

## Moon Phase Lesson Plan with Oreos (EXPLAIN)

<b>Grade:</b> 1st		<b>Subject:</b> Earth Science	
<b>Materials:</b> Moon Worksheets, Black and Yellow Crayons, Oreos (each student gets 8), Paper Plates (each student gets one), Plastic Knife (each student gets one), Earth Stickers (each plate needs one), Moon Phase Model, marker, Anchor chart		<b>Technology Needed:</b> “Why Does the Moon Change?” video, moon phase diagram, computer, projector, smartboard	
<b>Instructional Strategies:</b> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Modeling <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list)		<b>Guided Practices and Concrete Application:</b> <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
<b>Standard(s)</b> 1-ESS1 Earth's Place in the Universe  <hr/> 1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted. (Learning the phases of the moon)		<b>Differentiation</b> <b>Below Proficiency:</b> For students who are below proficiency, accommodations that help with the Oreo activity will make the learning experience easier for them. Allows these students to use a diagram of the moon phases at their desk when creating the model or allow them to create half of the lunar phase. Let the students use their hands when created the model.  <b>Above Proficiency:</b> For students above proficiency, do not label their plate and have them create their own cycle in order.  <b>Approaching/Emerging Proficiency:</b> This lesson tailors to the students who are approaching/emerging proficiency.  <b>Modalities/Learning Preferences:</b> <ul style="list-style-type: none"> <li>• <b>Visual:</b> Students that are visual learners will watch the video and be shown visuals and a model to help aide them in their creating of the project.</li> <li>• <b>Auditory:</b> Students that are auditory learners have opportunities to listen throughout the lesson. Students will listen to the video, the explanation of the moon phases, and the explanation of how to create the model.</li> <li>• <b>Tactile:</b> For tactile learners, students will engage in the process of creating their moon phase model by using their bodies to shape and mold their project.</li> <li>• <b>Kinesthetic:</b> For kinesthetic learners, there are opportunities throughout the lesson for them to move. Allow them to stand while working on their Oreo model at their desks.</li> </ul>	
<b>Objective(s)</b> By the end of the lesson, students will demonstrate their knowledge of the moon phases by watching the “Why Does the Moon Change?” video, completing the moon phase worksheet, constructing a moon phase model using Oreos, and analyzing their peer’s projects.  <b>Bloom’s Taxonomy Cognitive Level:</b> Application			
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> Students are expected to sit in the desks quietly and attentively while watching the video. When finished with the engage section students will gather on the rug and sit in alphabetical order. After I am done explaining my model students will remain on the carpet for half of the explain section. When starting their Oreo model, they will return back to their seats. During the review section of the lesson students will sit in their seats when I am asking questions then will walk around and engage in discussion with their peers when viewing other projects.		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b> Students are expected to follow directions and rules while the lesson is being taught. If the students do not follow them they will receive one warning, after the warning their project will be taken away and they will observe students completing the lesson. The noise level is to stay at 0 during the video and when I am explaining the activity or asking questions. When the students are working on the project the noise level is to be at a 2 or below. If the noise level gets to loud, we will stop the activity and put things away.	
<b>Minutes</b>	<b>Procedures</b>		
<b>5</b>	<b>Set-up/Prep:</b> Print off all the worksheets, get the video ready on the smartboard, have the moon phase diagram ready to go, place and earth sticker in the middle of each paper plate, write the moon phases on the outer edges of each plate, have a moon phase model completed.		
<b>10</b>	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b> <ul style="list-style-type: none"> <li>• Hand out the worksheets to the students.</li> <li>• Have the students get out a black and yellow crayon.</li> </ul> Make sure to tell the students to keep everything on their desks until I tell them to use it. Opening activity/Access prior learning- Have the students watch the “Why Does the Moon Change?” video on YouTube. When going over each moon phase in the video pause after each one and let the students color every moon for each phase. Have the students raise their hand when finished so you know when to move on to the next one.		

