Linking ON Gr 6 ~ 9 Science Expectations to Binogi: Examples

Grade	Strand	Specific Expectation	Binogi Video
6	A. STEM Skills and Connections	A1.4 follow established health and safety procedures during science and technology investigations, including wearing appropriate protective equipment and clothing and safely using tools, instruments, and materials	• The chemistry lab • Heat sources in the science lab • Laboratory apparatus
	B. Life Systems: Biodiversity	B2.6 explain how invasive species reduce biodiversity in local environments	• Invasive species
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2.3 identify materials that are good conductors of electric current and materials that are good insulators	• Conductors and insulators
	D. Structures and Mechanisms: Flight	D2.5 describe characteristics and adaptations that enable organisms to fly	• How Birds Fly • Adaptations of Wind-Pollinated Flowers
	E. Earth and Space Systems: Space	E2.1 identify components of the solar system, including the Sun, Earth and other planets, natural satellites, comets, asteroids, and meteoroids, and describe their main physical characteristics	• The Rocky Planets • The Gas Giants • The Earth: Round Like a Ball • Mars: The Red Planet • Venus: Earth's Sister • The Moon • The Sun • The Solar System • Life on Other Planets
7	A. STEM Skills and Connections	A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes	• Scientific knowledge • Scientific report • Videos on Statistics and Data Handling
	B. Life Systems: Interactions in the Environment	B1.2 assess the effectiveness of various ways of mitigating the negative and enhancing the positive impact of human activities on the environment	• The impact of human pollution: Megacities • All videos under "Human Activity and Environmental Impact"
	C. Matter and Energy: Pure Substances and Mixtures	C2.6 explain why water is referred to as the universal solvent	• The chemical properties of water

	D. Structures and Mechanisms: Forms, Function, and Design of Structures	D2.6 identify the factors that determine the suitability of materials for use in manufacturing a product or constructing a structure	• Thermal expansion and its applications
	E. Earth and Space Systems: Heath in the Environment	E2.3 use particle theory to explain the effects of heat on volume in solids, liquids, and gases, including during changes of states of matter	• The particle theory of matter • Heat and phase transitions • Thermal expansion: Experiments
8	A. STEM Skills and Connections	A3.3 analyse contributions to science and technology from various communities	• The history of biology • From Aristotle to classical physics • From classical to modern physics
	B. Life Systems: Cells	B2.2 Identify organelles and other cell components, including the nucleus, cell membrane, cell wall, chloroplasts, vacuole, mitochondria, and cytoplasm, and explain their basic functions	• The animal cell • The plant cell
	C. Matter and Energy: Fluids	C2.9 describe the differences between pneumatic and hydraulic systems	• Pneumatics • Hydraulic
	D. Structures and Mechanisms: Systems in Action	D2.5 demonstrate an understanding of the relationships between work, force, and displacement in simple systems	• Simple machines: The inclined plane, the lever and the wedge • Simple machines; The wheel, the screw, and the block-and-tackle
	E. Understanding Earth and Space Systems	E2.2 demonstrate an understanding of a watershed, and explain its importance to water management and planning	• Watersheds
9	A. STEM Skills and Connections	A2.2 describe how scientific innovations and emerging technologies, including artificial intelligence system, impact society and careers	• What is technology? • Satellites • Internet
	B. Biology: Sustainable Ecosystems and Climate Change	B2.5 explain the effects of various human activities on the dynamic equilibrium of ecosystems	• Hazardous waste • Bioaccumulation • Water pollution and eutrophication • Acidification: Acid rain • Deforestation • Overfishing
	C. Chemistry: The Nature of Matter	C2.4 explain the relationship between the position of an element in the periodic table and the structure of its atoms, using models	• The periodic table of elements • Periods and groups in the periodic table of elements
	D. Physics: Principles and Applications of Electricity	C2.6 construct series and parallel circuits to compare electric current, potential difference, and resistance in both types of circuits	• Circuits in series and in parallel
	E. Earth and Space Systems: Space Exploration	E2.5 quantify distances in the solar system and the university by applying an understanding of relative distances and sizes and using appropriate units of measure	• The universe: Distances and proportions