Columbus County Schools
6th Grade Science Curriculum Guide

SUBJECT: Science	**GRADE LEVEL:** 6th	**GRADING PERIOD:** 2nd/ 3rd 9 weeks
Module(s): B Diversity of Living Things	Time Frame: 4 weeks	**Unit: 3- Flowers**
Essential Standard: 6. L.1 Understand the structures, processes and behaviors of plants that enable them to survive and reproduce.		

Lessons:	Technology and Literacy Standards and Tasks	Academic Vocabulary:	Assessment(s):	Additional Resources:
Lesson Name: Parts of a Flower **Clarifying Objective:** 6. L.1.1 Summarize the basic structures and functions of flowering plants required for survival, reproduction and defense. **Time Frame:** 1 week **Essential Question:** How does the structure of the plant aid in its survival? **"I Can" Statements:** ▪ I can draw and/or label the basic structures of a flowering plant on a diagram. ▪ I can describe the function of each plant part. ▪ I can explain the process of how a plant reproduces.	Parr Mr parts of a flower song- youtube. **Technology Standards:** 6. TT.1: Use technology and other resources for the purpose of accessing, organizing, and sharing information. 6. TT.1.1 Select appropriate technology tools to gather data and information (e.g., Web-based resources, e-books, online communication tools, etc.).	• pollination • petals • stem • sepals • stamens • anther • pollen sperm • pistil • ovary • fruit • ovules or ovum • sexual reproduction • reproduce • fertilization • seed production	**Formative:** - What makes up a plant and gives them characteristics? - What are the three main plant organs? - Dissect Flowers- lab - **Uncovering Student Ideas in Science Vol 2**- pg 93 - **Science Formative Assessment 75 Practical Strategies for Linking Assessment-** KWL Variations pg 128-131 - **Summative:** - Cut paste and label the parts of a flower activity sheet - **Science fusion teacher's edition** pg 147- Plants, Plants and more Plants. Online resources.	Science Fusion- Diversity of Living Things Teachers Edition pg 140-155 NC DPI Support Document Parts of Flower Photosynthesis Interactive Photosynthesis Webquest Demos Plant Adaptations Flower Dissection 6TH Grade McDougal Book- Unit D- Chapter 1.3 Additional Resources in Dropbox

Lesson Name: Plant Adaptations **Clarifying Objective:** 6. L.2.2 Explain how plants respond to external stimuli (including dormancy and forms of tropism) to enhance survival in an environment. **Time Frame:** 1 week **Essential Question:** How are flowering plants adapted for sexual reproduction? **"I Can" Statements:** ▪ I can explain the different ways that plants respond to stimuli; gravity, sunlight, temperature and day length.	WTL- **Science 5 4.3 How do plants reproduce?** CCSS.ELA-Literacy.RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. CCSS.ELA-Literacy.RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. **Technology Standards:** 6. TT.1: Use technology and other resources for the purpose of accessing, organizing, and sharing information. 6. TT.1.1 Select appropriate technology tools to gather data and information (e.g., Web-based resources, e-books, online communication tools, etc.).	• Tropism • Geotropism/ gravitropism • Hydrotropism • Photosynthesis • Phototropism • Thigmotropism • Dormancy • External Stimuli • Internal stimuli	**Formative:** - Write to Learn Assessment- **Science 5 4.3 How do plants reproduce?** - **Uncovering Student Ideas in Science Vol 2**- pg 107 - Plant Reproduction Questions worksheet (in Dropbox) **Summative:** - **Science fusion teachers- Diversity of Living Things- teacher's edition** pg 163- Design a Website. Online resources. - **Examview Online Resource**	NC DPI Support Document Parts of Flower Photosynthesis Interactive Photosynthesis Webquest Demos Plant Adaptations Flower Dissection 6TH Grade McDougal Book- Unit D- Chapter 1.3 Additional Resources in Dropbox

