

Ontario Science and Technology Curriculum

The Ontario science and technology curriculum is organized in four major areas of knowledge and skills. The five areas are as follows: Understanding Life Systems Understanding Structures and Mechanisms Understanding Matter and Energy Understanding Earth and Space Systems

Curriculum Expectations

Key Concepts

A. STEM Skills and Connections

1. use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
2. use coding in investigations and to model concepts, and assess the impact of coding and of emerging technologies on everyday life and in STEM-related fields
3. demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

*scientific
engineering design
artificial intelligence
experimentation*

*research
process
innovation*

*coding
scientific*

B. Life Systems - Biodiversity

1. assess the importance of biodiversity, and describe ways of protecting biodiversity
2. demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans

*biodiversity
diversity
organism
microorganism
species
classification
characteristics*

*ecosystem
habitat
natural community
endangered
extinction
climate change
interrelationship*

*invasive species
symbiosis
invertebrate
vertebrate
global warming*

C. Matter and Energy - Electrical Phenomena, Energy, and Devices

1. evaluate the impact of the use and generation of electrical energy on society and the environment, and suggest ways to use electrical energy responsibly
2. demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy

*electrical energy
current electricity
static electricity
hydroelectricity
battery
circuit
parallel circuit
series circuit*

*electrical current
discharge
voltage
volt
device*

*conductor
insulator
transform
renewable energy
non-renewable
energy*

D. Structures and Mechanisms - Flight

1. assess the environmental impacts of flying machines
2. demonstrate an understanding of the ways in which properties of air can be applied to the principles of flight and flying machines

air
compress
pressure
mass
propel

forces
thrust
weight
drag
glide
lift

aviation
aerodynamics
adaptation

E. Earth and Space Systems - Space

1. assess the impact of space exploration on humans, society, and the environment
2. demonstrate an understanding of the solar system, the phenomena that result from the movement of different bodies within it, and the technologies used in space exploration

solar system
sun
planets
natural satellites
comet
asteroid
meteoroid
orbit

spectroscope
sundial
telescope
tilt
space exploration
spacecraft
GPS

axis
rotation
satellite
simulation
gravity
weight
mass
light

Adapted from *The Ontario curriculum, grades 1-8: Science and technology (2022)*.
<https://www.dcp.edu.gov.on.ca/en/curriculum/science-technology/context/strands>

