



Linking ON Science Curriculum to Binogi: GRADE 6 Examples

• Understanding Life Systems = A • Understanding Structures and Mechanisms = B • Understanding Matter and Energy = C • Understanding Earth and Space Systems = D

Strand	Overall Expectations Category	Overall Expectation	Specific Expectation Category	Specific Expectation	Binogi Video
Understanding Life Systems	A1	Assess human impacts on biodiversity, and identify ways of preserving biodiversity	1.2	Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished	Biodiversity
	A2	Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics	2.2	Investigate the organisms found in a specific habitat and classify them according to a classification system	Fungi Vascular Transport in Plants From Seed to Tree Ferns Mosses The Forest
			2.3	Use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms	What is Biology?
	A3	Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans	3.1	Identify and describe the distinguishing characteristics of different groups of plants and animals and use these characteristics to further classify various kinds of plants and animals	Introduction to Taxonomy Taxonomy: Plants Taxonomy: Animals Taxonomy: Fungi and Protists
			3.3	Describe ways in which biodiversity within species is important for maintaining the resilience of those species	Natural Selection





Understanding Structures and Mechanisms	B2	Investigate ways in which flying devices make use of properties of air	2.3	Investigate characteristics and adaptations that enable living things to fly (e.g., a bat's wings are made up of long, thin bones covered with a very light membrane that forms an airfoil surface; insects can twist and turn their wings, which helps them to hover in the air or even fly backwards; some seeds, such as the keys of a maple tree or dandelion seeds, have parachutes or wings like a glider that allow them to be carried by the wind)	How Birds Fly Adaptations of Wind-Pollinated Flowers
	B3	Explain ways in which properties of air can be applied to the principles of flight and flying devices	3.1	Identify the properties of air that make flight possible (e.g., air takes up space, has mass, expands, can exert a force when compressed)	Pressure in Gases
Understanding Matter & Energy	C1	Evaluate the impact of the use of electricity on both the way we live and the environment	1.1	Assess the short- and long-term environmental effects of the different ways in which electricity is generated in Canada (e.g., hydro, thermal, nuclear, wind, solar), including the effect of each method on natural resources and living things in the environment	Renewable Energy Sources Combined Heat and Power Generation
			1.2	Assess opportunities for reducing electricity consumption at home or at school that could affect the use of non-renewable resources in a positive way or reduce the impact of electricity generation on the environment	Electricity Consumption
	C3	Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy	3.2	Use the principles of static electricity to explain common electrostatic phenomena	Static Electricity
			3.4	Describe how various forms of energy can be transformed into electrical energy (e.g., batteries use chemical energy; hydroelectric plants use waterpower; nuclear generating stations use nuclear energy; wind turbines use wind power; solar panels use energy from the sun; wave power stations use energy from ocean waves)	Hydroelectric Power The Power Grid
			3.6	Explain the functions of the components of a simple electrical circuit	Voltage and Current
3.7	Describe series circuits and parallel circuits, and identify where each is used (e.g., some strings of patio lights are in series circuits – when one light burns out, the whole string goes out; parallel circuits are used for wiring lighting and electrical outlets in your house – when one light burns out, the others keep burning)	Circuits in Series and in Parallel			





Understanding Earth & Space Systems	D2	Investigate characteristics of the systems of which the earth is a part and the relationship between the earth, the sun, and the moon	2.2	Use technological problem-solving skills (see page 16) to design, build, and test devices (e.g., a sundial, a model of the earth's rotation around the sun) for investigating the motions of different bodies in the solar system	<u>The Earth: Spinning Seasons</u>
			2.5	Use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes	<u>The Earth: Round Like a Ball</u>
	D3	Demonstrate an understanding of components of the systems of which the earth is a part and explain the phenomena that result from the movement of different bodies in space	3.1	Identify components of the solar system, including the sun, the earth, and other planets, natural satellites, comets, asteroids, and meteoroids, and describe their physical characteristics in qualitative terms	<u>The Moon</u> <u>The Solar System</u>
			3.2	Identify the bodies in space that emit light (e.g., stars) and those that reflect light (e.g., moons and planets)	<u>The Stars in the Sky</u>
			3.5	Describe the effects of the relative positions and motions of the earth, moon, and sun (e.g., use models or simulations to show solar and lunar eclipses, phases of the moon, tides)	<u>Solar and Lunar Eclipses</u>

*Curriculum Expectation were adapted from *The Ontario curriculum, grades 1-8: Science and technology*. Toronto: Ministry of Education and Training (2007) <http://www.edu.gov.on.ca/eng/curriculum/elementary/scientec18currb.pdf>

