

Do the Science

Instructional materials (text; kit) McDougal Littell Science: Space Science

Grade Level: 6-8

Lesson: Phases of the Moon

<p>Big Idea: The Earth and the Moon move in predictable ways as they orbit the sun. 6-8ES1</p>	
<p>Lesson Learning Target: Diagram the different views of the Moon's sunlit half – the Moon's phases – which we see during the Moon's orbit around the Earth.</p>	<p>Common Misconceptions: Clouds cover part of the Moon; age 9-12 Shadow of another planet covers the Moon; age 11-12 Shadow of the Earth covers the Moon; age 9-16</p>
<p>Success Criteria: I can identify the position of the moon relative to the Earth and the Sun for each of the Moon's phases.</p>	<p>Vocabulary: model, orbit, system, phases of the Moon explain how</p>
<p>Elicitation Activity*: Chart daily Moon observations beginning two to four weeks prior to the lesson.</p>	<p>Talk structures/Discourse techniques:</p> <ul style="list-style-type: none"> • Individual / graphic • Small group / Purposeful hands-on exploration with physical models. • Individual / graphic • Individual / reading • Small group / collaborative problem solving • Jigsaw group / explaining • Small group / questioning, justifying • Individual / graphic
<p>Key question: Why does the Moon have phases?</p> <ul style="list-style-type: none"> • Explore possible solution to key question with physical model of the Earth-Sun-Moon system. • • Draw a diagram of observations in journal. • • Read assigned portion of text to become an expert on one phase of the Moon. • • Produce a whiteboard summary report of reading selection (use labeled pictures). • • Teach others using a jigsaw protocol. • • Complete "The Phases of the Moon" worksheet. Come to consensus. • • Flipbook: Order diagrams of the Earth-Sun-Moon system in a flipbook to show the relative positions of the Earth, the Moon, and the Sun as the Moon orbits the Earth. Label the phases of the sunlit half of the Moon observed from Earth. 	

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Embedded Formative Assessment/s: Student talk Diagram Whiteboard summary Worksheet Flipbook Lesson Closure*: Journal reflection—complete the following sentence: “I used to think. . , but now I know. . . .”	
Adjustment Trigger <i>What level of student performance will necessitate an instructional adjustment?</i>	Students’ diagrams indicate an understanding that <ul style="list-style-type: none">• The half of the Moon facing the Sun reflects the Sun’s light• The relative positions of the Earth, Moon, and Sun result in different views of the Moon’s sunlit half from Earth.
Instructional Adjustment (if needed): Redo the physical model simulation. Allow more time for processing what is happening.	
Lesson Closure*: Journal reflection—complete the following sentence: “I used to think. . , but now I know. . . .”	

* Opportunity for formative assessment