Lesson Name: Photosynthesis/ Transpiration/ cellular respiration **Clarifying Objective:** 6. L.1.2 Explain the significance of the processes of photosynthesis, respiration, and transpiration to the survival of green plants and other organisms. **Time Frame:** 2 Weeks **Essential Question:** What processes allows plants to store energy from the sun? Why must plants carry out cellular respiration? **"I Can" Statements:** ▪ I can explain the process of photosynthesis. ▪ I can design a model to show the process of cellular respiration. ▪ I can compare and contrast photosynthesis and cellular respiration.	WTL-**Science 6 5.2 How do plants get and use energy?** **Literacy Standards:** CCSS.ELA-Literacy.RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. CCSS.ELA-Literacy.RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. **Technology Standards:** 6. TT.1: Use technology and other resources for the purpose of accessing, organizing, and sharing information. 6. TT.1.1 Select appropriate technology tools to gather data and information (e.g., Web-based resources, e-books, online communication tools, etc.).	• Cellular respiration • Stimulus • Pollination • Transpiration	**Formative:** - Write to Learn Assessment- **Science 6 5.2 How do plants get and use energy?** - **Uncovering Student Ideas in Science Vol 1-** Functions of living things- pg. 147 - **Uncovering Student Ideas in Science Vol 2**- pg 113 **Summative:** - Examview unit test- online - **Science fusion teachers- Diversity of Living Things edition** pg 163- Design a Website. Online resources.	Science Fusion- Diversity of Living Things Teachers Edition pg 156-175 Photosynthesis Interactive Photosynthesis Webquest 6TH Grade McDougal Book- Unit D- Chapter 1.3 Additional Resources in Dropbox

Day 1 **Lesson:** Intro to Plants	**Day 2** **Lesson:** Intro to Plants	**Day 3** **Lesson:** Intro to Plants	**Day 3** **Lesson:** Intro to Plants	**Day 5** **Lesson:** Intro to Plants
Clarifying Objective: 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm
Bell Ringer: Module B Unit 2 Lesson 3 pg 140 Accessing Prior Knowledge description wheel **Instructional Tasks:** Science Fusion PowerPoint notes on their website- Module B- Unit 2 Lesson 3 pg 148- Teachers edition- Introduction to Plants (under lesson teacher support). Copy and paste to a word document to create skeleton notes. Discuss each PowerPoint as you go through them **Exit Ticket:** How are vascular seedless plants different from vascular plants? (TE pg 153)	**Bell Ringer:** How are the reproductive systems of angiosperms different than most animals? (TE pg 143 #5) **Instructional Tasks:** **Option 1**- Digital video lesson found on Science Fusion PowerPoint notes on their website- Module B Unit 2 Lesson 3 **Option 2-** Module B Unit 2 Lesson 3 Science Fusion teacher edition. Daily Demo or quick lab. (includes food dye experiment) **Exit Ticket:** Describe the common characteristics of all plants	**Bell Ringer:** Teacher Choice **Instructional Tasks:** **Option 1-** Choose one of Module B Unit 2 Lesson 3 Science Fusion teacher edition. Daily Demo or quick lab (includes food dye experiment) **Option 2-** Teacher Choice **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Plant packet pages 160-180 (characteristics of plants, roots,stems,leaves, energy) **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Plant packet pages 160-180 (characteristics of plants, roots,stems,leaves, energy) **Exit Ticket:** Teacher Choice
Assessment: Exit Ticket	**Assessment:** Exit Ticket	**Assessment:** Exit Ticket	**Assessment:** Packet	**Assessment:** Packet

