



Science Curriculum Overview: South Korea

Grade	Life Systems	Matter and Energy	Structures and Mechanisms	Earth and Space Systems	STEM Skills and Connections
Grade 6	<ul style="list-style-type: none"> - Plants: structures and functions; transpiration; photosynthesis; seed dispersal - Our Body: structure and functions of musculoskeletal, digestive, circulatory, respiratory, and excretory systems; structures and functions of sensory system 	<ul style="list-style-type: none"> - Gases: oxygen; carbon dioxide; air; pressure and gas; temperature and gas; volume and gas - Combustion and Fire Extinguishing: combustion phenomenon; conditions for combustion, products of combustion; methods of extinguishing fire, safety measures 	<ul style="list-style-type: none"> - Light and Lens: Prisms; refraction of light; convex lens - Use of Electricity: electric circuit; parallel and series circuits; conservation; safety; electromagnetism - Energy and Life: forms of energy; conservation of energy 	<ul style="list-style-type: none"> - Motions of Earth and Moon: rotation of the Earth; day and night; phases of the moon, positions of the moon, seasonal constellations - Change of Seasons: solar altitude; temperature change; Meridian altitude; lengths of day and night, axial tilt 	<ul style="list-style-type: none"> - Inquire Like a Scientist
Grade 7	<ul style="list-style-type: none"> - Biodiversity: importance of biodiversity; conservation of biodiversity; variation; classification; taxonomy 	<ul style="list-style-type: none"> - Properties of Gas - Changes in the States of Matter: 3 states of matter; movement and arrangement of particles; states of matter and thermal energy 	<ul style="list-style-type: none"> - Type of Forces: gravitational, frictional, buoyant, elastic - Light and Waves: 3 primary colours; mirror images; types of waves; characteristics of sound 	<ul style="list-style-type: none"> - Change of Geosphere: Earth's structure and its composition; minerals and rocks; plate tectonics 	<ul style="list-style-type: none"> - Science and My Future: careers in Science; present and future
Grade 8	<ul style="list-style-type: none"> - Plants and Energy: photosynthesis - required substances, products, factors, water movement and transpiration; relationship between plant respiration and photosynthesis, production, storage, and use of photosynthesis products - Animals and Energy: levels of organization; nutrients; digestive enzymes; digestive system; circulatory system; respiratory system, excretory system - and their relationships 	<ul style="list-style-type: none"> - Composition of Matter: elements; atoms; molecules; element symbols; ion; ionic formulas - Properties of Matter: pure substances; mixtures; density; solubility; distillation; separating techniques using density, recrystallization, and chromatography 	<ul style="list-style-type: none"> - Electricity and Magnetism: electric force; atomic model; electrification; electrostatic induction; electric circuit; electric current; current; resistance; magnetic field; electric motor - Heat and Our Life: temperature; methods of heat transfer; thermal equilibrium; thermal expansion 	<ul style="list-style-type: none"> - Solar System: measuring the Earth's and moon's sizes; Earth's revolution and rotation; phases of the moon; lunar and solar eclipses; terrestrial planets; Jovian planets; sun's activities - Hydrosphere and Ocean Circulation: types and utilization of hydrosphere; layers of the ocean and their structure; salinity ratio, ocean currents; ocean currents around the Korean peninsula; tidal phenomena 	<ul style="list-style-type: none"> - Disasters and Safety: causes of Disasters - natural, diseases, etc.; disaster response plans

Grade 9

<p>- Stimulation and Response: structures and functions of sensory system; structures and functions of nervous system; stimulus-response pathway; hormones</p> <p>- Reproduction and Heredity: reproduction; chromosomes; mitosis; germ cell formation process; Mendel genetics experiment and theory; human genetic traits; family tree analysis</p>	<p>- Rules of Chemical Reactions and Changes in Energy: physical changes; chemical changes; chemical reactions; chemical equations; Law of Conservation of Mass; Law of Definite Proportion/Proust's Law; Law of Combining Volumes, Endothermic and Exothermic Reactions</p>	<p>- Motion and Energy: uniform motion; free fall motion; work; gravitational potential energy; kinetic energy</p> <p>- Energy Conversion and Conservation: conservation of mechanical energy; energy conversion; power consumption; power generation</p>	<p>- Atmosphere and Weather: layers of atmosphere and their structures; radiation equilibrium; greenhouse effect; global warming; humidity; adiabatic expansion; condensation; cloud formation; hydrostatic process; atmospheric pressure; wind; air masses and fronts; low and high pressure; weather chart</p> <p>- Stars and Space: stellar parallax; colour and surface temperature of stars; structures and compositions of our galaxy; expansion of the universe; space exploration</p>	<p>- Science, Technology, and Civilization: scientific principles and engineering designs</p>
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Adopted from: *The Ontario Science and Technology Curriculum, (2022)*, <https://www.dcp.edu.gov.on.ca/en/curriculum/science-technology> & *National Curriculum Information Centre. (2015). Science Curriculum.* <https://ncic.re.kr/mobile.kri.org4.inventoryList.do>