

Rigorous Curriculum Design Unit Planning Organizer

Subject(s)	Science
Grade/Course	First
Unit of Study	The Moon
Unit Type(s)	<input type="checkbox"/> Topical <input type="checkbox"/> Skills-based <input checked="" type="checkbox"/> Thematic
Pacing	

Priority Essential Standards

1.E.1

1E.1.1 – Recognize differences in the features of the day and night sky and apparent movement of objects across the sky as observed from Earth.

1.E.1.2 – Recognize patterns of observable changes in the moon’s appearance from day to day.

“UNWRAPPED” Priority Standards

1.E.1.1

Students know that objects in the sky have patterns of movement. Students know the sun is a star that can only be seen in the daytime, but the moon can be seen sometimes at night and sometimes during the day. Students know there are more stars in the sky than anyone can count, but they are not scattered evenly, and they are not all the same in brightness or color. Students know the sun, moon and stars all appear to move slowly across the sky.

1.E.1.2

Students know the moon looks a little different every day but looks the same again about every four weeks. They know that the moon’s observable changes follow a pattern.

Essential Questions	Corresponding Big Ideas
<p>What are moon phases, stars and comets?</p>	<p>Students will recognize moon's light is reflected from the sun. The sun is the largest star in our solar system. The moon has different phases and changes appearance. Students will recognize that objects move across sky, difference in night/day.</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><i>Students will complete a Venn Diagram of the moon and the sun to assess student's prior knowledge.</i></p>	<p>Journal Entries, completion of moon journal, class participation, group discussions and completion of group projects.</p>
Post-Assessment	
<p>Moon Quiz (See attached) Venn Diagram from Pre-Assessment for additions. Students will show new learning with a different color marker/pen.</p>	
Scoring Guides and Answer Keys	
<p>Mensa For Kids provides a rubric if needed</p>	

Engaging Learning Experiences	
Learning Activities Using Text or Program	Authentic Performance Tasks
<p>Mensa For Kids website provides lessons. See attachment for 5 daily lesson plans taken from this website and additions made.</p> <p>Activity sheets listed below found on website and edhelper.com Main Literature: <i>Papa Please Get the Moon for Me</i>, by Eric Carle, <i>Our Moon</i>, by Michael Burgan. <i>Four Men and the Moon and Star Money Stories, How Sun, Moon and Wind went out to Dinner from Sky Tales</i>, by Michael Burgan.</p> <p>Interactive Story – www.beaconlearningcenter.com/WebLessons/AsTheEarthTurns/default.htm</p> <p>Additional Literature: <i>Let's Visit The Moon</i>, by Ben Farrell, <i>Lunch in Space</i>, by Kana Riley, <i>What's in the Sky?</i> By Curriculum Associates, <i>The Big Dipper</i>, by Franklyn M. Branley, <i>The Magic School Bus – Lost in the Solar System</i> by Joanna Cole and Bruce Degen, <i>Man on the Moon</i>, by Anastasia Suen, <i>I Am Planet Earth</i>, by Jean Marzollo, <i>Our Earth</i>, by Anne Rockwell.</p>	<p>Student will complete moon journal with parents, charting moon phases and movement.</p> <p>Parent involvement idea– Moon Party (parents would be invited to school to look at the moon using telescopes with students and discuss what phase the moon is in and observe any other stars and planets. Identify star patterns such as Big Dipper, Little Dipper, etc.</p>

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

Instructional Resources and Materials	
Physical	Technology-Based
1. Moon Facts Sheet	Mensa for kids www.MensaForKids.com
2. Number facts sheet	http://www.polk-fl.net/staff/grants/pefgrants/documents/T2TGrants0708/McKeletteDowerspgs.pdf
3. The Far Side of the Moon	http://www.woodlands-junior.kent.sch.uk/time/moon/phases.html
4. Moon crater art project	http://www.dltk-teach.com/rhymes/moon/mphases.htm
1-4 Found on the Mensa for Kids Website	Oreo Cookie Moon Phases http://analyzer.depaul.edu/paperplate/Oreo%20Moon%20Phases.htm
5. Moon facts puzzle #1, #2	Lunar Calendar http://www.sciencenetlinks.com/Esheet.php?DocID=124
6. Footprints on the moon sheet	Discovery Education – Happy Birthday Moon video – 7 minutes long. Phases of the moon.
7. Apollo 11 Worksheet	The Earth and the Moon (click on this title) www.freeclubweb.com/powerpoints/science/space/moon.html
Book – Moon Myths and Moon Walking 5-7 and both books found on edhelper.com	Video – teachertube.com (Phases of the Moon, with kitty talking to the moon). Pull this video up early and have ready. It takes a while to come up.