Day 6 **Lesson:** Intro to Plants	**Day 7** **Lesson:** Intro to Plants	**Day 8** **Lesson:** Plant Processes	**Day 9** **Lesson:** Plant Processes	**Day 10** **Lesson:** Plant Processes
Clarifying Objective: 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant
Bell Ringer: Teacher Choice **Instructional Tasks:** Plant packet pages 160-180 (characteristics of plants, roots,stems,leaves, energy) **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Write to learn Science 6 5.3 How do plants grow? **Exit Ticket:** Teacher Choice	**Bell Ringer:** Module B Unit 2 Lesson 4 pg 156 Accessing Prior Knowledge **Instructional Tasks:** Science Fusion PowerPoint notes on their website- Module B- Unit 2 Lesson 4 pg 164- Teachers edition- Introduction to Plants (under lesson teacher support). Copy and paste to a word document to create skeleton notes. Discuss each PowerPoint as you go through them **Exit Ticket:** How do plants obtain and use energy?	**Bell Ringer:** Describe the triggers of winter dormancy of some plants. **Instructional Tasks: Option 1**- Digital video lesson found on Science Fusion PowerPoint notes on their website- Module B Unit 2 Lesson 4 **Option 2-** Module B Unit 2 Lesson 4 Science Fusion teacher edition. Daily Demo, Exploration, or quick lab. **Option 3-** STEM project TE pg 173-174 **Exit Ticket:** What is one advantage of a plant reproducing asexually?	**Bell Ringer:** Why are plant stomata usually open during the day? (TE pg 168) **Instructional Tasks: Option 1-** Link: Photosynthesis Webquest **Option 2-** Link: Parts of Flower **Option 3-** Basic Botany Flower Structure (6th grade science Dropbox) **Option 4-** Create a Flower (Dropbox) **Option 5-** Tropism song by MrParr (lyrics on Dropbox… video on youtube) **Option 6-** Write to learn From Bacteria to Plants: 4.1 The Plant Kingdom **Exit Ticket:** Differentiate between seeds and spores.
Assessment: Packet	**Assessment:** Write to Learn	**Assessment:** Exit Ticket	**Assessment:** Varies	**Assessment:** Varies

Day 11 **Lesson:** Plant Processes	**Day 12** **Lesson:** Plant Processes	**Day 13** **Lesson:** Plant Processes	**Day 14** **Lesson:** Plant Processes	**Day 15** **Lesson:** Plant Processes
Clarifying Objective: 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant
Bell Ringer: What are the male and female parts of a flower and what do they produce? **Instructional Tasks:** Choose a second option from Day 10 **Exit Ticket:** Explain the difference between the effect of transpiration and respiration on plants.	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Plant packet pages 182-217 (flower parts, pollination, fertilization, fruits, seed dispersals, tropisms) **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Plant packet pages 182-217 (flower parts, pollination, fertilization, fruits, seed dispersals, tropisms) **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Plant packet pages 182-217 (flower parts, pollination, fertilization, fruits, seed dispersals, tropisms) **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Write to Learn Science 4 2.3 How do plants reproduce? ***CAN FIND IT UNDER GRADE 4 (NOT UNDER 6TH GRADE)*** **Exit Ticket:** Teacher Choice
Assessment: Varies	**Assessment:** Packet	**Assessment:** Packet	**Assessment:** Packet	**Assessment:** Write to Learn

Day 16 Lesson:	Day 17 Lesson:	Day 18 Lesson:	Day 19 Lesson:	Day 20 Lesson:
Clarifying Objective: 6.L.1.1-2, L.2.2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm, cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm, cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm, cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm, cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant	**Clarifying Objective:** 6.L.1.1-2, L.2.2 **Academic Vocabulary:** producers, seed, photosynthesis, pollen, cholorphyll, gymnosperm, vascular system, angiosperm, cellular respiration, pollination, stamen, pistil, stimulus, transpiration, tropism, dormant
Bell Ringer: Teacher Choice **Instructional Tasks:** Review/Catch Up **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Review **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Review **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** Review **Exit Ticket:** Teacher Choice	**Bell Ringer:** Teacher Choice **Instructional Tasks:** UNIT TEST **Exit Ticket:** Teacher Choice
Assessment: Varies	**Assessment:** Varies	**Assessment:** Varies	**Assessment:** Varies	**Assessment:** TEST