

New Brunswick

Grade One

Unit 2 Our Environment

1.2.3 observe and describe how living things respond to changes in solar energy that occur on a daily and seasonal cycle

- Describe changes in heat and light from the sun

- Describe ways to measure and record environmental changes related to the varying intensity of solar energy

- Investigate and describe changes that occur daily in behaviours and location of living things resulting from the solar cycle

- Investigate the changes that occur seasonally in the characteristics, behaviours and location of living things resulting from the solar cycle

- Describe how humans prepare for seasonal changes

1.2.4 record observations and display data to explain seasonal changes

- Make and record relevant observations and measurements, using written language, pictures and charts

- Propose conclusions based on observations, using commonly understood language

Grade Four

Physical Science: Light

Distinguish between objects that emit their own light and those that require an external source of light to be seen

Grade Five

Earth and Space Science: Weather

Relate the transfer of energy from the sun to weather conditions.

Grade Six

Earth and Space Science: Space

301-21 describe how astronauts are able to meet their basic needs in space

301-19 demonstrate how Earth's rotation causes the day and night cycle and how Earth's revolution causes the yearly cycle of seasons

301-20 observe and explain how the relative positions of Earth, the moon, and the sun are responsible for the moon phases, eclipses, and tides

300-23 describe the physical characteristics of components of the solar system—specifically, the sun, planets, moons, comets, asteroids, and meteors

302-13 identify constellations in the night sky

Nature of Science and Technology

104-8 demonstrate the importance of using the languages of science and technology to compare and communicate ideas, processes, and results

105-1 identify examples of scientific questions and technological problems that are currently being studied

105-6 describe how evidence must be continually questioned in order to validate scientific knowledge

Relationships Between Science and Technology

106-3 describe examples of improvements to the tools and techniques of scientific investigation that have led to new discoveries

Social and Environmental Contexts of Science and Technology

107-3 compare tools, techniques, and scientific ideas used by different people around the world to interpret natural phenomena and meet their needs

107-15 describe scientific and technological achievements that are the result of contributions by people from around the world

Grade Nine

Earth and Space Science: Space Exploration

312-1 describe theories on the formation of the solar system

312-2 describe and classify the major components of the universe (nebulae, galaxies, giant stars, dwarf stars, quasars, black holes (312-2))

Calculate the travel time to a distant star at a given speed: define and explain a light year (210-9)

Explain how data provided by technologies contribute to our knowledge of the universe (109-3)

Prepare a comparative data table on various stars, and design a model to represent some of these stars relative to our solar system (209-4, 211-1, 211-3)

312-3 describe theories on the origin and evolution of the universe (big bang theory, oscillating theory (312-3))

312-4 describe and explain the apparent motion of celestial bodies (moon, sun, planets, comets, asteroids (312-4))

312-5 describe the composition and characteristics of the components of the solar system (terrestrial and gas planets and Pluto, periodicity of comets, asteroids/meteors (312-5))

312-6 describe the effects of solar phenomena on Earth (sunspots, solar flares, solar radiation (312-6))

Nature of Science and Technology

109-3 describe and explain the role of experimentation, collecting evidence, finding relationships, proposing explanations, and imagination in the development of scientific knowledge

Explain how data provided by technologies contribute to our knowledge of the universe (109-3)

110-6 explain the need for new evidence in order to continually test existing theories

Explain the need for new evidence in order to continually test existing theories about the composition and origin of our solar system and galaxies (110-6)

Relationships Between Science and Technology

111-5 describe the science underlying particular technologies designed to explore natural phenomena, extend human capabilities, or solve practical problems

Identify new questions and problems that arise from the study of space exploration (210-16)

Describe the science underlying three technologies designed to explore space (109-11, 111-5)