

British Columbia

Grade One

Earth and Space Science: Daily And Seasonal Changes

Describe changes that occur in daily and seasonal cycles and their effects on living things.

Describe the effects of weather on living things.

Sort pictures or objects that pertain to daily and seasonal changes.

Illustrate and record changes that occur throughout the seasons.

Identify daily weather conditions and seasonal patterns.

Grade Three

Earth and Space Science: Stars and Planets

Describe the characteristics and movements of objects in our solar system.

Report on the unique features of the planets, asteroids, comets, the sun, and moon.

Illustrate the solar system using drawings, diagrams, models, electronic presentations, or role-play.

Complete a detailed model showing the Sun as the centre of the solar system, and as the energy source for Earth.

Compare familiar constellations in seasonal skies.

Identify and label constellations on a constellation map.

Create a chart that records how constellations change position in the sky at different times of the year.

GRADE 9

Earth and Space Science: Space Exploration

D1 Explain how a variety of technologies have advanced understanding of the universe and solar system.

Identify and describe a range of instruments that are used in astronomy (e.g., telescopes, spectroscopes, satellites, probes, robotic devices)

Give examples of how astronomers use astronomical and space exploration technologies to advance understanding of the universe and solar system (e.g., using red shift to support the idea of an expanding universe, using parallax to measure distance)

D2 Describe the major components and characteristics of the universe and solar system.

Identify galaxies, star clusters/types, planets, constellations, and nebulae according to their distinguishing characteristics

Relate mass to different stages in the life cycle of stars.

Describe theories on the nature of the solar system (e.g., Ptolemy, Copernicus, Kepler).

Describe the formation of the solar system (e.g., condensing nebula) and its components (e.g., planets, moons, comets, asteroids, the Sun) and the formation of the universe (e.g., Big Bang)

Describe the processes that generate, and events that distribute, the energy of the Sun and other stars (e.g., nuclear fusion, solar flares and prominences, sun spots, solar wind)

D4 Explain astronomical phenomena with reference to the Earth/moon system.

Describe the formation of the Earth's moon, with reference to supporting evidence

Describe the significance of Earth's rotation, revolution, and axis tilt (e.g., seasons, day/night)

Describe the celestial sphere in relation to constellations and their locations

Explain the apparent motion of constellations, planets, the Sun, the moon, asteroids, and comets

Explain and illustrate solar and lunar eclipses

D5 Analyse the implications of space travel.

Identify various possibilities and limitations associated with space travel (e.g., with reference to factors such as time, essential human needs, robots, budget choices, militarization of space)

Debate a range of ethical issues related to space travel (e.g., appropriateness of terraforming another planet, exposing humans to risks)

Research current ideas or initiatives for further space exploration (e.g., space elevator, colonization of other planets, search for extraterrestrial life)