

# Gr. 6 - Understanding Earth & Space Systems

*Space*

## The Night Sky/Where is the North Star?

<p><b>Specific Expectations:</b></p> <p>2.1 Follow established safety procedures for handling tools and materials and observing the sun.</p> <p>2.2 Use technological problem-solving skills to design, build, and test devices for investigating the motions of different bodies in the solar system.</p> <p>3.2 Identify the bodies in space that emit light and those that reflect light.</p> <p>3.4 Identify the technological tools and devices needed for space exploration.</p>			
<p><b>Big Idea (for lesson):</b></p> <p>Students develop take-home constellation maps for analyzing the night sky, and discuss the different properties of stars.</p>			
<p><b>Accommodations:</b></p> <p><input checked="" type="checkbox"/> Increase time</p> <p><input checked="" type="checkbox"/> Visual Aids</p> <p><input checked="" type="checkbox"/> Manipulatives</p> <p><input checked="" type="checkbox"/> Chunking</p> <p><input checked="" type="checkbox"/> Step-by-Step</p> <p><input checked="" type="checkbox"/> Scaffolding</p> <p><input checked="" type="checkbox"/> Copy of Notes</p> <p><input checked="" type="checkbox"/> Student Grouping</p>		<p><b>Differentiated Instruction:</b></p> <p><input checked="" type="checkbox"/> Content: Use demo to show the content as you offer verbal descriptions.</p> <p><input checked="" type="checkbox"/> Process: Have students work in pairs and support each other if physical impediments exist.</p> <p><input checked="" type="checkbox"/> Product: Students may show their final product in pairs, and communicate their findings either verbally, visually, or through written means.</p> <p><input type="checkbox"/> Other: _____</p>	
<p><b>Bloom's Taxonomy:</b></p> <p><input checked="" type="checkbox"/> Knowledge</p> <p><input checked="" type="checkbox"/> Comprehension</p> <p><input checked="" type="checkbox"/> Application</p> <p><input checked="" type="checkbox"/> Analysis</p> <p><input type="checkbox"/> Synthesis</p> <p><input type="checkbox"/> Evaluation</p>		<p><b>Multiple Intelligence:</b></p> <p><input checked="" type="checkbox"/> Verbal/Linguistic</p> <p><input checked="" type="checkbox"/> Logical/Mathematical</p> <p><input checked="" type="checkbox"/> Visual/Spatial</p> <p><input checked="" type="checkbox"/> Bodily/Kinesthetic</p> <p><input checked="" type="checkbox"/> Naturalist</p> <p><input type="checkbox"/> Musical/Rhythmic</p> <p><input checked="" type="checkbox"/> Interpersonal</p> <p><input checked="" type="checkbox"/> Intrapersonal</p>	

### Delivering The Lesson:

Portion & Timing	Grouping:			Introduction:	Materials
<b>Minds On:</b> <b>15 mins</b>	W <input checked="" type="checkbox"/>	S <input type="checkbox"/>	I <input type="checkbox"/>	Teacher can spend some time investigating shadows through different	-Glue or tape -Posterboard

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				<p>hands-on activities. There are three different options that could be done here, all available at the following link: <a href="http://cse.ssl.berkeley.edu/AtHomeAstronomy/activity_01.html">http://cse.ssl.berkeley.edu/AtHomeAstronomy/activity_01.html</a></p> <p>-Ask students what causes the daily change in shadow lengths? (<i>Answer: the spin of the Earth</i>).</p> <p>-Have students describe the motion of the Earth, and distinguish it between its orbit around the sun, along with the other planets.</p>	<p>-Cardboard or Styrofoam</p> <p>-Toothpick</p> <p>-Flashlight</p>
<p><b>Action:</b> 20 mins</p>	<p>W <input checked="" type="checkbox"/></p>	<p>S <input checked="" type="checkbox"/></p>	<p>I <input checked="" type="checkbox"/></p>	<p>Have students build their own constellation projector and North Star finder, according to the instructions on the handout.</p> <p>Teacher can circulate and ask questions of the different groups:</p> <p>-Ask students to describe each constellation by jotting down a few points or verbally recounting to the teacher or a partner.</p> <p>-Ask students what it means to reflect light? (<i>Answer: the object doesn't emit light, instead it bounces it back so we can see the object</i>).</p> <p>-How do we see things around us? (<i>Answer: everyday things around us emit or reflect light in the same way as outlined.</i>)</p>	<p>The Night Sky &amp; Where is the North Star Handout (Materials listed)</p>
<p><b>Consolidate:</b> 5 mins</p>	<p>W <input checked="" type="checkbox"/></p>	<p>S <input type="checkbox"/></p>	<p>I <input type="checkbox"/></p>	<p>Look up the weather with students and plan a night for them to test out their North Star Finder. Encourage them to try to find at least one constellation when they are outside looking.</p>	