles – Optional and Advanced.

– Covers the topic more advanced.

– <http://www.youtube.com/watch?v=AyKzPernLs7Q>



- Video Link! Flower to fruit time lapse and animation.

– <http://www.youtube.com/watch?v=zVNsCW6eiiw>

– <http://www.youtube.com/watch?v=sEwmUbzN-g>



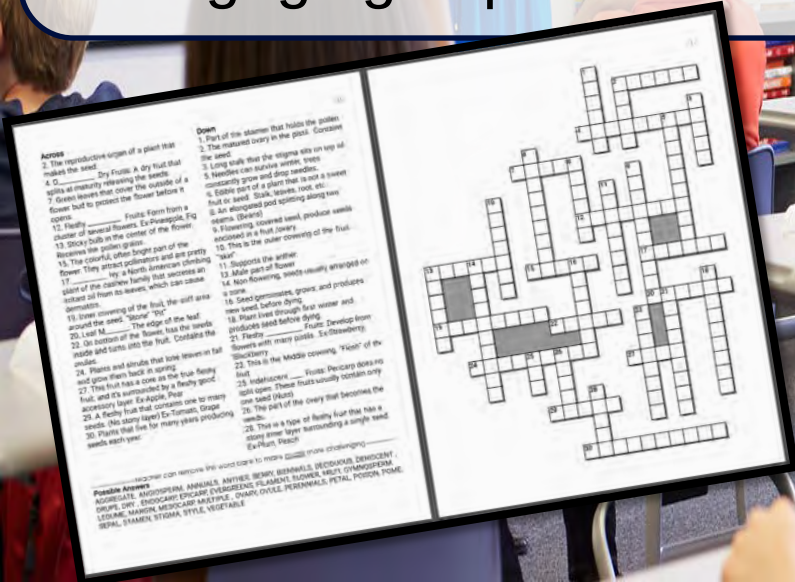
- Cherries from flower to fruit.

– <https://www.youtube.com/watch?v=Q80pcN0lp8s>



Games and Review

Games are a fantastic way for students to learn scientific concepts while having fun. We incorporate a variety of games into our curriculum, including interactive quizzes and puzzles that challenge students to think critically about the material. Our Hidden Box Games are a particularly popular feature, which conclude each unit by revealing a picture related to the topic. Students try to guess what the picture might be, making learning an engaging experience.



• Eastern White Cedar:



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• Eastern White Cedar:



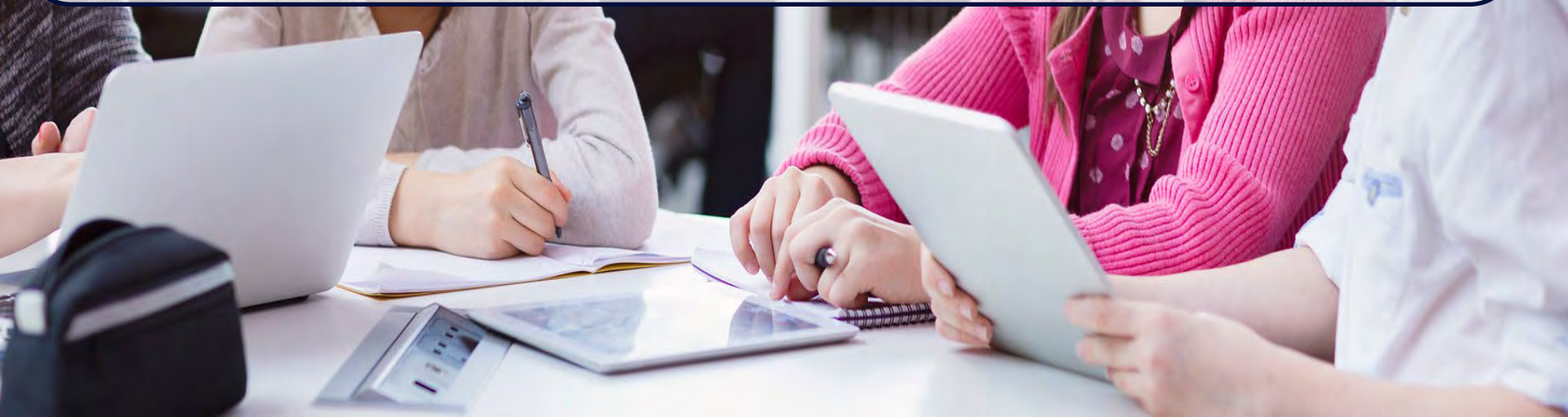
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The Owl - Each Part of the slideshow has a small clipart Owl hiding somewhere in a slide. The owl is incredibly small and blended into just the right slide. If a student spots the "Owl" they can raise their hand high into the air. When you call upon the student they can say "Owl" and be the student who spotted the Owl. Each PowerPoint Review game also has an owl hiding in it worth one point. Remind the students that they secretly write the word "owl" rather than yell it out during the review games. The Owl search is not included in every lesson. A slide at the beginning of the lesson will alert the students that today is an "Owl" day. Everything arrives editable so delete if you wish. You will find that some students will become the expert owl hunters in the group.