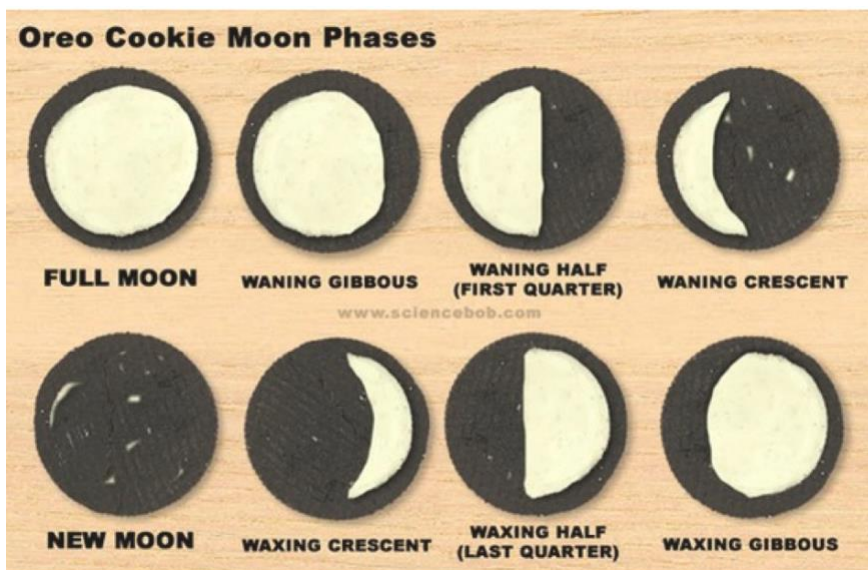
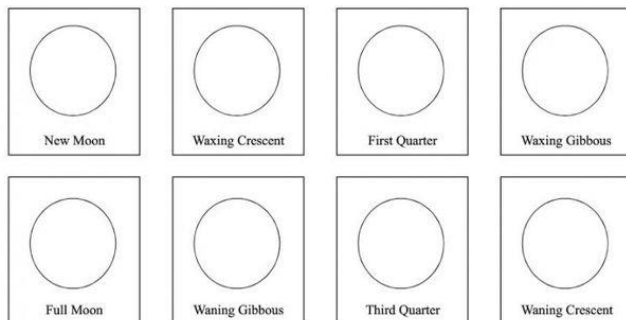
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	<p>When finished with the video and coloring in the moons on the worksheet pull up a diagram on the smartboard of the moon phases.</p> <ul style="list-style-type: none"> <li>• Tell each student to check their phases of the moon to see if they have all of them colored in correctly.</li> <li>• Have them hand in the worksheet</li> <li>• Keep the diagram up on the smartboard</li> </ul> <p>Have the students put all of their materials away. Stimulate Interest/state goals- Tell the class, "Today we will learn the different phases of the moon. We will be working with Oreos to create a model to show the different phases of the moon."</p>
<p style="text-align: center;"><b>15</b></p>	<p><b>Explain: (concepts, procedures, vocabulary, etc.)</b> Have the students gather on the rug and explain the phases of the moon using anchor charts.</p> <p>Concepts (gaining knowledge)- The phases of the moon are known as the lunar phase. The Moon changes its shapes because of its revolution around the moon The different shapes of the moon are called the phases of the moon. The different phases of the moon are produced because of the alignment with the earth, sun, and moon. The moon shines because it reflects the light from the sun. The part of the moon facing the sun is always lit up and the part facing away from the sun is always in darkness. The Lunar phase is the amount of moon we can see from the earth depending upon how much is lit up by the sun. The amount of moon we see changes every day. As the moon makes its way around the Earth, we see the bright parts of the moon's surface at different angles. And these are called the phases. There are 8 phases. (<b>use pictures of each phase on anchor chart</b>)- Have the students repeat every phase after you.</p> <ul style="list-style-type: none"> <li>• Phase 1 is called the new moon. In this phase, we cannot see any part of the moon.</li> <li>• Phase 2 is called the waxing crescent moon. In this phase, the moon looks like you took a big bite of a cookie.</li> <li>• Phase 3 is called the first quarter moon. In this phase, the moon appears half lit to us.</li> <li>• Phase 4 is called the waxing gibbous moon. In this phase, the moon appears more than half lit up.</li> <li>• Phase 5 is called the full moon. In this phase, the moon appears to be completely lit up.</li> <li>• Phase 6 is called the waning gibbous moon. In this phase, the moon appears to be decreasing in size.</li> <li>• Phase 7 is called the last quarter moon. In this phase, the moon appears to be half lit again.</li> <li>• Phase 8 is called the waning crescent moon. In this phase, the moon appears to be almost dark again. This is the last phase before the new moon.</li> </ul> <p>The moon takes about twenty-nine and a half days to complete a cycle through all eight cycles. Everyone on different hemispheres sees the moon's phases at different times. Ask questions about the phases- make sure they understand the phases before allowing them to move on to the activity. (Provide feedback and correct errors) Continue to the Oreo model explanation.</p>
<p style="text-align: center;"><b>25</b></p>	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b> For a visual, have a model already completed (the Oreos are glued on). Go over the moon phase model:</p> <ul style="list-style-type: none"> <li>• There is half an Oreo underneath each phase.</li> <li>• The Earth is in the middle to show the moon moving around Earth.</li> <li>• Each Oreo represents a moon phase.</li> <li>• The white represents what we can see on the moon from Earth.</li> <li>• The black represents what we cannot see or what is shaded from Earth.</li> <li>• Go over each phase and tell the students how much white/cream is on each.</li> <li>• Notice when there is a new moon there is no white/cream on the Oreo because the moon is completely dark.</li> <li>• Notice when there is a full moon the whole Oreo is covered in white/cream because we can see the entire moon.</li> </ul> <p>Now go over how to create the moon phase model. (model the process) (step-by-step instructions):</p> <ul style="list-style-type: none"> <li>• You will open an Oreo.</li> <li>• Use the half with as much cream on it when creating the moon phases (besides the new moon phase).</li> <li>• Start with the full moon phase (the first on the diagram on the smartboard) (point out where that one is on the paper plate).</li> <li>• Go in order following the diagram when creating the rest of the phases with Oreos.</li> <li>• Use your plastic knife to carve the cream so it matches one of the moon phases.</li> <li>• Each Oreo should match up with the correct moon phase on the paper plate.</li> </ul> <p>Allow the students to ask questions before dismissing them back to their seats. Before you allow them to start working make tell them what is expected of them.</p> <ul style="list-style-type: none"> <li>• Stay on task</li> <li>• Only use the plastic knife as a sculpting tool</li> <li>• Keep voices low</li> </ul> <p>Not following directions will result in your project being taken away. Pass out all of the materials for the Oreo moon activity. Independent- Have the students start working on their project. Allow them to raise their hands and ask questions if they are stuck. Tell them to use the diagram on the smartboard to assist them while making their model. Walk around and stop in to see if they are making the phases of the moon correctly on their Oreos.</p>

