

1. Unit & Topic:	2 - The Water Cycle & Photosynthesis		
2. Essential Questions:	<i>(What big ideas will students explore and investigate? What specific understandings about them are desired? What misunderstandings are predictable?)</i>		
<p>What are the characteristics of all living things? How are plants different from animals? How do plants make their own food? Why are plants important for human survival? What is the scientific method? How can it be used to answer questions?</p>			
3. Unit Rationale	<i>(Why is this important for students? What is the broader significance? How does the lesson connect to their needs?)</i>		
<p>Students will apply the scientific methodology process to analyze a problem or observation about the world around them. Since science is about asking questions and finding answers to questions, these are actually the same skills that students use in our daily lives. Students will integrate processes learned about the scientific method into new problems or observations. Also, active engagement with science will likely lead students to become more interested and have more positive attitudes towards science.</p>			
4. Course Benchmarks	<i>(BM2: I can determine main idea of a text and explain how it is supported by key details to summarize it)</i>	5. Pre-/Post-Assessment:	<i>assess benchmark skills, pre-/post-assessment are the same/similar (for differentiation, will be in PLCs)</i>
<p>BM3 - I can explain events, procedures, ideas, or concepts in a historical, scientific, or technical text using specific textual information/evidence. BM4 - I can determine the meaning of academic and content-specific words and phrases within a text, BM7 - I can interpret visual information such as charts, graphs, diagrams, timelines, animations, or interactive website elements and explain how it contributes to the understanding of the text</p>		<p>pre and post assessment on academic and content vocab. pre and post assessment on scientific method</p>	
6. Benchmark Subskills	<i>(eg. BM2→define main idea, identify main idea, differentiate main idea & details, identify details, summarize, etc)</i>	7. Formative Assessment:	<i>(What tools will assess student learning along the way?)</i>

<p>I can identify textual evidence to support explicit and inferred conclusions drawn from closely reading the text.</p> <p>I can determine the main idea of a text and explain how it is supported by key details to summarize it.</p> <p>I can explain events, procedures, ideas, or concepts in a historical, scientific, or technical text (including what happened and why) using specific textual information/evidence.</p> <p>I can determine the meaning of academic and content-specific words and phrases within a text, including figurative language such as metaphors and similes.</p>	<p>Learning response logs.</p> <p>Students will keep notebooks of daily assignments and new vocabulary.</p> <p>Constructive quizzes</p>		
<p>8. ACES Skills/Subskills</p>	<p><i>(eg. CT1a: Sequence components, items, or ideas in a logical or structured manner)</i></p>	<p>9. Culminating Project</p>	<p><i>(What will students perform or produce that shows their learning?)</i></p>
<p>EC 2b: Choose appropriate register for audience, purpose, and communication type</p> <p>EC 2c: Use appropriate intonation</p> <p>LS 1a: Make use of background knowledge to understand new information</p> <p>LS 1b: Make predictions before and during reading and listening</p> <p>LS 1c: Use context clues to understand new information</p> <p>LS 1d: Identify main ideas or themes when reading or listening</p> <p>LS 1e: Scan written text or listen to oral text for specific information and details</p> <p>LS 1f: Monitor comprehension (reread if necessary, connect to prior knowledge, stop and rephrase, visualize)</p> <p>LS 1g: Make inferences and logical guesses (read and listen between the lines)</p> <p>LS 2a: Employ a variety of strategies for categorizing information</p> <p>LS 2b: Select and use graphic organizers appropriate for a task (T-chart for pros and cons, Venn diagram for compare/contrast)</p> <p>LS 2d: Choose and use strategies for reviewing, evaluating, and summarizing information (oral retell, flashcards, outline, highlight main points)</p> <p>LS 3a: Ask for repetition and clarification of unknown language and concepts</p> <p>LS 3b: Compensate for unknown language using paraphrase or circumlocution (using other words to describe or work around an unknown word)</p> <p>LS 3c: Use context and what you know to figure out or guess meaning of language</p> <p>LS 3d: Identify appropriate resources and/or means to fill in gaps in knowledge (ask a teacher, consult a dictionary, online search)</p> <p>CT 1a: Sequence components, items, or ideas in a logical or structured manner</p> <p>CT 1c: Synthesize information, ideas, and components in a meaningful and structured way</p> <p>CT 1d: Support positions using prior knowledge and supporting evidence</p> <p>CT 4b: Identify and compare perspectives/points of view of self and others</p>		<p>Students will perform an experiment in which they must observe the growth of three different plants. One plant will be placed in no sunlight, one plant will be placed in low sunlight, and another plant will be placed in high sunlight. They will make measurements on the growth of each plant and graph their results.</p> <p>Students will create an instruction manual or procedure sheet of this experiment for the next year's class. They will include the experiment materials, procedure, data, and analysis.</p>	