Google Classroom Compatible

Our digital learning programs are designed for students to learn science in a flexible and engaging environment. Our Google Classroom-compatible units provide a seamless learning experience whether your students are in the classroom or learning from home. Our step-by-step slideshows and student work bundles ensure that students can complete their work independently. The PowerPoint Slideshows and step-by-step work bundles can easily be loaded to your Google Drive and posted in your Google Classroom. These are great for daily lessons, students who need additional time, and for a student who was absent and looking to catch up in their work bundle.





[Part 5 Lesson 4 Plant Life C...](#)

Google Slides



[Part 5 Lesson 3 Tree Identifi...](#)

Google Slides



[Part 5 Lesson 5 Flowers](#)

Google Slides



[Part 5 Lesson 6 Dissection ...](#)

Google Slides



[Part 5 Lesson 10 Review Ga...](#)

Google Slides



[Part 5 Lesson 1 Leaf Identifi...](#)

Google Slides



[Part 5 Lesson 7 Fruits and V...](#)

Google Slides



[Part 5 Lesson 8 Parts of a Fr...](#)

Google Slides



[Part 5 Lesson 9 Review Game](#)

Google Slides



[Part 5 Lesson 2 Poison Ivy](#)

Google Slides

Built-in Questions and Assessments

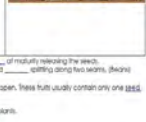
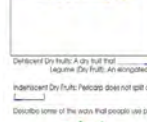
Many slides will have relevant terms covered with a box. When advancing through the slideshow an outline around the box will glow with a bright color. The next slide will make the box disappear. These slides allow the teacher to call upon students or table groups / check for understanding before advancing. The team at SlideSpark has found that using this technique helps to keep the students focused. Constantly recalling and reviewing information learned is necessary when moving through a large unit. The slideshows don't just give everything away for free. Students should be able to demonstrate knowledge before moving on. Some slides have full questions instead of just covered terms. In these slides, the teacher should encourage small group work. The teacher can then call upon one or two groups to share before advancing the slide. The next slide will always reveal the correct answer.

• Which one is a vegetable?



• Which one is a vegetable?

D, Stem, Has no seeds



Delectable Dry fruits: A dry fruit that _____ of maturity releasing the seeds.
Legume: Dry fruits, are elongated _____ splitting open to release seeds.
Indurcent Dry fruits: Peaches does not split open, these fruits usually contain only one seed.
Describes some of the ways that people use plants.



Botany Unit

Botany Unit

Pistil

Hypocotyl Epicotyl Radicle Cotyledon True Leaves

fish two switched?

Internode: Portion of a plant stem between nodes.
Nodes: Place on stem where buds form.

Important plant nutrients for healthy growth
N P K

Cotyledon

Name A, B, and C?

Anther Pollen

Stamen

5 Parts, 50 Lessons

Interactive Slideshows

Problem	Independent Variable (Change)	Dependent Variable (Observe)	Control Variable (Same)
Does fertilizer feed a plant?	Amount of fertilizer	Growth of the plant	Same amount of light, water, etc.

The average / mean is the sum of all values divided by the total number of values
 $2.4 + 1.7 + 2.0 = 6.1 \text{ cm} / 3 = 2.03 \text{ cm}$

Two types of light on plant growth
 Every plant will be exactly the same

Do not produce seeds or flowers.
 Not a seed
 Calyptra covering the shoot
 Let's see how different from the other two are the apical meristems

Old xylem doesn't transport water but supports plant. (Xylem is wood)

Independent Variable: The variable you have control over, what you can choose and manipulate.

