Main Criteria: Forward Education

Secondary Criteria: Alberta Programs of Study, British Columbia Curriculum, Manitoba Curriculum Frameworks, New Brunswick Curriculum, Northern Territory Curriculum, Nova Scotia Curriculum, The Ontario Curriculum, Prince Edward Island Curriculum, Québec Education Program Progression of Learning, Programme de formation de l'école québécoise - Progression des apprentissages, Saskatchewan Curriculum

Subjects: Mathematics, Science, Technology Education

Grades: 3, 4, Key Stage 1, Key Stage 2

Forward Education

Powering the Future with Wind Energy

Alberta Programs of Study
Mathematics
Grade **3** - Adopted: **2022**

GENERAL OUTCOME / COURSE		Grade 3
GENERAL OUTCOME / SPECIFIC OUTCOME		**Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.**
SPECIFIC OUTCOME / ILLUSTRATIVE EXAMPLE		**How can processes be established for addition and subtraction?**
ILLUSTRATIVE EXAMPLE		Students apply strategies for addition and subtraction within 1000.

Alberta Programs of Study
Mathematics
Grade **4** - Adopted: **2022**

GENERAL OUTCOME / COURSE		Grade 4
GENERAL OUTCOME / SPECIFIC OUTCOME		**Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.**
SPECIFIC OUTCOME / ILLUSTRATIVE EXAMPLE		**How can understanding of addition and subtraction be extended to decimal numbers?**
ILLUSTRATIVE EXAMPLE		Students add and subtract within 10 000, including decimal numbers to hundredths.

Alberta Programs of Study
Science
Grade **3** - Adopted: **1996**

GENERAL OUTCOME / COURSE	AB.3-2.	**Science Inquiry: Identify patterns and order in objects and events studied; and, with guidance, record observations, using pictures, words and charts; and make predictions and generalizations, based on observations.**
GENERAL OUTCOME / SPECIFIC OUTCOME	3-2.3.	Explore and Investigate: Students will identify, with guidance, procedures to be followed in finding answers to given questions.

GENERAL OUTCOME / SPECIFIC OUTCOME	3-2.10.	Reflect and Interpret: Students will identify applications of what was learned.
GENERAL OUTCOME / COURSE	**AB.3-3.**	**Problem Solving through Technology: Investigate a practical problem, and develop a possible solution.**
GENERAL OUTCOME / SPECIFIC OUTCOME	3-3.1.	Focus: Students will identify the purpose of the object to be constructed: What is to be developed? What is it for?
GENERAL OUTCOME / SPECIFIC OUTCOME	3-3.4.	Explore and Investigate: Students will identify materials and how they are used.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-3.7.	Reflect and Interpret: Students will communicate results of construction activities, using written and oral language and pictures.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-3.8.	Reflect and Interpret: Students will evaluate the product and identify possible improvements.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-3.9.	Reflect and Interpret: Students will identify new applications for the design or method of construction.
GENERAL OUTCOME / COURSE	**AB.3-4.**	**Attitudes: Demonstrate positive attitudes for the study of science and for the application of science in responsible ways.**
GENERAL OUTCOME / SPECIFIC OUTCOME	3-4.3.	Students will show growth in acquiring and applying inventiveness and willingness to consider new ideas.
GENERAL OUTCOME / COURSE	**AB.3-6.**	**Topic B: Building with a Variety of Materials: Use, safely, a variety of tools, techniques and materials in construction activities.**
GENERAL OUTCOME / COURSE	**AB.3-7.**	**Topic B: Building with a Variety of Materials: Construct structures, using a variety of materials and designs, and compare the effectiveness of the various materials and designs for their intended purposes.**
GENERAL OUTCOME / SPECIFIC OUTCOME	3-7.1.	Using a variety of materials and techniques, design, construct and test structures that are intended to: support objects, span gaps, serve as containers and serve as models of particular living things, objects or buildings.

GENERAL OUTCOME / SPECIFIC OUTCOME	3-7.2.	Select appropriate materials for use in construction tasks, and explain the choice of materials. Students should demonstrate familiarity with a variety of materials, such as papers, woods, plastics, clay and metals.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-7.3.	Select tools that are suitable to particular tasks and materials, and use them safely and effectively.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-7.5.	Identify the intended purpose and use of structures to be built, and explain how knowing the intended purpose and use helps guide decisions regarding materials and design.
GENERAL OUTCOME / COURSE	**AB.3-8.**	**Topic C: Testing Materials and Designs: Evaluate the suitability of different materials and designs for their use in a building task.**
GENERAL OUTCOME / SPECIFIC OUTCOME	3-8.1.	Recognize that functional structures must be sufficiently strong and stable and that unstable or weak structures are often unsafe to use.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-8.2.	Compare and evaluate the strength and stability of different models or objects constructed.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-8.4.	Apply procedures to test the strength of construction materials, in particular, different stocks of papers, plastics or wood.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-8.5.	Apply procedures to test different designs.
GENERAL OUTCOME / SPECIFIC OUTCOME	3-8.7.	Identify and apply methods for making a structure stronger and more stable; e.g., by adding or joining parts to form triangles.

Alberta Programs of Study

Science

Grade **4** - Adopted: **1996**

GENERAL OUTCOME / COURSE	**AB.4-2.**	**Science Inquiry: Identify patterns and order in objects and events studied; and record observations, using pictures, words and charts, with guidance in the construction of charts; and make predictions and generalizations, based on observations.**
GENERAL OUTCOME / SPECIFIC OUTCOME	4-2.3.	Explore and Investigate: Students will identify, with guidance, ways of finding answers to given questions.

GENERAL OUTCOME / SPECIFIC OUTCOME	4-2.11.	Reflect and Interpret: Students will identify possible applications of what was learned.
GENERAL OUTCOME / COURSE	**AB.4-3.**	**Problem Solving through Technology: Investigate a practical problem, and develop a possible solution.**
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.1.	Focus: Students will identify the purpose of problem-solving and construction activities: What problem do we need to solve? What needs must be met?
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.3.	Explore and Investigate: Students will identify materials and how they are used.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.4.	Explore and Investigate: Students will attempt a variety of strategies and modify procedures, as needed (troubleshoot problems) .
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.8.	Reflect and Interpret: Students will evaluate a product, based on a given set of questions or criteria. The criteria/questions may be provided by the teacher or developed by the students. .
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.9.	Reflect and Interpret: Students will identify possible improvements to the product.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-3.10.	Reflect and Interpret: Students will identify new applications for the design or method of construction.
GENERAL OUTCOME / COURSE	**AB.4-4.**	**Attitudes: Demonstrate positive attitudes for the study of science and for the application of science in responsible ways.**
GENERAL OUTCOME / SPECIFIC OUTCOME	4-4.3.	Students will show growth in acquiring and applying inventiveness and willingness to consider new ideas.
GENERAL OUTCOME / COURSE	**AB.4-6.**	**Topic B: Wheels and Levers: Demonstrate a practical understanding of wheels, gears and levers by constructing devices in which energy is transferred to produce motion.**
GENERAL OUTCOME / SPECIFIC OUTCOME	4-6.5.	Construct and explain the operation of a drive system that transfers motion from one shaft to a second shaft, where the second shaft is: parallel to the first, at a 90 degree angle to the first. Students who have achieved this expectation will be aware of changes in speed and direction that result from different ways of linking components. Introduction of gear ratios, however, is not recommended at this grade level. Students will have an opportunity to develop the concept of ratio as part of their junior high mathematics program.

