

Jena Parish – Solar System Unit

Online Learning Experience (OLE) Planning Grid - ITEC 7480

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<p><b>Standard:</b> Students will compare and contrast the physical attributes of stars, star patterns, and planets.</p> <p>a. Recognize the physical attributes of stars in the night sky such as number, size, color and patterns.</p> <p>b. Compare the similarities and differences of planets to the stars in appearance, position, and number in the night sky.</p> <p>c. Explain why the pattern of stars in a constellation stays the same, but a planet can be seen in different locations at different times.</p> <p>d. Identify how technology is used to observe distant objects in the sky</p>			
Student Objectives/Outcomes:	Bloom's Level:	Activities:	Assessments:
1. Describe the characteristics of stars including the various sizes, colors, and patterns	Understanding	<ul style="list-style-type: none"> <li>Watch BrainPop Video: "Galaxies" and "The Life Cycle of Stars" from <a href="http://www.brainpop.com">www.brainpop.com</a>. Use practice quiz as a self-assessment after video. [Week 1]</li> <li>Watch "The Magic School Bus: Sees Stars" from <a href="http://streaming.discoveryeducation.com/">http://streaming.discoveryeducation.com/</a> [Week 1]</li> <li>Complete Learn About Stars graphic organizer using the site <a href="http://www.kidsastronomy.com/stars.htm">http://www.kidsastronomy.com/stars.htm</a> [Week 1]</li> </ul>	<ul style="list-style-type: none"> <li>Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>Teacher feedback on graphic organizer</li> <li>Test at end of the unit</li> </ul>
2. Identify and label the following constellations and their positions in the solar system: Big Dipper, Orion, and Little Dipper	Applying	<ul style="list-style-type: none"> <li>Watch BrainPop Video: "Constellations" from <a href="http://www.brainpop.com">www.brainpop.com</a>. Use practice quiz as a self-assessment after video. [Week 2]</li> <li>Play "Constellation Hunt" game from <a href="http://www.kidsastronomy.com/astrokymap/constellation_hunt.htm">http://www.kidsastronomy.com/astrokymap/constellation_hunt.htm</a> [Week 2]</li> <li>Use "Virtual Telescope" to take notes about constellations from <a href="http://library.thinkquest.org/3645/constellations.html">http://library.thinkquest.org/3645/constellations.html</a> [Week 2]</li> <li>Review different constellations by looking at different digital images of the night sky from <a href="http://www.allthesky.com/constellations/const.html">http://www.allthesky.com/constellations/const.html</a> [Week 2]</li> <li>Complete Stargazers Activity from <a href="http://www.harcourtschool.com/activity/stars/index.html">http://www.harcourtschool.com/activity/stars/index.html</a> [Week 2]</li> <li>Research and create a constellation using black paper and flash lights. Present your constellation to your classmates. [Week 2]</li> </ul>	<ul style="list-style-type: none"> <li>Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>Teacher feedback and peer feedback on constellation project and presentation using a rubric</li> <li>Test at end of the unit</li> </ul>
3. Compare and contrast the differences and similarities between planets and stars using appearance, position, and number in the night sky	Analyzing	<ul style="list-style-type: none"> <li>Read lessons from Science Textbook (available online) that correlate with these concepts. (Need to locate log-in) [Week 1]</li> <li>Complete Virtual Venn Diagram from <a href="http://www.readwritethink.org/files/resources/interactives/venn">http://www.readwritethink.org/files/resources/interactives/venn</a> [Week 1]</li> </ul>	<ul style="list-style-type: none"> <li>Teacher feedback on Venn Diagram (Student will print to turn in after completion)</li> <li>Test at end of the unit</li> </ul>
4. Model the difference between revolution and rotation and describe how revolution and rotation apply to stars and planets	Analyzing	<ul style="list-style-type: none"> <li>Read lessons from Science Textbook (available online) that correlate with these concepts. Complete comprehension questions. [Week 3]</li> <li>Complete "Tracking the Sun Activity" and "Simulating the Motion of the Stars Activity" from <a href="http://hea-www.harvard.edu/ECT/the_book/Chap1/Chapter1.html">http://hea-www.harvard.edu/ECT/the_book/Chap1/Chapter1.html</a> [Week 3]</li> </ul>	<ul style="list-style-type: none"> <li>Teacher feedback on comprehension questions</li> <li>Test at end of the unit</li> </ul>
5. Identify how the following technology is used to observe distant objects in the sky: telescope, crewed mission, and space probe	Remembering	<ul style="list-style-type: none"> <li>Watch BrainPop Video: "Telescopes" and "Space Flight" from <a href="http://www.brainpop.com">www.brainpop.com</a> [Week 3]</li> <li>Complete online lesson "How Do People Study the Solar System" from <a href="http://nwghost.com/uaist361673s08/aillalo/lesson4.html">http://nwghost.com/uaist361673s08/aillalo/lesson4.html</a> [Week 3]</li> <li>Complete "Hubble Scrapbook" Activity from <a href="http://www.harcourtschool.com/activity/hubble/index.html">http://www.harcourtschool.com/activity/hubble/index.html</a> [Week 3]</li> </ul>	<ul style="list-style-type: none"> <li>Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>Test at end of the unit</li> </ul>

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**Standard:** Students will model the position and motion of the earth in the solar system and will explain the role of relative position and motion in determining sequence of the phases of the moon.

- a. Explain the day/night cycle of the earth using a model.
- b. Explain the sequence of the phases of the moon.
- c. Demonstrate the revolution of the earth around the sun and the earth's tilt to explain the seasonal changes.
- d. Demonstrate the relative size and order from the sun of the planets in the solar system.

