

Main Criteria: Forward Education
Secondary Criteria: Ontario Curriculum
Subjects: Mathematics, Science, Technology Education
Grades: 3, 4, Key Stage 1, Key Stage 2

Forward Education

Powering the Future with Wind Energy

Ontario Curriculum
Mathematics
Grade 3 - Adopted: 2020

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 3
STRAND / OVERALL EXPECTATION	B.	NUMBER
STAGE / SKILLS	B2.	use knowledge of numbers and operations to solve mathematical problems encountered in everyday life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Mental Math

EXPECTATION B2.3. use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 1000, and explain the strategies used

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 3
STRAND / OVERALL EXPECTATION	B.	NUMBER
STAGE / SKILLS	B2.	use knowledge of numbers and operations to solve mathematical problems encountered in everyday life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Addition and Subtraction

EXPECTATION B2.5. represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 1000, using various tools and algorithms

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 3
STRAND / OVERALL EXPECTATION	D.	DATA
STAGE / SKILLS	D1.	manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Data Collection and Organization

EXPECTATION D1.2. collect data through observations, experiments, and interviews to answer questions of interest that focus on qualitative and quantitative data, and organize the data using frequency tables

Ontario Curriculum
Mathematics
Grade 4 - Adopted: 2020

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 4
STRAND / OVERALL EXPECTATION	B.	NUMBER
STAGE / SKILLS	B1.	demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Fractions and Decimals

EXPECTATION B1.9. describe relationships and show equivalences among fractions and decimal tenths, in various contexts

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 4
STRAND / OVERALL EXPECTATION	B.	NUMBER
STAGE / SKILLS	B2.	use knowledge of numbers and operations to solve mathematical problems encountered in everyday life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Addition and Subtraction

EXPECTATION B2.4. represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 10 000 and of decimal tenths, using appropriate tools and strategies, including algorithms

STRAND / COURSE		Ontario Mathematics Curriculum Expectations – Grade 4
STRAND / OVERALL EXPECTATION	D.	DATA
STAGE / SKILLS	D1.	manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life
SUB-ORGANIZER / SPECIFIC EXPECTATION		Data Collection and Organization

EXPECTATION D1.2. collect data from different primary and secondary sources to answer questions of interest that involve comparing two or more sets of data, and organize the data in frequency tables and stem-and-leaf plots

**Ontario Curriculum
Science
Grade 3 - Adopted: 2022**

STRAND / COURSE		Science and Technology Grade 3
STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 3, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:
STAGE / SKILLS	A1.	STEM Investigation and Communication Skills: use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures

SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.3.	use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.5.	communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes
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STRAND / COURSE		Science and Technology Grade 3
STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 3, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:
STAGE / SKILLS	A2.	Coding and Emerging Technologies: use coding in investigations and to model concepts, and assess the impact of coding and of emerging technologies on everyday life

SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.1.	write and execute code in investigations and when modelling concepts, with a focus on testing, debugging, and refining programs
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.2.	identify and describe impacts of coding and of emerging technologies on everyday life
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STRAND / COURSE		Science and Technology Grade 3
STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 3, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:
STAGE / SKILLS	A3.	Applications, Connections, and Contributions: demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

SUB-ORGANIZER / SPECIFIC EXPECTATION	A3.1.	describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A3.2.	investigate how science and technology can be used with other subject areas to address real-world problems
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Ontario Curriculum
Science
Grade 4 - Adopted: 2022

STRAND / COURSE		Science and Technology Grade 4
STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 4, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:

STAGE / SKILLS	A1.	STEM Investigation and Communication Skills: use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.3.	use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.5.	communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes
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STRAND / COURSE		Science and Technology Grade 4
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STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 4, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:
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STAGE / SKILLS	A2.	Coding and Emerging Technologies: 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
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.1.	write and execute code in investigations and when modelling concepts, with a focus on producing different types of output for a variety of purposes
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.2.	identify and describe impacts of coding and of emerging technologies on everyday life, including skilled trades
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STRAND / COURSE		Science and Technology Grade 4
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STRAND / OVERALL EXPECTATION	STRAND A:	STEM Skills and Connections - Throughout Grade 4, in connection with the learning in the Life Systems, Matter and Energy, Structures and Mechanisms, and Earth and Space Systems strands, students will:
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STAGE / SKILLS	A3.	Applications, Connections, and Contributions: demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
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SUB-ORGANIZER / SPECIFIC EXPECTATION	A3.2.	investigate how science and technology can be used with other subject areas to address real-world problems
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STRAND / COURSE		Science and Technology Grade 4
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STRAND / OVERALL EXPECTATION	STRAND D:	Structures and Mechanisms - Machines and Their Mechanisms By the end of Grade 4, students will:
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STAGE / SKILLS	D1.	Relating Science and Technology to Our Changing World: evaluate the impacts of various machines and their mechanisms on society and the environment
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D1.1.	assess the impacts of machines and their mechanisms on the daily lives of people in various communities
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D1.2.	assess and compare the environmental impacts of using different machines designed for similar purposes
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STRAND / COURSE		Science and Technology Grade 4
STRAND / OVERALL EXPECTATION	STRAND D:	Structures and Mechanisms - Machines and Their Mechanisms By the end of Grade 4, students will:
STAGE / SKILLS	D2.	Exploring and Understanding Concepts: demonstrate an understanding of the basic principles and functions of machines and their mechanisms

SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.1.	identify machines that are used in daily life, and describe their purposes
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.2.	identify the parts of various mechanisms and describe the purpose of each part
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.3.	describe how different mechanisms transmit various types of motion, including rotary motion, from one system to another
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.4.	describe how mechanisms transform motion, including how they can change the geometric plane in which the motion occurs and the speed and/or direction of motion
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SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.5.	explain how forces are changed in a variety of machines
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