GENERAL OUTCOME / COURSE	AB.4-7.	Topic C: Building Devices and Vehicles that Move: Construct a mechanical device for a designated purpose, using materials and design suggestions provided. Note: One or more components of the task will be open-ended and require students to determine the specific procedure to be followed.
GENERAL OUTCOME / COURSE	AB.4-8.	Topic C: Building Devices and Vehicles that Move: Explore and evaluate variations to the design of a mechanical device, demonstrating that control is an important element in the design and construction of that device.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.1.	Design and construct devices and vehicles that move or have moving parts linkages, wheels and axles.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.2.	Use simple forces to power or propel a device; e.g., direct pushes, pulls, cranking mechanisms, moving air, moving water and downhill motion.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.3.	Design and construct devices and vehicles that employ energy-storing or energy-consuming components that will cause motion; e.g., elastic bands, springs, gravity, wind, moving water.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.4.	Recognize the need for control in mechanical devices, and apply control mechanisms where necessary.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.5.	Compare two designs, identifying the relative strengths and weaknesses of each.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.6.	Identify steps to be used in constructing a device or vehicle, and work cooperatively with other students to construct the device or vehicle.
GENERAL OUTCOME / SPECIFIC OUTCOME	4-8.7.	Design and construct several different models of a device and evaluate each model, working cooperatively with other students.

British Columbia Curriculum
Mathematics
Grade **3** - Adopted: **2016**

CURRICULUM ORGANIZER / COURSE	BC.MA.3. CC.	Curricular Competencies
PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:
EXPECTATION / SUB ORGANIZER	3.CC.1.	Reasoning and analyzing

PRESCRIBED LEARNING OUTCOME	3.CC.1.1.	Use reasoning to explore and make connections

PRESCRIBED LEARNING OUTCOME	3.CC.1.5.	Model mathematics in contextualized experiences

CURRICULUM ORGANIZER / COURSE	BC.MA.3. CC.	Curricular Competencies
PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:
EXPECTATION / SUB ORGANIZER	3.CC.2.	Understanding and solving

PRESCRIBED LEARNING OUTCOME	3.CC.2.1.	Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving

PRESCRIBED LEARNING OUTCOME	3.CC.2.3.	Develop and use multiple strategies to engage in problem solving

PRESCRIBED LEARNING OUTCOME	3.CC.2.4.	Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

CURRICULUM ORGANIZER / COURSE	BC.MA.3. CC.	Curricular Competencies
PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:
EXPECTATION / SUB ORGANIZER	3.CC.3.	Communicating and representing

PRESCRIBED LEARNING OUTCOME	3.CC.3.1.	Communicate mathematical thinking in many ways

PRESCRIBED LEARNING OUTCOME	3.CC.3.3.	Explain and justify mathematical ideas and decisions

CURRICULUM ORGANIZER / COURSE	BC.MA.3. CC.	Curricular Competencies
PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:

EXPECTATION / SUB ORGANIZER	3.CC.4.	Connecting and reflecting

PRESCRIBED LEARNING OUTCOME	3.CC.4.1.	Reflect on mathematical thinking

PRESCRIBED LEARNING OUTCOME	3.CC.4.2.	Connect mathematical concepts to each other and to other areas and personal interests

CURRICULUM ORGANIZER / COURSE	BC.MA.3. C.	Content

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to know the following:

EXPECTATION / SUB ORGANIZER	3.C.4.	Addition and subtraction facts to 20 (emerging computational fluency)

British Columbia Curriculum
Mathematics
Grade **4** - Adopted: **2016**

CURRICULUM ORGANIZER / COURSE	BC.MA.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:

EXPECTATION / SUB ORGANIZER	4.CC.1.	Reasoning and analyzing

PRESCRIBED LEARNING OUTCOME	4.CC.1.1.	Use reasoning to explore and make connections

PRESCRIBED LEARNING OUTCOME	4.CC.1.5.	Model mathematics in contextualized experiences

CURRICULUM ORGANIZER / COURSE	BC.MA.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:

EXPECTATION / SUB ORGANIZER	4.CC.2.	Understanding and solving

PRESCRIBED LEARNING OUTCOME	4.CC.2.1.	Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving

PRESCRIBED LEARNING OUTCOME	4.CC.2.3.	Develop and use multiple strategies to engage in problem solving

PRESCRIBED LEARNING OUTCOME	4.CC.2.4.	Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

CURRICULUM ORGANIZER / COURSE	BC.MA.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:
EXPECTATION / SUB ORGANIZER	4.CC.3.	Communicating and representing

PRESCRIBED LEARNING OUTCOME	4.CC.3.1.	Communicate mathematical thinking in many ways

PRESCRIBED LEARNING OUTCOME	4.CC.3.3.	Explain and justify mathematical ideas and decisions

CURRICULUM ORGANIZER / COURSE	BC.MA.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following:
EXPECTATION / SUB ORGANIZER	4.CC.4.	Connecting and reflecting

PRESCRIBED LEARNING OUTCOME	4.CC.4.1.	Reflect on mathematical thinking

PRESCRIBED LEARNING OUTCOME	4.CC.4.2.	Connect mathematical concepts to each other and to other areas and personal interests

CURRICULUM ORGANIZER / COURSE	BC.MA.4. C.	Content

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to know the following:
EXPECTATION / SUB ORGANIZER	4.C.7.	Addition and subtraction facts to 20 (developing computational fluency)

CURRICULUM ORGANIZER / COURSE	BC.SC.3. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	3.CC.2.	Planning and conducting

PRESCRIBED LEARNING OUTCOME	3.CC.2.3.	Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate

CURRICULUM ORGANIZER / COURSE	BC.SC.3. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	3.CC.5.	Applying and innovating

PRESCRIBED LEARNING OUTCOME	3.CC.5.2.	Co-operatively design projects

PRESCRIBED LEARNING OUTCOME	3.CC.5.3.	Transfer and apply learning to new situations

PRESCRIBED LEARNING OUTCOME	3.CC.5.4.	Generate and introduce new or refined ideas when problem solving

CURRICULUM ORGANIZER / COURSE	BC.SC.3. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	3.CC.6.	Communicating

PRESCRIBED LEARNING OUTCOME	3.CC.6.1.	Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate

British Columbia Curriculum
Science
Grade **4** - Adopted: **2016**

CURRICULUM ORGANIZER / COURSE	BC.SC.4. BI.	Big Ideas

PRESCRIBED LEARNING OUTCOME / ORGANIZER	4.BI.3.	Energy can be transformed.

CURRICULUM ORGANIZER / COURSE	BC.SC.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	**4.CC.2.**	**Planning and conducting**

PRESCRIBED LEARNING OUTCOME	4.CC.2.3.	Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate

CURRICULUM ORGANIZER / COURSE	BC.SC.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	**4.CC.5.**	**Applying and innovating**

PRESCRIBED LEARNING OUTCOME	4.CC.5.2.	Co-operatively design projects

PRESCRIBED LEARNING OUTCOME	4.CC.5.3.	Transfer and apply learning to new situations

PRESCRIBED LEARNING OUTCOME	4.CC.5.4.	Generate and introduce new or refined ideas when problem solving

CURRICULUM ORGANIZER / COURSE	BC.SC.4. CC.	Curricular Competencies

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to be able to do the following
EXPECTATION / SUB ORGANIZER	**4.CC.6.**	**Communicating**

PRESCRIBED LEARNING OUTCOME	4.CC.6.1.	Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate

CURRICULUM ORGANIZER / COURSE	BC.SC.4. C.	Content

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to know the following
EXPECTATION / SUB ORGANIZER	4.C.5.	Energy:

PRESCRIBED LEARNING OUTCOME	4.C.5.1.	Has various forms

CURRICULUM ORGANIZER / COURSE	BC.SC.4. C.	Content

PRESCRIBED LEARNING OUTCOME / ORGANIZER		Students are expected to know the following
EXPECTATION / SUB ORGANIZER	4.C.6.	Devices that transform energy

Manitoba Curriculum Frameworks
Mathematics
Grade **3** - Adopted: **2013**

STRAND / COURSE / GENERAL OUTCOME	MB.3.N.	Number

STRAND / SPECIFIC OUTCOME		Develop number sense.
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3.N.7.	Describe and apply mental mathematics strategies for subtracting two 2-digit numerals, such as: taking the subtrahend to the nearest multiple of ten and then compensating; thinking of addition; using doubles [C, ME, PS, R, V]

SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.N.7.1.	Subtract two 2-digit numerals using a mental mathematics strategy, and explain or model the strategy.

SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.N.7.5.	Apply a mental mathematics strategy for subtracting two 2-digit numerals.

STRAND / COURSE / GENERAL OUTCOME	MB.3.N.	Number

STRAND / SPECIFIC OUTCOME		Develop number sense.
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3.N.9.	Demonstrate an understanding of addition and subtraction of numbers with answers to 1000 (limited to 1-, 2-, and 3-digit numerals) by: using personal strategies for adding and subtracting with and without the support of manipulatives; creating and solving problems in contexts that involve addition and subtraction of numbers concretely, pictorially, and symbolically. [C, CN, ME, PS, R]
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.N.9.5.	Determine the difference of two numbers using a personal strategy (e.g., for 127 – 38, record 38 + 2 + 80 + 7 or 127 – 20 – 10 – 8).
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.N.9.6.	Solve a problem involving the sum or difference of two numbers.

STRAND / COURSE / GENERAL OUTCOME	MB.3.SP.	Statistics and Probability

STRAND / SPECIFIC OUTCOME		(Data Analysis) Collect, display, and analyze data to solve problems.
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3.SP.1.	Collect first-hand data and organize it using: tally marks; line plots; charts; lists to answer questions. [C, CN, V]
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.SP.1.2.	Determine the attributes of line plots.
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.SP.1.5.	Answer questions arising from a line plot, chart, or list.
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	3.SP.1.6.	Answer questions using collected data.

Manitoba Curriculum Frameworks
Mathematics
Grade **4** - Adopted: **2013**

STRAND / COURSE / GENERAL OUTCOME	MB.4.N.	Number

STRAND / SPECIFIC OUTCOME		Develop number sense.

GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4.N.3.	Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3- and 4-digit numerals), concretely, pictorially, and symbolically, by: using personal strategies; using the standard algorithms; estimating sums and differences; solving problems [C, CN, ME, PS, R]
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	4.N.3.3.	Determine the difference of two numbers using a personal strategy (e.g., for 4127 – 238, record 238 + 2 + 60 + 700 + 3000 + 127 or 4127 – 27 – 100 – 100 – 11).
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	4.N.3.5.	Determine the sum and difference using the standard algorithms of vertical addition and subtraction. (Numbers are arranged vertically with corresponding place value digits aligned.)

STRAND / COURSE / GENERAL OUTCOME	MB.4.N.	Number

STRAND / SPECIFIC OUTCOME		Develop number sense.
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4.N.10.	Relate decimals to fractions (to hundredths). [CN, R, V]

SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	4.N.10.1.	Read decimals as fractions (e.g., 0.5 is zero and five-tenths).
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	4.N.10.2.	Express orally and in written form a decimal in fractional form.
SPECIFIC OUTCOME / ACHIEVEMENT INDICATOR	4.N.10.5.	Express orally and in written form the decimal equivalent for a fraction (e.g., 50/100 can be expressed as 0.50).

Manitoba Curriculum Frameworks
Science
Grade **3** - Adopted: **2006**

STRAND / COURSE / GENERAL OUTCOME	MB.GLO-A.	Foundation A: Nature of Science and Technology
STRAND / SPECIFIC OUTCOME	GLO-A3.	Distinguish critically between science and technology in terms of their respective contexts, goals, methods, products, and values
STRAND / SPECIFIC OUTCOME	GLO-A5.	Recognize that science and technology interact with and advance one another

STRAND / COURSE / GENERAL OUTCOME	MB.GLO-B.	Foundation B: Science, Technology, Society, and Environment (STSE)
STRAND / SPECIFIC OUTCOME	GLO-B1.	Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies and the environment, both locally and globally.
STRAND / SPECIFIC OUTCOME	GLO-B2.	Recognize that scientific and technological endeavors have been and continue to be influenced by human needs and the societal context of the time
STRAND / COURSE / GENERAL OUTCOME	MB.GLO-C.	Foundation C: Scientific and Technological Skills and Attitudes
STRAND / SPECIFIC OUTCOME	GLO-C3.	Demonstrate appropriate problem-solving skills while seeking solutions to technological challenges
STRAND / SPECIFIC OUTCOME	GLO-C4.	Demonstrate appropriate critical thinking and decision-making skills when choosing a course of action based on scientific and technological information
STRAND / SPECIFIC OUTCOME	GLO-C5.	Demonstrate curiosity, scepticism, creativity, open-mindedness, accuracy, precision, honesty, and persistence, and appreciate their importance as scientific and technological habits of mind
STRAND / SPECIFIC OUTCOME	GLO-C6.	Employ effective communication skills and utilize information technology to gather and share scientific and technological ideas and data
STRAND / COURSE / GENERAL OUTCOME	MB.GLO-D.	Foundation D: Essential Science Knowledge
STRAND / SPECIFIC OUTCOME	GLO-D4.	Understand how stability, motion, forces, and energy transfers and transformations play a role in a wide range of natural and constructed contexts
STRAND / COURSE / GENERAL OUTCOME	MB.GLO-E.	Foundation E: Unifying Concepts
STRAND / SPECIFIC OUTCOME	GLO-E2.	Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems
STRAND / SPECIFIC OUTCOME	GLO-E4.	Recognize that energy, whether transmitted or transformed, is the driving force of both movement and change, and is inherent within materials and in the interactions among them

STRAND / COURSE / GENERAL OUTCOME	MB.3-0.	Overall Skills and Attitudes - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	3-0-4.	Implementing a Plan
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-4b.	Construct an object or device to solve a problem or meet a need. (GLO: C3)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-4c.	Test an object or device with respect to pre-determined criteria. (GLO: C3, C5)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-4d.	Identify and make improvements to an object or device, and explain the rationale for the changes. (GLO: C3)
STRAND / COURSE / GENERAL OUTCOME	MB.3-0.	Overall Skills and Attitudes - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	3-0-5.	Observing, Measuring, Recording
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-5b.	Use tools to observe, measure, and construct. (GLO: C2, C3, C5)
STRAND / COURSE / GENERAL OUTCOME	MB.3-0.	Overall Skills and Attitudes - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	3-0-6.	Analysing and Interpreting
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-6c.	Place materials and objects in a sequence or in groups using two or more attributes, and describe the system used. (GLO: C2, C3, C5)
STRAND / COURSE / GENERAL OUTCOME	MB.3-0.	Overall Skills and Attitudes - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	3-0-7.	Concluding and Applying

STRAND / SPECIFIC OUTCOME		
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-7c.	Identify new problems that arise. (GLO: C3)

STRAND / COURSE / GENERAL OUTCOME	MB.3-0.	**Overall Skills and Attitudes - Specific Learning Outcomes**

STRAND / SPECIFIC OUTCOME	**3-0-8.**	**Reflecting on Science and Technology**
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-8b.	Recognize that scientists develop explanations from observations and what they already know about the world, and that good explanations are based on evidence. (GLO: A1, A2, C2)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	3-0-8c.	Recognize that designing a solution to a simple problem may have considerations, such as cost, materials, time, and space. (GLO: B2, C3)

STRAND / COURSE / GENERAL OUTCOME	MB.3-2.	**Materials and Structures - Specific Learning Outcomes**
STRAND / SPECIFIC OUTCOME	3-2-01.	Use appropriate vocabulary related to their investigations of materials and structures. (GLO: D4)

Manitoba Curriculum Frameworks
Science
Grade **4** - Adopted: **2006**

STRAND / COURSE / GENERAL OUTCOME	MB.GLO-A.	**Foundation A: Nature of Science and Technology**
STRAND / SPECIFIC OUTCOME	GLO-A3.	Distinguish critically between science and technology in terms of their respective contexts, goals, methods, products, and values
STRAND / SPECIFIC OUTCOME	GLO-A5.	Recognize that science and technology interact with and advance one another

STRAND / COURSE / GENERAL OUTCOME	MB.GLO-B.	**Foundation B: Science, Technology, Society, and Environment (STSE)**
STRAND / SPECIFIC OUTCOME	GLO-B1.	Describe scientific and technological developments, past and present, and appreciate their impact on individuals, societies and the environment, both locally and globally.

