

## Rigorous Curriculum Design Unit Planning Organizer

<b>Subject(s)</b>	Earth in the Universe
<b>Grade/Course</b>	3
<b>Unit of Study</b>	Solar System
<b>Unit Type(s)</b>	<input type="checkbox"/> Skills-based
<b>Pacing</b>	3.E.1.1 and 3.E.1.2

Priority Essential Standards
<p><b><i>3.E.1.1 Recognize that the earth is part of a system called the solar system that includes the sun (a star), planets, and many moons and the earth is the third planet from the sun in our solar system.</i></b></p> <p><b><i>3.E.1.2 Recognize that changes in the length and direction of an object's shadow indicate the apparent changing position of the Sun during the day although the patterns of the stars in the sky, to include the Sun, stay the same.</i></b></p>

“Unwrapped” Concepts (students need to know)	“Unwrapped” Skills (students need to be able to do)	Bloom’s Taxonomy Levels
<p>Students need to know the characteristics of the sun, moon, and earth.</p> <p>Students need to know the various phases of the moon.</p>	<p>Students should be able to define characteristics of the solar system and describe the sun as a star in the solar system.</p> <p>Students should be able to identify the location of Earth in relation to other planets.</p> <p>Students should be able to define a satellite as a moon.</p> <p>Students should be able to recognize star patterns are constellations and that shadows are caused by the earth’s movement.</p>	<p>Comprehension</p> <p>Application</p> <p>Knowledge</p> <p>Analysis</p> <p>Evaluating</p>

Essential Questions	Corresponding Big Ideas
<p>What are the features of the stars, moon, and earth?</p> <p>How can you recognize that planets orbit the sun?</p> <p>How can you explain the change in an object's shadow?</p> <p>How can you recognize that shadows are caused by earth's movement and not the sun's movement?</p>	<p>The earth is a part of the solar system that includes the Sun and many moons.</p> <p>The sun is a star.</p> <p>The earth is the third planet from the Sun. Changes in the direction and length of an object's shadow indicate the apparent changing position of the Sun during the day, but the patterns of the stars in the sky stay the same.</p>

Standardized Assessment Correlations (State, College and Career)	
<p><u>Note to Curriculum Designers:</u> Review grade-or course-specific state standardized assessments for the <i>types of questions directly related</i> to the “unwrapped” Priority Standards concepts and skills in focus for this unit of study. Identify the <i>vocabulary used and frequency of</i> these questions. Compare/contrast this information with the “unwrapped” concepts and skills listed above to determine how closely the two are <i>aligned</i>.</p>	
Unit Assessments	
Pre-Assessment	Informal Progress Monitoring Checks
<p>Students will create their choice of constellation on paper using black construction paper, sticker stars, chalk, or in their science notebook.</p> <p>They will record change in shadow throughout the day and recognize that their shadow has changed shape based on the sun's position.</p> <p>The students will also draw and label the planets, in order from the Sun, on the back of their paper.</p>	<p>Throughout the unit, students will record observations and take notes in their science notebooks. The teacher will monitor student performance as needed.</p> <p>There are websites listed in the technology section of this unit organizer that contains various activities that can be used for progress monitoring.</p> <p>The teacher should give a few informal assessments throughout the unit. Examples would be: exit cards/slips at the end of lessons, quick write/quick draw at then end of the lessons, etc.</p>

### Post-Assessment

Students will create their choice of constellation on paper using black construction paper, sticker stars, chalk, or in their science notebook. They will record change in shadow throughout the day and recognize that their shadow has changed shape based on the sun's position. The students will also draw and label the planets, in order from the Sun, on the back of their paper.

### Scoring Guides and Answer Keys

Scoring of assessments will be at teacher discretion.

### Engaging Learning Experiences

Learning Activities Using Text or Program	Authentic Performance Tasks
<p>Oreo Activity: Students will learn the phases of the moon by modeling them with oreos. Lesson can be found at: <a href="http://www.leosciencelab.com/educators/lesson-plans/oreo_moon_phases.php">http://www.leosciencelab.com/educators/lesson-plans/oreo_moon_phases.php</a></p> <p>The teacher should take advantage of the technology and physical resources listed in the resources section of this organizer.</p>	<p>Students can design their own mobile representing the solar system and the order of the planets.</p> <p>Students will create a brochure on the planet of their choice persuading a person to come visit their planet. Students will present their brochure to the class.</p>

<b>Research-Based Effective Teaching Strategies</b>	<b>21<sup>st</sup> Century Learning Skills</b>
<p>✓ Check all those that apply to the unit:</p> <p><b>X</b> Identifying Similarities and Differences</p> <p><b>X</b> Summarizing and Note Taking</p> <p><b>X</b> Reinforcing Effort, Providing Recognition</p> <p><input type="checkbox"/> Homework and Practice</p> <p><b>X</b> Nonlinguistic Representations</p> <p><b>X</b> Cooperative Learning</p> <p><b>X</b> Setting Objectives, Providing Feedback</p> <p><b>X</b> Generating and Testing Hypotheses</p> <p><b>X</b> Cues, Questions, and Advance Organizers</p> <p><input type="checkbox"/> Interdisciplinary Non-Fiction Writing</p>	<p>✓ Check all those that apply to the unit:</p> <p><b>X</b> Teamwork and Collaboration</p> <p><b>X</b> Initiative and Leadership</p> <p><b>X</b> Curiosity and Imagination</p> <p><b>X</b> Innovation and Creativity</p> <p><b>X</b> Critical thinking and Problem Solving</p> <p><b>X</b> Flexibility and Adaptability</p> <p><b>X</b> Effective Oral and Written Communication</p> <p><b>X</b> Accessing and Analyzing Information</p> <p><input type="checkbox"/> Other</p>

<b>Differentiation Strategies (Additional Supports + Enrichment)</b>	<b>Strategies for English Language Learners</b>
<p>There are a variety of lessons/activities listed that will reach all types of learners.</p> <p>For the quick write progress monitors, students with special needs or different learning styles, students can draw their responses instead of writing them.</p>	<p>Read alouds can be used whenever possible.</p> <p>Vocabulary should be posted and reviewed daily.</p> <p>Science word walls can be used to help reinforce vocabulary.</p>

Instructional Resources and Materials	
Physical	Technology-Based
<p><i>Our Solar System</i> by Seymour Simon  <i>The Night Sky: Stories of the Stars, Planets, Constellations</i> by: Michael Drifcoll</p>	<p>There are numerous activities/lessons available at the following sites:  <a href="http://www.exchange.smarttech.com">www.exchange.smarttech.com</a> Search for: solar system  <a href="http://www.kidsastronomy.com/">http://www.kidsastronomy.com/</a>  <a href="http://kidespace.com/KidsAstronomy.htm">http://kidespace.com/KidsAstronomy.htm</a>  <a href="http://www.valdosta.edu/~clcalicu/topic.html">http://www.valdosta.edu/~clcalicu/topic.html</a></p>

Unit Vocabulary Terms		Enrichment / Extension	Interdisciplinary Connections
<p><b>“Unwrapped” Priority Standards Concepts</b></p>	<p>Supporting Standards Concepts and Other Unit-Specific Terms</p>	<p>See Technology Resources</p>	<p>Music: The Solar System Song can be sung in class. The song is located on youtube.</p>
<p>Constellation Rotation Revolution Orbit Solar energy</p>	<p>Shadow Position Length Planet Moon Star System Satellite</p>		<p>Phases of the Moon song can be found on youtube also.</p>