Gr. 6 - Understanding Earth & Space Systems

Space

The Night Sky/Where is the North Star?

Specific Expectations:
2.1 Follow established safety procedures for handling tools and materials and observing the sun.

2.2 Use technological problem-solving skills to design, build, and test devices for investigating the motions of different bodies in the solar system.

3.2 Identify the bodies in space that emit light and those that reflect light.

3.4 Identify the technological tools and devices needed for space exploration.

Big Idea (for lesson):
Students develop take-home constellation maps for analyzing the night sky, and discuss the different properties of stars.

Accommodations:
- Increase time
- Visual Aids
- Manipulatives
- Chunking
- Step-by-Step
- Scaffolding
- Copy of Notes
- Student Grouping

Differentiated Instruction:
- Content: Use demo to show the content as you offer verbal descriptions.
- Process: Have students work in pairs and support each other if physical impediments exist.
- Product: Students may show their final product in pairs, and communicate their findings either verbally, visually, or through written means.

Bloom’s Taxonomy:
- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Multiple Intelligence:
- Verbal/Linguistic
- Logical/Mathematical
- Visual/Spatial
- Bodily/Kinesthetic
- Naturalist
- Musical/Rhythmic
- Interpersonal
- Intrapersonal

Delivering The Lesson:

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<thead>
<tr>
<th>Portion &amp; Timing</th>
<th>Grouping:</th>
<th>Introduction:</th>
<th>Materials</th>
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### Gr. 6 - Understanding Earth & Space Systems

#### Space

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<th>Activity</th>
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<tbody>
<tr>
<td><strong>Action:</strong></td>
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<td><strong>Cardboard or Styrofoam</strong>&lt;br&gt;<strong>Toothpick</strong>&lt;br&gt;<strong>Flashlight</strong></td>
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| Have students build their own constellation projector and North Star finder, according to the instructions on the handout. Teacher can circulate and ask questions of the different groups:  
- Ask students to describe each constellation by jotting down a few points or verbally recounting to the teacher or a partner.  
- Ask students what it means to reflect light? *(Answer: the object doesn’t emit light, instead it bounces it back so we can see the object).*  
- How do we see things around us? *(Answer: everyday things around us emit or reflect light in the same way as outlined.)* | | | |  
| **Consolidate:** | 5 mins | | |  
| 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. | | | |  

hands-on activities. There are three different options that could be done here, all available at the following link: [http://cse.ssl.berkeley.edu/AtHomeAstronomy/activity_01.html](http://cse.ssl.berkeley.edu/AtHomeAstronomy/activity_01.html)  
- Ask students what causes the daily change in shadow lengths? *(Answer: the spin of the Earth).*  
- Have students describe the motion of the Earth, and distinguish it between its orbit around the sun, along with the other planets.

The Night Sky & Where is the North Star Handout (Materials listed)