STRAND / SPECIFIC OUTCOME	GLO-B2.	Recognize that scientific and technological endeavors have been and continue to be influenced by human needs and the societal context of the time
STRAND / COURSE / GENERAL OUTCOME	**MB.GLO-C.**	**Foundation C: Scientific and Technological Skills and Attitudes**
STRAND / SPECIFIC OUTCOME	GLO-C3.	Demonstrate appropriate problem-solving skills while seeking solutions to technological challenges
STRAND / SPECIFIC OUTCOME	GLO-C4.	Demonstrate appropriate critical thinking and decision-making skills when choosing a course of action based on scientific and technological information
STRAND / SPECIFIC OUTCOME	GLO-C5.	Demonstrate curiosity, scepticism, creativity, open-mindedness, accuracy, precision, honesty, and persistence, and appreciate their importance as scientific and technological habits of mind
STRAND / SPECIFIC OUTCOME	GLO-C6.	Employ effective communication skills and utilize information technology to gather and share scientific and technological ideas and data
STRAND / COURSE / GENERAL OUTCOME	**MB.GLO-D.**	**Foundation D: Essential Science Knowledge**
STRAND / SPECIFIC OUTCOME	GLO-D4.	Understand how stability, motion, forces, and energy transfers and transformations play a role in a wide range of natural and constructed contexts
STRAND / COURSE / GENERAL OUTCOME	**MB.GLO-E.**	**Foundation E: Unifying Concepts**
STRAND / SPECIFIC OUTCOME	GLO-E2.	Describe and appreciate how the natural and constructed world is made up of systems and how interactions take place within and among these systems
STRAND / SPECIFIC OUTCOME	GLO-E4.	Recognize that energy, whether transmitted or transformed, is the driving force of both movement and change, and is inherent within materials and in the interactions among them
STRAND / COURSE / GENERAL OUTCOME	**MB.4-0.**	**Overall Skills and Attitudes - Specific Learning Outcomes**
STRAND / SPECIFIC OUTCOME	**4-0-3.**	**Planning**

| GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL | 4-0-3f. | Develop criteria to evaluate an object, device, or system based on its function, aesthetics, and other considerations such as materials, and cost. (GLO: C3) |

STRAND / SPECIFIC OUTCOME	**4-0-4.**	**Implementing a Plan**
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-4b.	Construct an object, device, or system to solve a problem or meet a need. (GLO: C3)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-4c.	Test an object, device, or system with respect to pre-determined criteria. (GLO: C3, C5)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-4d.	Identify and make improvements to an object, device, or system, and explain the rationale for the changes. (GLO: C3)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-4g.	Communicate questions, ideas and intentions, and listen effectively to others during classroom-learning experiences. (GLO: C6)

STRAND / COURSE / GENERAL OUTCOME   **MB.4-0.**   **Overall Skills and Attitudes - Specific Learning Outcomes**

| **STRAND / SPECIFIC OUTCOME** | **4-0-5.** | **Observing, Measuring, Recording** |
| GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL | 4-0-5a. | Select and use tools to observe, measure, and construct. (GLO: C2, C3, C5) |

STRAND / COURSE / GENERAL OUTCOME   **MB.4-0.**   **Overall Skills and Attitudes - Specific Learning Outcomes**

| **STRAND / SPECIFIC OUTCOME** | **4-0-7.** | **Concluding and Applying** |

GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-7c.	Identify new problems that arise. (GLO: C3)

STRAND / COURSE / GENERAL OUTCOME	MB.4-0.	Overall Skills and Attitudes - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	4-0-8.	Reflecting on Science and Technology
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-8b.	Recognize that scientists must support their explanations using evidence and scientific knowledge. (GLO: A1, A2, C2)
GENERAL OUTCOME / SPECIFIC OUTCOME / SKILL	4-0-8c.	Recognize that designing a solution to a simple problem may have considerations, such as cost, materials, time, and space. (GLO: B2, C3)

STRAND / COURSE / GENERAL OUTCOME	MB.4-2.	Light - Specific Learning Outcomes
STRAND / SPECIFIC OUTCOME	4-2-02.	Give examples of various forms of energy. (GLO: D4, E4)

New Brunswick Curriculum
Mathematics
Grade **3** - Adopted: **2010**

DOCUMENT/GENERAL LEARNING OUTCOME	Grade 3

CATEGORY		MATHEMATICAL PROCESSES
SECTION/SPECIFIC LEARNING OUTCOME	C.	communicate in order to learn and express their understanding of mathematics (Communications: C)
SECTION/SPECIFIC LEARNING OUTCOME	PS.	develop and apply new mathematical knowledge through problem solving (Problem Solving: PS)
SECTION/SPECIFIC LEARNING OUTCOME	R.	develop mathematical reasoning (Reasoning: R)

SECTION/SPECI FIC LEARNING OUTCOME	T.	select and use technologies as tools for learning and solving problems (Technology: T)
SECTION/SPECI FIC LEARNING OUTCOME	V.	develop visualization skills to assist in processing information, making connections and solving problems (Visualization: V).

DOCUMENT/GE NERAL LEARNING OUTCOME	**Grade 3**

CATEGORY	**N.**	**Number (N): Develop number sense**
SECTION/SPECI FIC LEARNING OUTCOME	N7.	Describe and apply mental mathematics strategies for subtracting two 2-digit numerals, such as: taking the subtrahend to the nearest multiple of ten and then compensating; thinking of addition; using doubles. [C, ME, PS, R, V]
SECTION/SPECI FIC LEARNING OUTCOME	N9.	Demonstrate an understanding of addition and subtraction of numbers with answers to 1000 (limited to 1, 2 and 3-digit numerals) by: using personal strategies for adding and subtracting with and without the support of manipulatives; creating and solving problems in contexts that involve addition and subtraction of numbers concretely, pictorially and symbolically. [C, CN, ME, PS, R]

DOCUMENT/GE NERAL LEARNING OUTCOME	**Grade 3**

CATEGORY	**SP.**	**Statistics and Probability (SP): Collect, display and analyze data to solve problems**
SECTION/SPECI FIC LEARNING OUTCOME	SP1.	Collect first-hand data and organize it using: tally marks; line plots; charts; lists to answer questions. [C, CN, V]

New Brunswick Curriculum
Mathematics
Grade **4** - Adopted: **2008**

DOCUMENT/GE NERAL LEARNING OUTCOME	**Grade 4**

CATEGORY		**MATHEMATICAL PROCESSES**
SECTION/SPECI FIC LEARNING OUTCOME	C.	communicate in order to learn and express their understanding of mathematics (Communications: C)
SECTION/SPECI FIC LEARNING OUTCOME	PS.	develop and apply new mathematical knowledge through problem solving (Problem Solving: PS)
SECTION/SPECI FIC LEARNING OUTCOME	R.	develop mathematical reasoning (Reasoning: R)

SECTION/SPECIFIC LEARNING OUTCOME	T.	select and use technologies as tools for learning and solving problems (Technology: T)
SECTION/SPECIFIC LEARNING OUTCOME	V.	develop visualization skills to assist in processing information, making connections and solving problems (Visualization: V).
DOCUMENT/GENERAL LEARNING OUTCOME		**Grade 4**
CATEGORY	**N.**	**Number (N): Develop number sense**
SECTION/SPECIFIC LEARNING OUTCOME	N3.	Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3 and 4-digit numerals) by: using personal strategies for adding and subtracting; estimating sums and differences; solving problems involving addition and subtraction. [C, CN, ME, PS, R]
SECTION/SPECIFIC LEARNING OUTCOME	N10.	Relate decimals to fractions (to hundredths). [CN, R, V]