Colors
 Features perfect design

When flower uses wind to pollinate, and which insect is the best pollinator?
 A Insects B Wind

a *Calyptra* and which is a *calyptra*

Hydroponics: The process of growing plants in sand, gravel, or liquid, with added nutrients but without soil.

Angiosperms produce seeds enclosed in a fruit / ovary.

Dendrochronology Available Sheet

Follow Along Work Bundles

with Answer Keys

5 Work Bundles = 87 Pages

Quizzes, Activities, More

What's the role of these?
 A.) Create sugar in photosynthesis
 B.) Disperses pollen
 C.) Disperses waste from the plant
 D.) Quilts water and nutrients
 E.) Reseed plant hormones

Please name A and B.
 ...Hint. You can try and unscramble the words.
 angiosperm gymnosperm

Compound Leaves: They appear in groups and are made up of leaflets.
 LEAFLETS

These are the types of plants and shrubs that lose leaves in fall and grow them back in spring.

deciduous 8

What type of fruit is this plum? Drupe

Please label the endocarp, mesocarp, and exocarp.

Equation for Photosynthesis
 $6\text{CO}_2 + 6\text{H}_2\text{O} + \text{Energy} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
 -Carbon -Hydrogen -Sunlight -Sugar -Oxygen

Identify this type of tree
 Maples

Identify this type of tree
 Maples

Fully Editable

Botany Unit

Botany Unit

Plant Topics / Botany Unit

5 Parts, 50 Lessons, (5th-7th Grade -Medium Difficulty) Part 1 Introduces Plant Project and Plant Evolution, 7 Lesson 18 Page Work Bundle, Part 2 is about Non-vascular Plants and is 6 Lessons and 12 Page Work Bundle, Part 3 is Seeds and Young Plants, and has 8 Lessons and 19 Page Work Bundle. Part 4 has 11 Lessons and 20 Page Bundle, Part 5 is Leaves and Plant Life Cycles and has 10 Lessons and 18 Page Work Bundle.

-Areas of Focus in The Plant Unit: Cool Facts about Plants, Plant Evolution, Importance of Algae, Lichens, The Three Types of Lichens, Non-Vascular Plants, Bryophytes, Seedless Vascular Plants (Ferns), Seeds, Seed Dormancy, Factors that Break Seed Dormancy, Germination, Parts of a Young Plant, Monocots and Dicots, Roots and Water, Types of Roots, Water Uptake and Photosynthesis, Plant Hormones, Types of Plant Tissues, Xylem and Phloem, Woody Plants, Leaves, Light and Plants, Transpiration, Guard Cells, Leaf Identification, Plant Life Cycles, Seed Plant Life Cycles, Parts of a Flower, Matured Ovaries (Fruits), Types of Fruit.



Part 1 has 7 Lessons of 50 Minutes and 18 Page Work Bundle, Definition of a Plant and Breaking that Definition Down, Plant and Animal Cells, Ways Humans Use Plants, Energy Flow of Life, Visual Tour of Some Amazing Plants, Types of Scientist, Scientific Method, Step by Step Drawing of Scientific Method, Understanding Variables, Control, Setting Up Grow Study for Entire Unit, Averages, Finding Averages, Plant Evolution, Kingdoms of Life Diagram, Side Bar on Protists / Algae, Importance of Algae, Looking at Algae under microscope, How to make a Wet Mount Slide, Brown Algae, First Land Plants, Challenges of Early Plants to Terrestrial Environment, First Vascular Plants, Carboniferous Period and Fossil Fuels, Flow Chart of Plant Evolution, Cycads and Gingko, Gnetum & Welwitschia, Gymnosperms, Angiosperms, Timeline Review, Optional lesson on Lichens (Kingdom Fungi), Lichen, Algae Fungi Symbiosis, Types of Lichen, Lichen Field Trip Outside, Quiz on Types of Lichen, Types Introduction to Plants, Set-up of Grow Study, The Scientific Method, Plant Evolution, Plants, Set-up of Grow, Study, The Scientific Method, Plant Evolution

