

Science & Technology: Earth and Space Systems: Grade 6 – Space

Overall Expectations

- investigate, using models and simulations, the relationship between the sun, earth, and moon, the patterns of change observable on earth that result from the movement of these bodies, and the physical characteristics of the different components of the solar system (e.g., the sun and planets, inner planets and outer planets);
- describe technological and scientific advances that enable humans to study space, and explain how these advances have affected the quality of life on earth.

Specific Expectations

Understanding Basic Concepts

- identify cycles in nature (e.g., cycle of day and night, cycle of seasons) and describe the changes within the cycles (e.g., observe the phases of the moon over several months to determine the pattern of change, and record these observations);
- describe, using models or simulations, how the earth's rotation causes the cycle of day and night, and how the earth's revolution causes the cycle of the seasons;

Developing Skills of Inquiry, Design, and Communication

- formulate questions about and identify needs and problems related to objects and events in the environment, and explore possible answers and solutions (e.g., investigate why craters are of different sizes; use print, media, and electronic resources to identify and investigate space technologies and to investigate images of space and identify what they represent; use a computer simulation program to show the relative size of the planets and their distance from the sun);
- use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as *constellations*, *planets*, *moons*, *comets*, *asteroids*, and *meteors* to describe objects in space);

Relating Science and Technology to the World Outside the School

- identify and describe past and present-day contributions of astronomy to the quality of human life (e.g., development of the calendar; prediction of events such as eclipses and seasons; provision of information about space and time);
- identify the ways in which the development of materials and technology for space exploration has led to the use of new technologies and materials on earth (e.g., micro-electronics, medical imaging, remote sensing).