10. Academic Skills:	<i>(Use DOK verbs; eg. analyze results from 2 experiments, develop a logical argument, etc)</i>	11. Academic Vocabulary	<i>(eg. compare, differentiate, etc)</i>
<ul style="list-style-type: none"> - Summarize how plants create their own food - Define academic and content vocabulary - Show the cause and effect relationship between plants and humans. - Conduct an experiment using scientific method - Hypothesize results of experiment - Draw conclusions based on observations and measurements - Graph results of experiment 		<ul style="list-style-type: none"> investigate hypothesis variable constant experiment observe measure analyze conclusion compare/ contrast graph report 	
12. Content Skills:	<i>(What will students know or do?; eg. perform an experiment, understand ecosystem relationships, etc)</i>	13. Content Vocabulary	<i>(eg. test tube, primary source)</i>
<ul style="list-style-type: none"> Students will have an understanding of how plants create their own food through photosynthesis. Students will have an understanding of the scientific method Students will perform an experiment on photosynthesis and graph their results. Students will have an understanding of the characteristics of all living things. Students will have an understanding of why plants are important for human survival. 		<ul style="list-style-type: none"> photosynthesis cell scientific method organism matter energy nutrient reproduction offspring respond carbon dioxide oxygen glucose respiration controls variables 	
14. Materials/Resources:	<i>(include specific texts with website or textbook and page number to be used within the unit and any other necessary materials or resources)</i>		

6 Way Paragraph Introductory Level
<http://www.readworks.org/passages/food-energy>
<http://www.readworks.org/passages/rhubarb-grows-dark>
<http://www.readworks.org/passages/eco-pyramid>
<http://www.readworks.org/passages/ecosystem-forest>
<http://www.readworks.org/passages/cells-make-us>
<http://www.readworks.org/passages/how-water-loss-affects-biodiversity>
<http://www.readworks.org/passages/history-planet-earth>
<http://www.readworks.org/passages/worldwide-loss-bees-growing-concern>
<http://mnliteracy.org/tools/curriculum-lesson-plans/ged-science>

15. Technology Skills	<i>(What technology skills will be explicitly taught?)</i>	16. Technology Resources:	<i>(Include specific websites students will use)</i>
Use a word processing application to write, edit, print, and save an assignment File management (i.e. saving documents, creating folders, downloading and uploading documents)		http://www.pbs.org/wgbh/nova/ http://www.tv411.org/science/tv411-whats-cooking/video-photosynthesis https://www.youtube.com/watch?v=HBIYwiktPsQ http://www.ck12.org/life-science/Scientific-Investigation-in-Life-Science/lesson/Scientific-Investigation-Basic/?referrer=featured_content http://www.ck12.org/biology/	
17. Writing Skills for Reading	<i>(align with benchmark; eg. write a summary or paraphrase, etc)</i>	18. Writing Assessment	
Write a summary of a text			
19. Writing Skills for Writing	<i>(align with writing benchmark; eg. Write a comparison paragraph, etc)</i>	20. Cumulative Writing Projects	<i>(eg. write a report that compares 2 presidents)</i>
Students will write a report on the experiment they conduct during the unit. They will share their results with another class.			
21. Extensions and Content Connections – Differentiation			
Low (ie. missing core skills or low skill level) -			
High (ie. already know content or have skill) -			
22. Common Misconceptions or Challenges			