Part 2: 6 Lessons of 50 Minutes and 12 Page Work Bundle, Non-Vascular Plants, Visual Quiz of Vascular vs. Non-vascular, Bryophytes, Moss, Parts of a Bryophyte, Sphagnum Moss, Moss Water Retention Study where students create their own to study to record how much water a clump of moss can retain, Liverworts, Hornworts, Visual Quiz, Bryophyte Life Cycle Diagram, Sporophyte, Gametophyte, Alternations of Generations, Seedless Vascular Plants, Ferns, Fern Life Cycle, Horsetails, Box Games, Crossword Puzzle, End Unit Assessment

Part 3: 8 Lessons of 50 Minutes and 19 Page Work Bundle, Svalbard Seed Depository Case Study, Breakdown of the Definition of a Seed, Parts of a Seed, Seed Dissection Activity, Seed Coat, Seed Dormancy, Factors that Break Seed Dormancy, Parts of a Seed, Factors that break Seed Dormancy, Seed Dispersal, Wind, Male and Female Cones of Gymnosperm, Seed Dispersal Project where student design a seed to be dispersed by wind, Water Dispersal, Animal Dispersal, Tension Dispersal, Visual Quiz of Seed Dispersal Mechanism, Germination, Germination Observation Activity, Peanut Allergies, Parts of Young Plants, Cotyledon, Radicle, Gravitropism, Hypocotyl, Epicotyl, Foliage Leaves, Stems, Nodes, Internodes, Petioles, Visual Quiz Name that part of a Young Plant, Monocotyledons, Dicotyledons, Differences between the two, Visual Quiz of Mono or Dicot, Case Study on George Washington Carver, Box Game Review, Crossword Puzzle, End of Unit Assessment

Part 4: 11 Lessons of 50 minutes and 20 Page Work Bundle, Important Role of Roots, Types of Roots Water and Mineral Uptake, Root Hairs, Water Uptake and Photosynthesis, Hydroponics, Tropisms, + and – Tropism, Name that Tropism Challenge, Plant Hormones, Auxin, Gibberellins, Cytokinin, Absciscic Acid, Ethelene, Types of Plant Tissues, Xylem and Phloem, Woody Plants, Pith, Heartwood, Sapwood, Case Study on Maple Syrup, Cambium Layer, Porcupines and Beavers, Emerald Ash Borer, Inner Bark, Outer Bark, Tree Rings, Dendrochronology, Dendrochronology Lab, Chainsaw Safety, Breakdown of definition of a leaf, 3 Big Aspects of Plants and Light, Optional What's Inside a Leaf Chromatography, Chloroplasts, Photosynthesis, Photosynthetic Equation, Learning the Equation with M&M's, Review of Photosynthesis, Leaves, Light and Plants, Transpiration, Guard Cells, Box Games, Crossword Puzzle, Unit Assessment

Part 5: 10 Lessons of 50 Minutes and 18 Page Work Bundle, Leaf Identification, Leaf Rubbing Activity, Blades, Venation, Leaf Margins, Leaf Base, Leaf Apex, Petiole, Simple vs. Compound Leaves, Identifying some common leaves, Maples, Oak, Beech, Pines, Poisonous Plants, Case Study on Poison Ivy, Poison Ivy Identification, Ivy Identification Quiz, Other Poisonous Plants, Deciduous Trees, Conifers, Identifying Conifers, Tree Identification Visual Quiz, , Plant Life Cycles, Seed Plant Life Cycles, Gymnosperm, Male vs. Female Cone, Angiosperm, Pollen, Annuals, Biennials, Perennials, Interpretive Dance Plant Life Cycles Group Activity, Flowers, Amazing Flowers Visual Tour, Parts of a Flower, Step by Step drawing on a flower with Parts, Matured Ovaries (Fruits), Stamen, Filament, Anther, Pistil, Stigma, Style, Ovary, Ovule, Sepal, Petals, Nectar Guides, How Flowers Attract Pollinators, Flower Dissection Lab, Visual Quiz Name that Part of a Flower, Exotic Fruits Visual Tour, Poisonous Berries, How Flowers become Fruits, Fruit or Vegetable Visual Standing Quiz, Parts of a Fruit, Epicarp, Mesocarp, Endocarp, Fleshy and Dry Fruits, Simple Fruits, Berries, Drupe, Pome, Aggregate Fruit, Multiple Fruit, Dehiscent Dry Fruit, Legumes, Indehiscent, Animals and Fruits / Seed Dispersal, Uses of Plants Wrap-up, Box Game Review, Crossword Puzzle, Unit Assessment