New Brunswick Curriculum
Science
Grade **3** - Adopted: **2002**

DOCUMENT/GENERAL LEARNING OUTCOME		**Atlantic Canada Science Curriculum (Specific curriculum outcomes)**
CATEGORY		**Science 3 Curriculum**
SECTION/SPECIFIC LEARNING OUTCOME		**Unit 4 – Physical Science: Materials and Structures**
UNIT/SPECIFIC LEARNING OUTCOME		**Proposing Solutions to Building Challenges**
SPECIFIC LEARNING OUTCOME		describe the properties of some common materials, and evaluate their suitability for use in building structures (100-34)
SPECIFIC LEARNING OUTCOME		investigate ways to join materials and identify the most appropriate methods for the materials to be joined (101-11)
SPECIFIC LEARNING OUTCOME		identify materials that could be used to solve the problem posed, and suggest a plan for how they will be used (200-5)
DOCUMENT/GENERAL LEARNING OUTCOME		**Atlantic Canada Science Curriculum (Specific curriculum outcomes)**
CATEGORY		**Science 3 Curriculum**

SECTION/SPECIFIC LEARNING OUTCOME		Unit 4 – Physical Science: Materials and Structures
UNIT/SPECIFIC LEARNING OUTCOME		Creating Solution to Structural Challenges
SPECIFIC LEARNING OUTCOME		use appropriate tools to safely cut, shape, make holes, and assemble materials (101-10, 201-3)
SPECIFIC LEARNING OUTCOME		follow safety procedures and rules while constructing structures and explain why they are needed (201-8)
SPECIFIC LEARNING OUTCOME		manipulate materials purposefully to create the structure (201-2)
SPECIFIC LEARNING OUTCOME		respond to the ideas of partners while constructing the structure, acknowledge these ideas and contributions, and make changes in the structure as deemed necessary (203-5)

DOCUMENT/GENERAL LEARNING OUTCOME	Atlantic Canada Science Curriculum (Specific curriculum outcomes)

CATEGORY		Science 3 Curriculum
SECTION/SPECIFIC LEARNING OUTCOME		Unit 4 – Physical Science: Materials and Structures
UNIT/SPECIFIC LEARNING OUTCOME		Evaluating the Structural Solution
SPECIFIC LEARNING OUTCOME		test the strength and stability of personally built structures, and identify ways of modifying a structure to increase its strength, stability, form and function (101-9, 202-8)
SPECIFIC LEARNING OUTCOME		identify materials or parts of a structure that failed and suggest why (202-5)
SPECIFIC LEARNING OUTCOME		evaluate simple structures to determine if they are effective and safe, if they make efficient use of materials, and if they are appropriate to the user and the environment (102-17)
SPECIFIC LEARNING OUTCOME		illustrate their construction process, using drawings with written explanations, and/or oral descriptions and demonstrations; and describe the structures and components of the structures they have built (203-3, 203-2)

Northern Territory Curriculum
Mathematics
Grade **3** - Adopted: **2015**

STRAND / DOMAIN	ACMSP.3. Statistics and Probability

OUTCOME / INDICATOR	ACMSP. 3.2.	Data representation and interpretation (ACMSP067)
INDICATOR	ACMSP. 3.2.2.	Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (ACMSP069)
INDICATOR	ACMSP.3 .2.2.2.	Collecting data to investigate features in the natural environment

Northern Territory Curriculum
Mathematics
Grade **4** - Adopted: **2015**

STRAND / DOMAIN	ACMNA.4. Number and Algebra

OUTCOME / INDICATOR	ACMNA. 4.2.	Fractions and decimals
INDICATOR	ACMNA. 4.2.3.	Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation (ACMNA079)
INDICATOR	ACMNA. 4.2.3.2.	Using knowledge of fractions to establish equivalences between fractions and decimal notation (ACMNA080)

STRAND / DOMAIN	ACMSP.4. Statistics and Probability

OUTCOME / INDICATOR	ACMSP. 4.2.	Data representation and interpretation
INDICATOR	ACMSP. 4.2.1.	Select and trial methods for data collection, including survey questions and recording sheets (ACMSP095)
INDICATOR	ACMSP. 4.2.1.1.	Comparing the effectiveness of different methods of collecting data
INDICATOR	ACMSP. 4.2.1.2.	Choosing the most effective way to collect data for a given investigation

Northern Territory Curriculum
Science
Grade **3** - Adopted: **2016**

STRAND / DOMAIN	ACSIS.3. Science Inquiry Skills

OUTCOME / INDICATOR	ACSIS.3. 2.	Planning and conducting
INDICATOR	ACSIS.3 .2.2.	Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately (ACSIS055)
INDICATOR	ACSIS.3. 2.2.2.	Using a variety of tools to make observations, such as digital cameras, thermometers, rulers and scales

STRAND / DOMAIN	ACSIS.3. Science Inquiry Skills

OUTCOME / INDICATOR	ACSIS.3. 5.	Communicating
INDICATOR	ACSIS.3 .5.1.	Represent and communicate observations, ideas and findings using formal and informal representations (ACSIS060)

INDICATOR	ACSIS.3. 5.1.3.	Using simple explanations and arguments, reports or graphical representations to communicate ideas to other students

STRAND / DOMAIN	**ACSIS.4.**	**Science Inquiry Skills**

OUTCOME / INDICATOR	**ACSIS.4. 5.**	**Communicating**
INDICATOR	**ACSIS.4 .5.1.**	**Represent and communicate observations, ideas and findings using formal and informal representations (ACSIS071)**
INDICATOR	ACSIS.4. 5.1.2.	Using simple explanations and arguments, reports or graphical representations to communicate ideas to other students

STRAND / DOMAIN		**Design and Technologies**

OUTCOME / INDICATOR	**ACTDEP .3-4.**	**Design and Technologies Processes and Production Skills**
INDICATOR	**ACTDE P.3-4.2.**	**Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques (ACTDEP015)**
INDICATOR	ACTDEP. 3-4.2.1.	Exploring ways of joining, connecting and assembling components that ensure success
INDICATOR	ACTDEP. 3-4.2.2.	Generating a range of design ideas for intended products, services, environments
INDICATOR	ACTDEP. 3-4.2.3.	Identifying the properties of materials needed for the designed solution
INDICATOR	ACTDEP. 3-4.2.4.	Visualising and exploring innovative design ideas by producing thumbnail drawings, models and labelled drawings to explain features and modifications
INDICATOR	ACTDEP. 3-4.2.5.	Planning, sharing and documenting creative ideas and processes using digital tools such as a class blog or collaborative document

STRAND / DOMAIN		**Digital Technologies**

OUTCOME / INDICATOR	**ACTDIP. 3-4.**	**Digital Technologies Processes and Production Skills**
INDICATOR	**ACTDIP. 3-4.4.**	**Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them (ACTDIP010)**
INDICATOR	ACTDIP.3 -4.4.1.	explaining what the problem is and some features of the problem, such as what need is associated with the problem, who has the problem and why

INDICATOR	ACTDIP.3 -4.4.2.	describing, using drawings, pictures and text, the sequence of steps and decisions in a solution, for example to show the order of events in a game and the decisions that a player must make
INDICATOR	ACTDIP.3 -4.4.3.	experimenting with different ways of describing a set of instructions, for example writing two versions of the same simple set of instructions for a programmable robotic device

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Northern Territory Curriculum
Technology Education
Grade **4** - Adopted: **2016 (ACARA)**

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STRAND / DOMAIN		Design and Technologies