Student Objectives/Outcomes:	Bloom's Level:	Activities:	Assessments:
1. <i>Demonstrate, using a model of the earth, the day and night cycle and explain how the position of the earth determines night and day.</i>	Understanding	<ul style="list-style-type: none"> <li>• Read the book "What Makes Day and Night" by Franklyn M. Branley [Week 4]</li> <li>• Complete online lesson "How Do Earth and Its Moon Move?" from <a href="http://nwghost.com/uaist361673s08/aillelo/lesson1.html">http://nwghost.com/uaist361673s08/aillelo/lesson1.html</a> [Week 4]</li> <li>• Complete Full Moon to New Moon Activity from <a href="http://www.harcourtschool.com/activity/science_up_close/410/deploy/interface.html">http://www.harcourtschool.com/activity/science_up_close/410/deploy/interface.html</a> [Week 4]</li> <li>• Complete Night and Day Demonstration using lamp, orange, and grapes [Week 4]</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher feedback on night and day demonstration</li> <li>• Test at end of the unit</li> </ul>
2. <i>Illustrate the sequential phases of the moon over a 28 day period and summarize why we see different phases of the moon</i>	Understanding	<ul style="list-style-type: none"> <li>• Watch BrainPop Video: "Moon Phases" from <a href="http://www.brainpop.com">www.brainpop.com</a>. Use practice quiz as a self-assessment after video. [Week 5]</li> <li>• Go through a digital model of the phases of the moon from <a href="http://www.harcourtschool.com/activity/moon_phases/">http://www.harcourtschool.com/activity/moon_phases/</a> or from <a href="http://aspire.cosmic-ray.org/labs/moon/lunar_phase3.swf">http://aspire.cosmic-ray.org/labs/moon/lunar_phase3.swf</a> (more advanced) [Week 5]</li> <li>• Watch Moon Phase video from YouTube from <a href="http://www.youtube.com/watch?feature=player_embedded&amp;v=7vUObZwLJ8A#">http://www.youtube.com/watch?feature=player_embedded&amp;v=7vUObZwLJ8A#</a>! [Week 5]</li> <li>• Play Moon Matching Game in small groups from <a href="http://mjkscteachingideas.com/pdf/MoonFlashCards.pdf">http://mjkscteachingideas.com/pdf/MoonFlashCards.pdf</a></li> <li>• Complete Oreo Moon Activity and Worksheet (from <a href="http://mjkscteachingideas.com/pdf/MoonPhases.pdf">http://mjkscteachingideas.com/pdf/MoonPhases.pdf</a>) as a class [Week 5]</li> <li>• Go through Moon Phases PowerPoint and complete Moon Phase Booklets as a culminating activity for this week [Week 5]</li> </ul>	<ul style="list-style-type: none"> <li>• Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>• Teacher feedback on Oreo Moon Activity</li> <li>• Test at end of the unit</li> <li>• Teacher feedback on Moon Phase Booklet</li> </ul>
3. <i>Differentiate the cause of seasonal change including the following terms in your explanation: revolution and axis</i>	Analyzing	<ul style="list-style-type: none"> <li>• Watch "What Causes Earth's Seasons?" from YouTube at <a href="http://www.youtube.com/watch?v=DuiQvPLWziQ">http://www.youtube.com/watch?v=DuiQvPLWziQ</a>. Complete 3-2-1 Graphic Organizer to summarize. [Week 4]</li> <li>• Watch BrainPop Video: "Solstice and Equinox" from <a href="http://www.brainpop.com">www.brainpop.com</a>. Use practice quiz as a self-assessment after video. [Week 4]</li> <li>• Read lessons from Science Textbook (available online) that correlate with these concepts. Complete comprehension questions. [Week 4]</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher feedback on 3-2-1 Graphic Organizer</li> <li>• Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>• Teacher feedback on comprehension questions</li> <li>• Test at end of the unit</li> </ul>

<p>4. <i>List and sequence the eight planets in the solar system in order</i></p>	<p><i>Remembering</i></p>	<ul style="list-style-type: none"> <li>• Watch BrainPop Video: “Solar System” from <a href="http://www.brainpop.com">www.brainpop.com</a>. Use practice quiz as a self-assessment after video. [Week 6]</li> <li>• Watch “The Magic School Bus: Gets Lost in Space” from <a href="http://streaming.discoveryeducation.com/">http://streaming.discoveryeducation.com/</a> [Week 6]</li> <li>• Complete Planet Graphic Organizer using <a href="http://www.harcourtschool.com/activity/blast/index.html">http://www.harcourtschool.com/activity/blast/index.html</a> [Week 6]</li> </ul>	<ul style="list-style-type: none"> <li>• Complete BrainPop Quiz after each video (Students will complete online and print)</li> <li>• Teacher feedback on Planet Graphic Organizer</li> <li>• Teacher feedback on Solar System Diagram (Student will complete online and print)</li> </ul>
<p>5. <i>Construct a model of the planets in our solar system using appropriate characteristics (size, order) of each planet</i></p>	<p><i>Creating</i></p>	<ul style="list-style-type: none"> <li>• Create a solar system diagram at <a href="http://www.prongo.com/eight-planets/">http://www.prongo.com/eight-planets/</a> [Week 6]</li> <li>• Create a solar system model that accurately represents the characteristics (size and order) of the planets (can be created using a computer or as an artifact ) [Week 6]</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher feedback on Solar System Model using a rubric</li> <li>• Test at end of the unit</li> </ul>