Botany Unit Part 1 : Part 1 has 7 Lessons of 50 Minutes and 18 Page Work Bundle, Definition of a Plant and Breaking that Definition Down, Plant and Animal Cells, Ways Humans Use Plants, Energy Flow of Life, Visual Tour of Some Amazing Plants, Types of Scientist, Scientific Method, Step by Step Drawing of Scientific Method, Understanding Variables, Control, Setting Up Grow Study for Entire Unit, Averages, Finding Averages, Plant Evolution, Kingdoms of Life Diagram, Side Bar on Protists / Algae, Importance of Algae, Looking at Algae under microscope, How to make a Wet Mount Slide, Brown Algae, First Land Plants, Challenges of Early Plants to Terrestrial Environment, First Vascular Plants, Carboniferous Period and Fossil Fuels, Flow Chart of Plant Evolution, Cycads and Ginkgo, Gnetum & Welwitschia, Gymnosperms, Angiosperms, Timeline Review, Optional lesson on Lichens (Kingdom Fungi), Lichen, Algae Fungi Symbiosis, Types of Lichen, Lichen Field Trip Outside, Quiz on Types of Lichen, Types Introduction to Plants, Set-up of Grow Study, The Scientific Method, Plant Evolution, Plants, Set-up of Grow Study, The Scientific Method, Plant Evolution



Part 1 Lesson 1 Botany Intro



Part 1 Lesson 2 Method Grow Study



Part 1 Lesson 3 Plant Evolution



Part 1 Lesson 4 Plant Evo Cont



Part 1 Lesson 5 Opt Lichens



Part 1 Lesson 6 Review Game 10Q



Part 1 Lesson 7 Review Game Answers



Part 1 Work Bundle Answers



Part 1 Work Bundle Print



Part 1 Work Bundle Writable .pdf

Botany Unit Part 2: 6 Lessons of 50 Minutes and 12 Page Work Bundle, Non-Vascular Plants, Visual Quiz of Vascular vs. Non-vascular, Bryophytes, Moss, Parts of a Bryophyte, Sphagnum Moss, Moss Water Retention Study where students create their own to study to record how much water a clump of moss can retain, Liverworts, Hornworts, Visual Quiz, Bryophyte Life Cycle Diagram, Sporophyte, Gametophyte, Alternations of Generations, Seedless Vascular Plants, Ferns, Fern Life Cycle, Horsetails, Box Games, Crossword Puzzle, End Unit Assessment

Botany Unit Part 2



Part 2 Lesson 1 Intro



Part 2 Lesson 2 Mosses



Part 2 Lesson 3 Moss Water Study



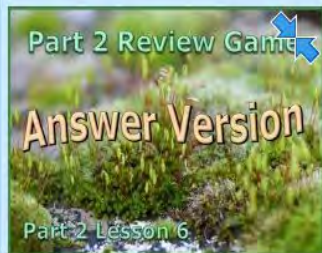
Part 2 Lesson 4 Liverwort Hornwort



Part 2 Lesson 5 Ferns Horsetails



Part 2 Lesson 6 Review Game



Part 2 Lesson 7 Review Game Answers

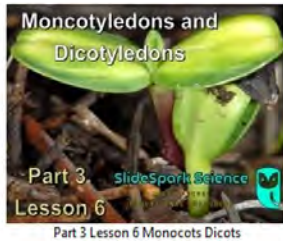
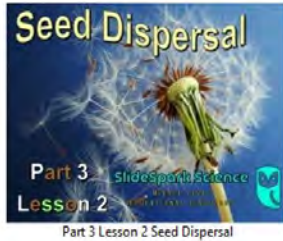