OUTCOME / INDICATOR	ACTDEP .3-4.	**Design and Technologies Processes and Production Skills**
INDICATOR	**ACTDE P.3-4.2.**	**Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques (ACTDEP015)**
INDICATOR	ACTDEP. 3-4.2.1.	Exploring ways of joining, connecting and assembling components that ensure success
INDICATOR	ACTDEP. 3-4.2.2.	Generating a range of design ideas for intended products, services, environments
INDICATOR	ACTDEP. 3-4.2.3.	Identifying the properties of materials needed for the designed solution
INDICATOR	ACTDEP. 3-4.2.4.	Visualising and exploring innovative design ideas by producing thumbnail drawings, models and labelled drawings to explain features and modifications
INDICATOR	ACTDEP. 3-4.2.5.	Planning, sharing and documenting creative ideas and processes using digital tools such as a class blog or collaborative document

STRAND / DOMAIN		Digital Technologies

OUTCOME / INDICATOR	ACTDIP. 3-4.	**Digital Technologies Processes and Production Skills**
INDICATOR	**ACTDIP. 3-4.4.**	**Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them (ACTDIP010)**
INDICATOR	ACTDIP.3 -4.4.1.	explaining what the problem is and some features of the problem, such as what need is associated with the problem, who has the problem and why
INDICATOR	ACTDIP.3 -4.4.2.	describing, using drawings, pictures and text, the sequence of steps and decisions in a solution, for example to show the order of events in a game and the decisions that a player must make
INDICATOR	ACTDIP.3 -4.4.3.	experimenting with different ways of describing a set of instructions, for example writing two versions of the same simple set of instructions for a programmable robotic device

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Nova Scotia Curriculum
Mathematics
Grade **3** - Adopted: **2015**

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GENERAL LEARNING OUTCOME	NS.3.GC O.	**General Curriculum Outcomes**

CURRICULUM OUTCOME	3.GCO.7.	Collect, display, and analyze data to solve problems

CURRICULUM OUTCOME	**3.SCO.N .**	**Number (N)**
GRADE LEVEL EXPECTATION	**3.SCO.N 07.**	**Students will be expected to describe and apply mental mathematics strategies for subtracting two two-digit numerals. [C, ME, PS, R, V]**
EXPECTATION	3.SCO.N 07.03.	Determine a difference of two two-digit numerals efficiently, using mental mathematics strategies (COM, CT, CI, CZ, PCD)

GENERAL LEARNING OUTCOME   **NS.3.SCO Specific Curriculum Outcomes .**

CURRICULUM OUTCOME	**3.SCO.N .**	**Number (N)**
GRADE LEVEL EXPECTATION	**3.SCO.N 09.**	**Students will be expected to demonstrate an understanding of addition and subtraction of numbers (limited to one-, two-, and three-digit numerals) with answers to 1000 by: using personal strategies for adding and subtracting with and without the support of manipulatives, creating and solving problems in context that involve addition and subtraction of numbers concretely, pictorially, and symbolically [C, CN, ME, PS, R]**
EXPECTATION	3.SCO.N 09.05.	Determine the difference of two given numbers using a personal strategy (e.g., for 127 – 38, record 127 – 20 – 10 – 8) (COM, CT, CI, CZ, PCD)

GENERAL LEARNING OUTCOME   **NS.3.SCO Specific Curriculum Outcomes .**

CURRICULUM OUTCOME	**3.SCO.S P.**	**Statistics and Probability (SP)**
GRADE LEVEL EXPECTATION	**3.SCO.S P01.**	**Students will be expected to collect first-hand data and organize it using tally marks, line plots, charts, and lists to answer questions. [C, CN, V]**
EXPECTATION	3.SCO.S P01.02.	Determine the common attributes of line plots by comparing line plots in a given set (COM, CT, CI, CZ, PCD)
EXPECTATION	3.SCO.S P01.05.	Answer questions arising from a given line plot, chart, or list (COM, CT, CI, CZ, PCD)
EXPECTATION	3.SCO.S P01.06.	Answer questions using collected data (COM, CT, CI, CZ, PCD)

Nova Scotia Curriculum
Mathematics
Grade **4** - Adopted: **2015**

GENERAL LEARNING OUTCOME	**NS.4.GC O.**	**General Curriculum Outcomes**
CURRICULUM OUTCOME	4.GCO.7.	Collect, display, and analyze data to solve problems

GENERAL LEARNING OUTCOME	NS.4.SCO.	Specific Curriculum Outcomes

CURRICULUM OUTCOME	4.SCO.N.	Number (N)
GRADE LEVEL EXPECTATION	4.SCO.N03.	Students will be expected to demonstrate an understanding of addition and subtraction of numbers with answers to 10 000 (limited to three- and four-digit numerals) by: using personal strategies for adding and subtracting, estimating sums and differences, solving problems involving addition and subtraction [C, CN, ME, PS, R]
EXPECTATION	4.SCO.N 03.03.	Determine the difference of two given numbers, limited to three- and four-digit numerals, using a personal strategy, and record the process symbolically
EXPECTATION	4.SCO.N 03.08.	Determine a sum or difference of one-, two-, and three-digit numerals efficiently, using mental mathematics strategies

GENERAL LEARNING OUTCOME	NS.4.SCO.	Specific Curriculum Outcomes

CURRICULUM OUTCOME	4.SCO.N.	Number (N)
GRADE LEVEL EXPECTATION	4.SCO.N10.	Students will be expected to relate decimals to fractions and fractions to decimals (to hundredths). [C, CN, R, V]
EXPECTATION	4.SCO.N 10.01.	Express, orally and symbolically, a given fraction with a denominator of 10 or 100 as a decimal
EXPECTATION	4.SCO.N 10.02.	Read decimals as fractions (e.g., 0.5 is zero and five tenths)
EXPECTATION	4.SCO.N 10.03.	Express, orally and symbolically, a given decimal in fraction form
EXPECTATION	4.SCO.N 10.05.	Express, orally and symbolically, the decimal equivalent for a given fraction (e.g., 50/100 can be expressed as 0.50)

Nova Scotia Curriculum
Science
Grade **3** - Adopted: **2015**

GENERAL LEARNING OUTCOME	NS.3.PSM.	Physical Science: Materials and Structures

CURRICULUM OUTCOME	3.PSM.3.	Students will construct a structure safely to meet certain established criteria.
GRADE LEVEL EXPECTATION	3.PSM.3. 2.	Observe and describe various structures both natural and built (CT, CI, COM, TF CZ)
GRADE LEVEL EXPECTATION	3.PSM.3. 3.	Build a structure thinking about shape, strength, stability, and/or balance (CT, CI, COM, CZ, PCD)
GRADE LEVEL EXPECTATION	3.PSM.3. 4.	Test the strength of the structure (CT, CI, COM, CZ, PCD)

Nova Scotia Curriculum

Grade **4** - Adopted: **2015**

GENERAL LEARNING OUTCOME	**NS.4.GCO.**	**General Curriculum Outcomes**

CURRICULUM OUTCOME	**4.GCO. 1.**	**STSE/Knowledge**
GRADE LEVEL EXPECTATION	4.GCO.1. 1.	Students will develop an understanding of the nature of science and technology, of the relationships between science and technology, and of the social and environmental contexts of science and technology. (STSE)
GRADE LEVEL EXPECTATION	4.GCO.1. 3.	Students will construct knowledge and understandings of concepts in life science, physical science, and Earth and space science, and apply these understandings to interpret, integrate, and extend their knowledge. (Knowledge)

GENERAL LEARNING OUTCOME	**NS.4.GCO.**	**General Curriculum Outcomes**

CURRICULUM OUTCOME	**4.GCO. 2.**	**Skills**
GRADE LEVEL EXPECTATION	4.GCO.2. 2.	Students will develop the skills required for scientific and technological inquiry, for solving problems, for communicating scientific ideas and results, for working collaboratively, and for making informed decisions.

