



Third Grade: FOSS

Earth Science - Sun, Moon, and Stars



Investigation Title and Synopsis	Concepts	Assessments and TE Page Numbers
<p>1. The Sun Students use a compass to study the position of the Sun in the sky at different times during the day. They observe the Sun's position, record, make predictions, and make new observations later in the day to check their predictions. Students explore shadows created by blocking sunlight on the schoolyard. They trace shadows, predict where shadows will be later in the day, and return to check their predictions. Students read about the changing position of the Sun in the sky.</p>	<ul style="list-style-type: none"> • The earth spins on its axis • The sun rises in the east and sets in the west every day • A compass is a tool used to determine directions (east, west, north, and south) • Shadows are the areas of darkness created when a opaque object blocks the light • The shapes of shadows change over a day and depend on the position of the Sun in the sky • Day happens when a location of the Earth is facing toward the Sun • Night happens when a location on Earth is facing away from the Sun • The exact path the Sun takes in the sky varies by season 	<ul style="list-style-type: none"> • Pretest (pages 227-232) • Part 1 Embedded Assessment: (pages 182-183) Science Notebook Sheet 1, <i>Where's the Sun?</i> (page 135) • Part 2 Embedded Assessment: (pages 182-183) Teacher Observation:/Science Notebook Sheet 2 <i>Sun and Shadows</i> (page 136) • Benchmark Assessment I-Check 1 (page 233-235)
<p>2. The Moon Students observe the Moon in the sky during the day and night for a period of 4 weeks. They record the appearance of the Moon and analyze the data to discover a sequence of changes, the lunar cycle. Students learn the names of the Moon phases and how to predict the next step in the sequence. Concepts are reinforced through simulations, readings, a video, and writing.</p>	<ul style="list-style-type: none"> • Objects in the night sky include the Moon, stars, and other planets • Earth is one of several planets that orbit the Sun in the solar system • The Moon orbits the Earth • The Moon can appear in the sky both night and day • The Moon changes its appearance, or phases, in a regular pattern over 4 weeks • Moon phases is the portion of the illuminated half of the Moon that is visible from Earth 	<ul style="list-style-type: none"> • Part 1 Embedded Assessment: (pages 186-187) Science Notebook Sheet 3 <i>Night-Sky Log</i> (pages 137-138) • Part 2 Embedded Assessment: (pages 188-189) • Science Notebook Sheet 5 <i>Phases of the Moon</i> (page 139) • Benchmark Assessment • I-Check 2 (pages 236-237) • Posttest (pages 227-232)

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<p>3. The Stars Students look to the night sky to observe the stars and are introduced to the constellations people have named. Students engage in simulations to understand why the stars appear to move across the sky during the night and why different stars can be seen from Earth at different seasons. Students read about the role of telescopes in astronomy research and about star scientists.</p>	<ul style="list-style-type: none"> • Stars are suns positioned at great distances from Earth • Groups of stars form patterns called constellations • Stars (constellations) appear to move together across the night sky because Earth rotates • Stars can be observed from Earth's surface only at night • Different constellations can be observed during different seasons because Earth revolves around the Sun • Stars are different sizes and have different brightnesses • Telescopes make distant objects look closer and larger 	<ul style="list-style-type: none"> • Part 1 Embedded Assessment: (pages 190-191)/Science Notebook Sheets 6-8 <i>Star Patterns</i>, <i>Star Gazing Review</i>, <i>All About the Stars</i> (pages 140-142) • Benchmark Assessment I-Check 3 (pages 238-240)

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