Part 2 Work Bundle Answers



Part 2 Work Bundle Print

Botany Unit Part 3 : 8 Lessons of 50 Minutes and 19 Page Work Bundle, Svalbard Seed Depository Case Study, Breakdown of the Definition of a Seed, Parts of a Seed, Seed Dissection Activity, Seed Coat, Seed Dormancy, Factors that Break Seed Dormancy, Parts of a Seed, Factors that break Seed Dormancy, Seed Dispersal, Wind, Male and Female Cones of Gymnosperm, Seed Dispersal Project where student design a seed to be dispersed by wind, Water Dispersal, Animal Dispersal, Tension Dispersal, Visual Quiz of Seed Dispersal Mechanism, Germination, Germination Observation Activity, Peanut Allergies, Parts of Young Plants, Cotyledon, Radicle, Gravitropism, Hypocotyl, Epicotyl, Foliage Leaves, Stems, Nodes, Internodes, Petioles, Visual Quiz Name that part of a Young Plant, Monocotyledons, Dicotyledons, Differences between the two, Visual Quiz of Mono or Dicot, Case Study on George Washington Carver, Box Game Review, Crossword Puzzle, End of Unit Assessment



Botany Unit Part 3

Botany Unit Part 4: 11 Lessons of 50 minutes and 20 Page Work Bundle,
Important Role of Roots, Types of Roots Water and Mineral Uptake, Root Hairs,
Water Uptake and Photosynthesis, Hydroponics, Tropisms, + and – Tropism,
Name that Tropism Challenge, Plant Hormones, Auxin, Gibberellins,
Cytokinin, Absciscic Acid, Ethelene, Types of Plant Tissues, Xylem and Phloem,
Woody Plants, Pith, Heartwood, Sapwood, Case Study on Maple Syrup,
Cambium Layer, Porcupines and Beavers, Emerald Ash Borer, Inner Bark,
Outer Bark, Tree Rings, Dendrochronology, Dendrochronology Lab, Chainsaw
Safety, Breakdown of definition of a leaf, 3 Big Aspects of Plants and Light,
Optional What's Inside a Leaf Chromatography, Chloroplasts, Photosynthesis,
Photosynthetic Equation, Learning the Equation with M&M's, Review of
Photosynthesis, Leaves, Light and Plants, Transpiration, Guard Cells, Box
Games, Crossword Puzzle, Unit Assessment

Botany Unit Part 4



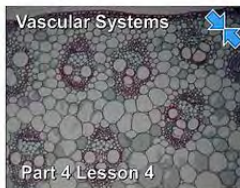
Part 4 Lesson 1 Roots



Part 4 Lesson 2 Tropisms Hydroponics



Part 4 Lesson 3 Plant Hormones



Part 4 Lesson 4 Vascular Systems



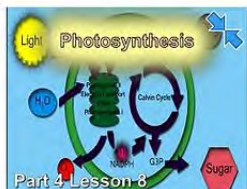
Part 4 Lesson 5 Woody



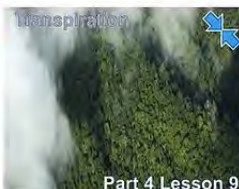
Part 4 Lesson 6 Dendrochronology



Part 4 Lesson 7 Leaf Processes



Part 4 Lesson 8 Photosynthesis Cont



Part 4 Lesson 9 Wrap Up



Part 4 Lesson 10 Review Game



Part 4 Lesson 11 Review Game Answers

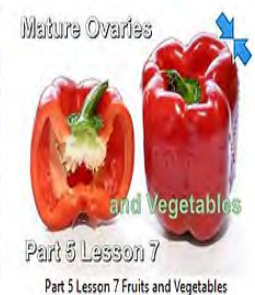
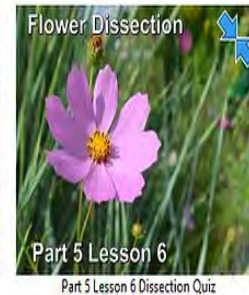
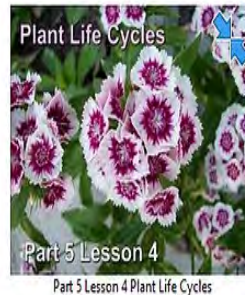