GENERAL LEARNING OUTCOME	**NS.4.GCO.**	**General Curriculum Outcomes**

CURRICULUM OUTCOME	**4.GCO. 3.**	**Attitudes**
GRADE LEVEL EXPECTATION	4.GCO.3. 4.	Students will be encouraged to develop attitudes that support the responsible acquisition and application of scientific and technological knowledge to the mutual benefit of self, society, and the environment.

GENERAL LEARNING OUTCOME	**NS.4.SCO.**	**Specific Curriculum Outcomes**

CURRICULUM OUTCOME	**4.SCO.L S.**	**Life Science: Habitats**
GRADE LEVEL EXPECTATION	**4.SCO.L S.5.**	**FOOD CHAINS**
EXPECTATION	4.SCO.L S.5.2.	Predict how the removal of a plant or animal population affects the rest of the community and relate habitat loss to the endangerment or extinction of plants and animals (301-1, 301-2)

Prince Edward Island Curriculum
Mathematics
Grade **4** - Adopted: **2012**

STRAND / COURSE	**PE.4.N.**	**Number (N): Develop number sense.**

GENERAL LEARNING OUTCOME	**4.N3.**	**Demonstrate an understanding of addition of numbers, with answers to 10 000 and their corresponding subtractions (limited to 3 and 4-digit numerals) by:**
CURRICULUM OUTCOME	4.N3.3.	Solving problems involving addition and subtraction.

STRAND / COURSE	PE.4.N.	Number (N): Develop number sense.

GENERAL LEARNING OUTCOME	4.N10.	Relate decimals to fractions (to hundredths).

Prince Edward Island Curriculum
Science
Grade **3** - Adopted: **2012**

STRAND / COURSE	PE.3.4.	Physical Science: Materials and Structures

GENERAL LEARNING OUTCOME	3.4.1.	Proposing Solutions to Building Challenges
CURRICULUM OUTCOME		**Students will be expected to**

GRADE LEVEL EXPECTATION	3.4.1.1.	Identify problems to be solved while creating structures (200-2).
GRADE LEVEL EXPECTATION	3.4.1.2.	Describe the properties of some common materials, and evaluate their suitability for use in building structures (100-34).
GRADE LEVEL EXPECTATION	3.4.1.3.	Investigate ways to join materials and identify the most appropriate methods for the materials to be joined (101-11).
GRADE LEVEL EXPECTATION	3.4.1.5.	Identify materials that could be used to solve the problem posed, and suggest a plan for how they will be used (200-5).

STRAND / COURSE	PE.3.4.	Physical Science: Materials and Structures

GENERAL LEARNING OUTCOME	3.4.2.	Creating Solutions to Structural Challenges
CURRICULUM OUTCOME		**Students will be expected to**

GRADE LEVEL EXPECTATION	3.4.2.2.	Follow given safety procedures and rules while constructing structures and explain why they are needed (201-8).
GRADE LEVEL EXPECTATION	3.4.2.3.	Estimate measurements in order to select the required materials for the structure (201-6).
GRADE LEVEL EXPECTATION	3.4.2.4.	Manipulate materials purposefully in order to create the structure (201-2).
GRADE LEVEL EXPECTATION	3.4.2.5.	Respond to the ideas of partners while constructing the structure, acknowledge their ideas and contributions, and make changes in the structure as deemed necessary (203-5).

STRAND / COURSE	PE.3.4.	Physical Science: Materials and Structures

GENERAL LEARNING OUTCOME	3.4.3.	Evaluating the Structural Solution
CURRICULUM OUTCOME		Students will be expected to
GRADE LEVEL EXPECTATION	3.4.3.1.	Test the strength and stability of personally built structures, and identify ways of modifying a structure to increase its strength, stability, form, and function (101-9, 202-8).
GRADE LEVEL EXPECTATION	3.4.3.2.	Identify materials or parts of a structure that failed and suggest why (202-5).
GRADE LEVEL EXPECTATION	3.4.3.3.	Evaluate simple structures to determine if they are effective and safe, if they make efficient use of materials, and if they are appropriate to the user and the environment (102-17).
GRADE LEVEL EXPECTATION	3.4.3.4.	Illustrate their construction process, using drawings with explanations, demonstrations, and written and/or oral descriptions, and describe the structures and components of structures they have built (203-2, 203-3).

Programme de formation de l'école québécoise - Progression des apprentissages
Mathematics
Grade **3** - Adopted: **2009**

STRAND	QC.1.	Arithmétique: Comprendre les nombres et l'écriture
STANDARD	1.C.	Décimales jusqu'à centièmes
SUBSTRAND	1.C.11.	Allumettes

COMPETENCY	1.C.11.a.	Une fraction en son équivalent décimal

STRAND	QC.3.	Arithmétique: opérations portant sur des nombres
STANDARD	3.A.	Nombres naturels (sur la base des critères de référence pour chaque cycle)
SUBSTRAND	3.A.4.	Développe des procédés pour le calcul écrit (addition et soustraction)

COMPETENCY	3.A.4.c.	Utilise les procédés classiques pour déterminer la différence entre deux nombres naturels jusqu'à quatre chiffres, dont le résultat est supérieur à 0

STRAND	QC.6.	Statistiques

STANDARD	6.2.	Recueille, décrit et organise les données (classe ou classe) en utilisant des tables

Programme de formation de l'école québécoise - Progression des apprentissages
Mathematics
Grade **4** - Adopted: **2009**

STRAND	QC.1.	Arithmétique: Comprendre les nombres et l'écriture
STANDARD	1.B.	Les fractions (à l'aide d'objets ou de dessins)

SUBSTRAND	1.B.9.	Correspond à un décimal ou un pourcentage à une fraction

STRAND	QC.1.	Arithmétique: Comprendre les nombres et l'écriture
STANDARD	1.C.	Décimales jusqu'à centièmes
SUBSTRAND	1.C.11.	Allumettes

COMPETENCY	1.C.11.a.	Une fraction en son équivalent décimal

STRAND	QC.6.	Statistiques

STANDARD	6.2.	Recueille, décrit et organise les données (classe ou classe) en utilisant des tables

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Grade **3** - Adopted: **2009**

STRAND	QC.1.	Material World

STANDARD	1.A.	Importance
SUBSTRAND	1.A.6.	Les produits ménagers courants

COMPETENCY	1.A.6.a.	Associer les usages de certains produits ménagers, avec leurs propriétés (par exemple produits de nettoyage enlever la graisse, le vinaigre et le jus de citron aident à préserver certains aliments)

STRAND	QC.1.	Material World

STANDARD	1.B.	Énergie
SUBSTRAND	1.B.1.	Les formes d'énergie

COMPETENCY	1.B.1.a.	Décrit différentes formes d'énergie (mécanique, électrique, lumineuse, chimique, thermique, sonore, nucléaire)

COMPETENCY	1.B.1.b.	Identifier des sources d'énergie dans son / son environnement (par exemple l'eau en mouvement, la réaction chimique dans une pile, la lumière du soleil)

STRAND	QC.1.	Material World

STANDARD	1.B.	Énergie
SUBSTRAND	1.B.3.	Transformation de l'énergie

COMPETENCY	1.B.3.a.	Décrit des situations dans lesquelles les êtres humains consomment de l'énergie (chauffage, transport, alimentation, loisirs)

COMPETENCY	1.B.3.d.	Décrit les transformations de l'énergie d'une forme à une autre

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces et mouvements
SUBSTRAND	1.C.2.	Magnétisme et électromagnétisme

COMPETENCY	1.C.2.b.	Identifier des situations dans lesquelles des aimants sont utilisés

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces et mouvements
SUBSTRAND	1.C.5.	Caractéristiques du mouvement

COMPETENCY	1.C.5.a.	Décrit les caractéristiques du mouvement (ex.: direction, vitesse)

