

AMHERST PUBLIC AND PELHAM ELEMENTARY SCHOOLS – CURRICULUM MAP

DEPARTMENT: SCIENCE GRADE: 6	UNIT TITLE: EARTH IN THE SOLAR SYSTEM
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SECTION	LENGTH	CONTENT	SKILLS	METHODS OF ASSESSMENT	FRAMEWORK STRAND(S) & STANDARD(S)
Moon phases, eclipses, and tides	2 weeks	<ul style="list-style-type: none"> The moon completes one orbit around the earth in about 27 days. The portion of the moon seen by earth changes due to the motion of the moon around the Earth. The plane of the moon's orbit is slightly tilted which prevents monthly eclipses The rotation of the Earth and the gravitational pull of the moon cause tides. The phases of the moon affect the height of tides. 	<ul style="list-style-type: none"> Diagram the moon's rotation around the earth, and its phases. Use accurate scientific information to refute common misconceptions. 	<p>Student worksheets</p> <p>Teacher observation checklist</p>	<p>Grades 3-5 ESS 15</p> <p>Grades 6-8 ESS 9.</p>
Reason for seasons	3 weeks	<ul style="list-style-type: none"> The Earth makes one revolution around the sun in one year and one rotation around its axis in one day. The lengths of day and night vary at different latitudes and at different seasons. The Earth's rotation causes the angle and direction of the sun's rays to change throughout the day. The Earth tilts on its axis, always in the same direction, with the North Pole always pointed towards the North Star. The position of the Earth relative to the sun at the equinoxes and the solstices mark the calendar changes of the seasons. The Earth's tilt changes the angle at which sunlight hits the ground. Greater angles spread out the light so heat energy is reduced. 	<ul style="list-style-type: none"> Model and diagram the Earth's tilt and the position of Earth relative to the Sun at different times of the year. Use accurate scientific information to refute common misconceptions. 	<p>Performance task rubric</p> <p>Teacher observation checklist</p> <p>Quiz</p>	<p>Grades 3-5 ESS 14</p> <p>Grades 6-8 ESS 11.</p>

Massachusetts Science and Technology/Engineering Curriculum Framework, October 2006

Earth and Space Science (ESS), Grades 3-5

ESS 14 Recognize that the earth revolves around (orbits) the sun in a year's time and that the earth rotates on its axis once approximately every 24 hours. Make connections between the rotation of the earth and day/night, and the apparent movement of the sun, moon, and stars across the sky.

ESS 15 Describe the changes that occur in the observable shape of the moon over the course of a month.

Earth and Space Science (ESS), Grades 6-8

ESS 9 Describe lunar and solar eclipses, the observed moon phases, and tides. Relate them to the relative positions of the earth, moon, and sun.

ESS 11 Explain how the tilt of the earth and its revolution around the sun result in an uneven heating of the earth, which in turn causes the seasons.