Part 4 Work Bundle Answers



Part 4 Work Bundle Print

Botany Unit Part 5: 10 Lessons of 50 Minutes and 18 Page Work Bundle, Leaf Identification, Leaf Rubbing Activity, Blades, Venation, Leaf Margins, Leaf Base, Leaf Apex, Petiole, Simple vs. Compound Leaves, Identifying some common leaves, Maples, Oak, Beech, Pines, Poisonous Plants, Case Study on Poison Ivy, Poison Ivy Identification, Ivy Identification Quiz, Other Poisonous Plants, Deciduous Trees, Conifers, Identifying Conifers, Tree Identification Visual Quiz, , Plant Life Cycles, Seed Plant Life Cycles, Gymnosperm, Male vs. Female Cone, Angiosperm, Pollen, Annuals, Biennials, Perennials, Interpretive Dance Plant Life Cycles Group Activity, Flowers, Amazing Flowers Visual Tour, Parts of a Flower, Step by Step drawing on a flower with Parts, Matured Ovaries (Fruits), Stamen, Filament, Anther, Pistil, Stigma, Style, Ovary, Ovule, Sepal, Petals, Nectar Guides, How Flowers Attract Pollinators, Flower Dissection Lab, Visual Quiz Name that Part of a Flower, Exotic Fruits Visual Tour, Poisonous Berries, How Flowers become Fruits, Fruit or Vegetable Visual Standing Quiz, Parts of a Fruit, Epicarp, Mesocarp, Endocarp, Fleshy and Dry Fruits, Simple Fruits, Berries, Drupe, Pome, Aggregate Fruit, Multiple Fruit, Dehiscent Dry Fruit, Legumes, Indehiscent, Animals and Fruits / Seed Dispersal, Uses of Plants Wrap-up, Box Game Review, Crossword Puzzle, Unit Assessment



[Botany Unit Part 5](#)

Curriculum Guide

Number of Lessons in each unit (50 min, daily lessons) and difficult rating scale / intended grade level.

 =Easier,

 = More difficult,

 =Most difficult

Earth Science Units	Daily Lessons	Intended Grade	
Geology Topics Unit	60 Lessons	6-8 medium difficulty	
Weather and Climate Unit	40 Lessons	6-8 medium difficulty	
Astronomy Unit	60 Lessons	6-8 medium difficulty	
Weathering, Soil Sciences	28 Lessons	5-7 easier	
Rivers and Water Quality	25 Lessons	5-7 easier	
Water Molecule Unit	20 Lessons	5-7 easier	

Life Science Units

Life Science Units	Daily Lessons	Intended Grade	
Ecology Feeding Levels Unit	13 Lessons	5-6 easier	
Ecology Interactions Unit	30 Lessons	5-6 easier	
Ecology Abiotic Factors Unit	24 Lessons	5-6 easier	
Botany Unit	50 Lessons	5-7 easier	
Evolution and Natural Selection	40 Lessons	5-7 easier	
Taxonomy and Classification	50 Lessons	6-8 medium difficulty	
Infectious Diseases Unit	30 Lessons	7-9 more difficult	
DNA and Genetics Unit	42 Lessons	8-10 most difficult	
Human Body Systems Unit	85 Lessons	6-8 medium difficulty	
Cell Biology Unit	30 Lessons	8-10 most difficult	

Physical Science

	Daily Lessons	Intended Grade	
Laws of Motion and Machines Unit	33 Lessons	8-10 most difficult	
Matter Energy and the Environment	58 Lessons	7-10 medium difficulty	
Atoms and Periodic Table Unit	44 Lessons	8-10 most difficult	
Science Skills Unit	30 Lessons	5-7 medium difficulty	

[Physical Science Curriculum](#)

[Entire SlideSpark Science Curriculum](#)



Dear Valued Educator,

Our fully editable .pptx and .doc resources are perfect for educators looking to bring enthusiasm and creativity to their lessons. We encourage you to make changes to fit your needs and style. As science educators, we're committed to providing students with the tools they need to succeed in the classroom and beyond. Each unit in the curriculum includes a range of resources that have been developed through extensive research and use in a busy classroom. Our teaching approach is designed to make science education engaging and exciting for learners of all ages. We offer a one-of-a-kind science curriculum that will challenge, inspire, and educate students to become tomorrow's scientists and leaders. Join us today and learn more about how our program can help you achieve your classroom goals.

With appreciation,

Support@SlideSpark.net



Thank you for your time and interest in our Science curriculum. We strive to provide students with engaging and informative lessons that will spark their curiosity and encourage scientific exploration. Should you have any questions or concerns, please do not hesitate to contact us. Thank you again for considering our curriculum, and we wish you all the best in your educational journey.

Sincerely,

Support@slidespark.net



SlideSpark Science

MIDDLE-LEVEL
EDUCATIONAL RESOURCES



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