Subject: Science	Timeframe Needed for Completion: 4 to 5 weeks	
Grade Level: Third Grade		
Unit Titles: The Earth /Moon/Sun System	Grading Period: 1 <sup>st</sup> 9 weeks	
All About Matter		
Big Idea/Theme: Natural Phenomena on Planet Earth		
<ul> <li>Understandings:</li> <li>The Earth is part of the solar system.</li> <li>Location of the Earth in the solar system.</li> <li>Identify the characteristics of the seasons (winte</li> <li>Compare the changes that occur during each sea</li> <li>Shadows: length and direction indicates change</li> <li>Patterns of stars in the sky remain the same.</li> <li>Understanding of matter/mass</li> <li>Solids, Liquids, and Gas</li> </ul>	er, spring, summer, and fall). Ison (temperature changes, leaves falling, snow, wind blowing, flowers blooming).	
Essential Questions:	Curriculum Goals/Objectives (to be assessed at the end of the	
<ul> <li>What happens in the sky at night?</li> </ul>	unit/quarter)	
<ul> <li>What else exists in our galaxy?</li> </ul>	<b>3.E.1</b> Recognize the major components and patterns observed in the	
<ul> <li>Where does light come from?</li> </ul>	earth/moon/sun system.	
• Does the Earth move?	• 3.E.1.1 Recognize that the earth is part of a system called the solar	
<ul> <li>How does the sky change?</li> </ul>	system that includes the sun (a star), planets, and many moons and the	
• Why are there seasons?	earth is the third planet from the sun in our solar system.	
<ul> <li>How would you describe matter?</li> </ul>	• 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	
• How would you describe the states of matter?	day although the natterns of the stars in the sky to include the Sun stay	
<ul> <li>How do the states of matter change?</li> </ul>	the same.	
	<b>3.P.2</b> Understand the structure and properties of matter before and	
	after they undergo a change.	
	• 3.P.2.1 Recognize that air is a substance that surrounds us, takes up	
	space and has mass.	
	• 3.P.2.2 Compare solids, liquids, and gases based on their basic	
	properties.	
	• 3.P.2.3 Summarize changes that occur to the observable properties of	
	<ul> <li>materials when different degrees of heat are applied to them, such as melting ice or ice cream boiling water or an egg, or freezing water</li> </ul>	
	months for or for cream, coming water of an egg, or neezing water.	

<ul> <li>Vocabulary: Reflect, opaque, absorb, shadow, axis, rotation, orbit, revolution, seasons, constellation, satellite, stars, moon, planets, sun, mass, matter, particles, solids, liquids, gas</li> <li>Essential Skills: Solar System Unit:</li> <li>A solar system includes a star, planets, and other objects.</li> <li>Planets revolve around a star in orbits of differing lengths.</li> <li>The Earth is the 3<sup>rd</sup> planet from the Sun.</li> <li>The Sun and stars in the sky move in consistent patterns. constellations</li> <li>As light is blocked, shadows cast by opaque objects change.</li> <li>Earth rotates on an axis (one complete turn every 24 hours) creating day and night</li> <li>Earth revolves around the Sun (1 year = 1 complete revolution).</li> <li>Matter Unit:</li> <li>Air surrounds us, takes up space, and has mass.</li> <li>Matter (mass and volume) can be differentiated based on properties (gas, liquid, solid) and the behavior differ in three states.</li> <li>Characteristics of particular states influence the functional applications of a given material.</li> <li>Heat causes particles within an object to vibrate causing them to move apart. This may cause the object to change from one state to another (solid to liquid, liquid to gas).</li> <li>Heating or cooling matter affects properties.</li> </ul>	<ul> <li>Suggested Activities:</li> <li>*Students measure shadows and describe how their measurements relate to the season and the time of day.</li> <li>*Create models showing how some objects in the sky move in relationship to Earth.</li> <li>*Create models showing how Earth moves in relationship to stationary object in the universe.</li> <li>*E-journal Research/Writing Activity "Changing Seasons"</li> <li>*The sun and earth: Investigations for 3<sup>rd</sup> grade</li> <li>http://www.learnnc.org/lp/editions/earth-sun/cover</li> <li>*Measuring shadows <a href="http://www.learnnc.org/lp/pages/3334?ref=search">http://www.learnnc.org/lp/pages/3334?ref=search</a></li> <li>Books: <ul> <li>Pictures in the Sky</li> <li>The Moon Book</li> <li>There Once Was A Sky Full of Stars by Bob Crelin</li> <li>Eyewitness Book: Light</li> <li>Zoo in the Sky by Jacqueline Mitton</li> <li>Once Upon a Starry Night by Jacqueline Mitton</li> <li>What is the Moon Like? by Franklyn M. Branley</li> <li>National Audubon Society First Field Guide Night Sky</li> </ul> </li> </ul>
Materials Suggestions: Web Sites: www.nasa.gov http://stardate.org/nightsky/moon/ http://science.pppst.com/space/moon.html http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Astronomy/ http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Astronomy/ http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Astronomy/ http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Astronomy/ http://www.exploratorium.edu/snacks/give_and_take.html http://www.exploratorium.edu/snacks/give_and_take.html http://www.ncpublicschools.org/docs/curriculum/science/units/elementary/3goal3.do http://www.kidsastronomy.com/solar_system.htm http://www.kidsastronomy.com/solar_system.htm http://www.edu.pe.ca/southernkings/landforms.htm http://www.nbschool.com/science/2005/student/level2.php?isbn=002281213X&lev http://www.slideshare.net/mrmartella/maps-and-globes-are-models-of-the-earth http://exchange.smarttech.com/details.html?id=3b5fb548-29da-47d1-af75-9e5201d3 http://exchange.smarttech.com/search.html?q=solar+system&subject=Science&grad	AST0003.html lesson on revolution and rotation <u>oc</u> <u>e11=D&amp;leve12=8</u> <u>36259</u> <u>le=All+grades&amp;region=en_US</u>

**Education City:** High Noon- sun's path changes shadows

Education City (Grade 2):

- Hot Springs- states of water
- Junkyard- changing states of matter
- Sand, Sun, and Sea- classifying solid, liquid, gas

Writing activity ideas:

Explain to a younger sibling why your shadow grows and changes throughout the day and relate it to the sun's position in the sky.