

## Earth and Space Unit Suggested Timeline- Grade 4

Week #	Core Concepts
1	<p><b>The universe contains billions of stars, planets, and other celestial objects. (SC.E.2.2.1)</b>                      Stars and planets differ in composition and mass.                      The life cycle of a star is related to the mass of the star.                      There are many other stars in the universe; some are like our sun, others differ.</p>
2	<p>Stars are able to produce their own light and heat energy.                      Our sun is near the edge of the Milky Way Galaxy.                      There are innumerable galaxies in the universe.</p>
3	<p><b>Our Solar system consists of a star, our sun, orbited by nine unique planets, asteroids and comets. (SC.E.1.2.3,1.2.4,1.2.5, 2.2.1)</b>                      The sun is our closest star and is much nearer than other stars.                      The mass of the sun exerts gravitational pull, which produces planetary orbits (Newton's Law of Universal Gravitation).                      The orbits of planets in our solar system are slightly elliptical.</p>
4	<p>Planets differ in size, characteristics, composition and orbital positions.                      Planets are classified as inner and outer planets based upon orbital position relative to the asteroid belt, and composition.</p>
5	<p><b>All celestial objects are in motion. (SC.E. 1.2.1,1.2.2)</b>                      The earth rotates on a 23° tilted axis every 24 hours.                      The earth revolves around the sun every 364 ¼ days.                      The tilt of the earth causes the change of seasons, length of daylight and the amount of energy available from the sun.                      The length of day and night changes throughout the year.</p>
6	<p><b>The sun provides light and heat energy which supports life on earth. (SC.E. 1.2.1,1.2.3)</b>                      The angle that the rays of the sun strike the earth's surface determine the amount of energy received.</p>
7	<p>Earth is closest to the sun during winter in the Northern Hemisphere.                      The tilt of the earth effects polar climates.                      Patterns of average temperatures exist on earth throughout the year.                      The energy from the sun can be captured as a source of light and heat (plants, solar panels, wind, and water cycle).</p>
8	<p><b>The appearance of objects (the moon, constellations, and planets) in the night sky changes due to the movements of the earth and other celestial objects. (SC.E. 1.2.2.)</b>                      The moon rotates and revolves around earth approximately every 28 days.                      Phases of the moon are seen from earth in approximately 28 day cycles.</p>
9	<p>The moon and planets in our solar system reflect light from our sun.                      We can observe the apparent movement of stars, grouped into constellations, in the sky as we rotate and revolve in our orbit. We can observe the orbital movements of planets and moons in our solar system. <b>Cumulative Review:</b> Matter, Energy/Force &amp; Motion, Proc. That Shape the Earth, &amp; Earth &amp; Space.</p>