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	When the students are finished have them ask you to come check over their project to see if everything is done correctly.	
<b>5</b>	<p><b>Review (wrap up and transition to next activity):</b>            To review have all of the students sit at their desks and put their project on their desk.            Ask the students to recall what they did today: (Provide feedback and correct errors)</p> <ul style="list-style-type: none"> <li>• What did we learn today?</li> <li>• What did we learn about the moon phases?</li> <li>• How many phases are there?</li> <li>• How can the phases be predicted?</li> </ul> <p>When finished asking questions and reviewing have the students do a walk around to see everyone's project.            Once everybody has finished looking and walking around, the students will return to their desks. Allow them to eat their Oreos.            Have them clear off their desks and get ready for the next subject.            For a closure tell the students to look at the moon tonight and see what phase it is in.            (Have regular/monthly reviews) Ask the students what phase the moon is in today/tonight.</p>	
	<p><b>Formative Assessment: (linked to objectives, during learning)</b></p> <ul style="list-style-type: none"> <li>• <b>Progress monitoring throughout lesson (how can you document your student's learning?)</b>            (Document and grade phases of the moon model)</li> </ul>	<p><b>Summative Assessment (linked back to objectives, END of learning)</b>            Have the students create a project taking pictures of the moon at home with their parents and giving descriptions on the phase of the moon.</p>
<p><b>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</b></p>		

## Phases of the Moon



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