Unit Vocabulary Terms		Enrichment / Extension	Interdisciplinary Connections
“Unwrapped” Priority Standards Concepts	Supporting Standards Concepts and Other Unit- Specific Terms	Visit a planetarium. Poetry – “I Am” (moon or stars), concrete poems (star or moon) Make puppets for puppet show to present facts they have learned.	ELA

The Moon

Day 1 SCOS: 1.E.1.1/1.E.1.2

Introduce the Moon: Read the book: *Papa, Please get the Moon for Me* by Eric Carle

Background for Teachers to instruct students: The moon orbits the Earth as the Earth orbits the sun. We can see the moon most nights, and often during the day too. The moon changes shape in a 29 ½ day cycle. The different shapes we see of the moon are called its phases. You can see surface details on the Moon even in the daytime and you do not need any special equipment. Because the moon has no atmosphere, there are no moon clouds to spoil your view. The dark patches you see are lowlands, the brighter areas are highlands.

Read the book – *Our Moon*, by Michael Burgan.

Think and Respond questions listed in the back of the book.

Go over facts about the moon with students (See teacher copy – www.mensaforkids.org)

Students will complete Number Facts (edhelper.com). Students must use codes to determine the answer to questions about the moon, distance, diameter and time to orbit the earth.

Students will also complete – The Far Side of the Moon worksheet (see teacher copy)

Day 2 SCOS: 1.E.1.1/1.E.1.2

Share *Four Men and the Moon and Star Money* stories from *Sky Tales*, by Michael Burgan.

Introduce Moon Craters – (www.mensaforkids.org). Go to <http://earth.google.com/moon/> to explore the moon.

Moon Crater Art Project – (See teacher copy – mensaforkids).

Moon Facts #1 and #2 puzzle to learn more facts about the moon (edhelper.com)

Day 3 SCOS: 1.E.1.1/1.E.1.2

Share the story – *How Sun, Moon and Wind Went Out to Dinner*, from *Sky Tales*, by Michael Burgan.

Footprints on The Moon maze – introduction discusses that the moon does not have an atmosphere and discusses footprints made by the first astronauts.

Apollo 11 worksheet – Students will discover the date that astronauts first landed on the moon.

Share Moon Myths from Edhelper.com with students.

Day 4 SCOS: 1.E.1.1/1.E.1.2

Introduce Moon Phases – (see teacher copy – Mensaforkids)

Match the name description of the moon phase to the picture.

Watch Video – teachertube.com “Phases of the moon” with kitty talking to moon. Another video is one made by kids. (Be sure to pull up early and have ready to go – it’s take a while for it to come up. My login is kthomas1964, password is cancer04.

[http://www.google.com/url?q=http://teachertube.com/viewVideo.php%3Fvideo_id%3D9797%26title%3DThe Phases of the Moon&sa=U&ei=-hukT7vLKoSutweU-YSaDQ&ved=0CAQQFjAA&client=internal-uds-cse&usg=AFQjCNFX-B67W3c7odXS9SfxPL4HuNUZbQ](http://www.google.com/url?q=http://teachertube.com/viewVideo.php%3Fvideo_id%3D9797%26title%3DThe%20Phases%20of%20the%20Moon&sa=U&ei=-hukT7vLKoSutweU-YSaDQ&ved=0CAQQFjAA&client=internal-uds-cse&usg=AFQjCNFX-B67W3c7odXS9SfxPL4HuNUZbQ)

http://www.google.com/url?q=http://www.teachertube.com/viewVideo.php%3Fvideo_id%3D80659&sa=U&ei=-hukT7vLKoSutweU-YSaDQ&ved=0CAwQFjAE&client=internal-uds-cse&usg=AFQjCNGqDHS1ZJtsRIUyeFrule6TjkOP7w

Introduce moon phase charts. Explain how to chart the moon phases correctly. Have students label moon calendar with dates. Students will chart moon phases for two weeks.

Distribute Moon Walking book (Edhelper.com) that discusses phases of the moon.

Day 5 SCOS: 1.E.1.1/1.E.1.2

Assessment on Moon Unit

See teacher copy

Moon Quiz

Day 5

1. What exactly is our moon?
 - a. Our moon is a rocket rotating around the earth.
 - b. Our moon is a comet rotating around the earth.
 - c. Our moon is a satellite rotating around the earth.
 - d. Our moon is a space ship rotating around the earth.

 2. The moon goes through how many phases?
 - a. The moon goes through five phases.
 - b. The moon goes through four phases.
 - c. The moon goes through eight phases.
 - d. The moon goes through two phases.

 3. What part of the moon do we see?
 - a. We can only see the near side of the moon.
 - b. We can only see the far side of the moon.
 - c. We can only see the dark side of the moon.
 - d. We can only see the moon's shadow.

 4. What is a waxing moon?
 - a. A moon that is growing smaller in size.
 - b. A moon that is shrinking in size.
 - c. A moon that is getting waxed to look shiny.
 - c. A moon that is growing larger in size.
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5. The moon has:

- a. craters
- b. valleys
- c. mountains
- d. all of the above

6. How long does it take for the moon to go through all its phases?

- a. about a month
- b. one day
- c. one week
- d. 3 months

7. What is true about the moon?

- a. It is made of stinky cheese.
 - b. There is water on the moon.
 - c. The moon does not have an atmosphere and no weather.
 - d. The moon is green in the sky.
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