STRAND	QC.1.	Material World
STANDARD	1.C.	Forces et mouvements
SUBSTRAND	1.C.6.	Effets d'une force sur la direction d'un objet
COMPETENCY	1.C.6.b.	Identifie des exemples d'une force (par exemple: tirer, pousser, lancer, comprimer, étirer)

STRAND	QC.1.	Material World
STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.1.	Tous les jours des objets techniques
COMPETENCY	1.D.1.a.	Décrit les pièces et des mécanismes qui composent un objet
COMPETENCY	1.D.1.b.	Identifie les besoins qu'un objet a été initialement conçus pour répondre aux

STRAND	QC.1.	Material World
STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.2.	Les machines simples
COMPETENCY	1.D.2.a.	Reconnaître des machines simples (levier, plan incliné, vis, poulie, treuil, roue) utilisées dans un objet (ex.: levier dans bascule, plan incliné pour une rampe d'accès)
COMPETENCY	1.D.2.b.	Décrit les utilisations de certaines machines simples (pour ajuster la force nécessaire)

STRAND	QC.1.	Material World
STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.4.	Fonctionnement d'objets fabriqués
COMPETENCY	1.D.4.a.	Identifier des pièces mécaniques (engrenages, cames, ressorts, machines simples, bielles)
COMPETENCY	1.D.4.b.	Reconnaît deux types de mouvement (rotation et translation)
COMPETENCY	1.D.4.c.	Décrire une séquence simple de pièces mécaniques en mouvement

STRAND	QC.1.	Material World
STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.7.	Electron technologie
COMPETENCY	1.D.7.a.	Reconnaître l'influence et l'impact des appareils électriques sur le mode de vie des gens et l'environnement (ex.: téléphone, radio, télévision, ordinateur)

STRAND	QC.1.	Material World
STANDARD	1.E.	Techniques et instrumentation
SUBSTRAND	1.E.2.	Utilisation de machines simples
COMPETENCY	1.E.2.a.	Utilise adéquatement des machines simples (levier, plan incliné, vis, poulie, treuil, roue)

STRAND	QC.1.	Material World
STANDARD	1.E.	Techniques et instrumentation
SUBSTRAND	1.E.3.	Utilisation d'outils

COMPETENCY	1.E.3.a.	Adéquatement et de façon sécuritaire des outils (pince, tournevis, marteau, clé, gabarit simple)

STRAND	QC.1.	Material World
STANDARD	1.E.	Techniques et instrumentation
SUBSTRAND	1.E.4.	Conception et fabrication d'instruments, outils, machines, des structures (ponts, par exemple, les tours), des dispositifs (dispositif de filtration de l'eau), des modèles (ex.: planeur) et des circuits simples

COMPETENCY	1.E.4.d.	Dessine et découpe des pièces à partir de matériaux divers en utilisant des outils appropriés
COMPETENCY	1.E.4.e.	Utilise des méthodes appropriées d'assemblage (p.ex. vis, colle, clous, punaises, noix)
COMPETENCY	1.E.4.f.	Utiliser les outils appropriés pour les travaux de finition correcte
COMPETENCY	1.E.4.g.	Utilise des machines simples, des mécanismes ou des composants électriques pour concevoir ou fabriquer un objet

STRAND	QC.1.	Material World
STANDARD	1.F.	Un langage appropri
SUBSTRAND	1.F.1.	Terminologie liée à la compréhension du monde matériel

COMPETENCY	1.F.1.a.	Utiliser adéquatement la terminologie liée à l'univers matériel
COMPETENCY	1.F.1.b.	Distinguer le sens d'un terme utilisé dans un contexte scientifique ou technologique et de sa signification dans le langage courant (par exemple la source, la matière, le corps, l'énergie, de la machine)

STRAND	QC.2.	Terre et Espace
STANDARD	2.B.	Énergie
SUBSTRAND	2.B.1.	Les sources d'énergie

COMPETENCY	2.B.1.b.	Identifier des sources d'énergie naturelles (soleil, l'eau en mouvement, le vent)

STRAND	QC.2.	Terre et Espace
STANDARD	2.B.	Énergie
SUBSTRAND	2.B.3.	Transformation de l'énergie

COMPETENCY	2.B.3.a.	Décrit ce que l'énergie renouvelable est
COMPETENCY	2.B.3.b.	Explique que la lumière du soleil, l'eau en mouvement et le vent sont des sources d'énergie renouvelables
COMPETENCY	2.B.3.c.	Décrit les méthodes inventées par les humains pour transformer des sources d'énergie renouvelables dans l'électricité (barrage hydroélectrique, éolienne, panneaux solaires)

STRAND	QC.2.	Terre et Espace

STANDARD	2.E.	Techniques et instrumentation
SUBSTRAND	2.E.3.	Conception et fabrication d'instruments de mesure et de prototypes

COMPETENCY	2.E.3.a.	Conçoit et fabrique des instruments de mesure et de prototypes

STRAND	QC.2.	Terre et Espace

STANDARD	2.F.	Un langage appropri
SUBSTRAND	2.F.1.	Terminologie liée à la compréhension de la Terre et l'univers

COMPETENCY	2.F.1.a.	Utiliser adéquatement la terminologie liée à la compréhension de la Terre et l'univers

COMPETENCY	2.F.1.b.	Distinguer le sens d'un terme utilisé dans un contexte scientifique ou technologique et de sa signification dans le langage courant (par exemple l'espace, de la révolution)

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STRAND	QC.1.	Material World

STANDARD	1.A.	Importance
SUBSTRAND	1.A.6.	Les produits ménagers courants

COMPETENCY	1.A.6.a.	Associer les usages de certains produits ménagers, avec leurs propriétés (par exemple produits de nettoyage enlever la graisse, le vinaigre et le jus de citron aident à préserver certains aliments)

STRAND	QC.1.	Material World

STANDARD	1.B.	Énergie
SUBSTRAND	1.B.1.	Les formes d'énergie

COMPETENCY	1.B.1.a.	Décrit différentes formes d'énergie (mécanique, électrique, lumineuse, chimique, thermique, sonore, nucléaire)

COMPETENCY	1.B.1.b.	Identifier des sources d'énergie dans son / son environnement (par exemple l'eau en mouvement, la réaction chimique dans une pile, la lumière du soleil)

STRAND	QC.1.	Material World

STANDARD	1.B.	Énergie
SUBSTRAND	1.B.3.	Transformation de l'énergie

COMPETENCY	1.B.3.a.	Décrit des situations dans lesquelles les êtres humains consomment de l'énergie (chauffage, transport, alimentation, loisirs)

COMPETENCY	1.B.3.d.	Décrit les transformations de l'énergie d'une forme à une autre

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces et mouvements

SUBSTRAND	1.C.2.	Magnétisme et électromagnétisme

COMPETENCY	1.C.2.b.	Identifier des situations dans lesquelles des aimants sont utilisés

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces et mouvements
SUBSTRAND	1.C.5.	Caractéristiques du mouvement

COMPETENCY	1.C.5.a.	Décrit les caractéristiques du mouvement (ex.: direction, vitesse)

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces et mouvements
SUBSTRAND	1.C.6.	Effets d'une force sur la direction d'un objet

COMPETENCY	1.C.6.b.	Identifie des exemples d'une force (par exemple: tirer, pousser, lancer, comprimer, étirer)

STRAND	QC.1.	Material World

STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.1.	Tous les jours des objets techniques

COMPETENCY	1.D.1.a.	Décrit les pièces et des mécanismes qui composent un objet

COMPETENCY	1.D.1.b.	Identifie les besoins qu'un objet a été initialement conçus pour répondre aux

STRAND	QC.1.	Material World

STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.2.	Les machines simples

COMPETENCY	1.D.2.a.	Reconnaître des machines simples (levier, plan incliné, vis, poulie, treuil, roue) utilisées dans un objet (ex.: levier dans bascule, plan incliné pour une rampe d'accès)

COMPETENCY	1.D.2.b.	Décrit les utilisations de certaines machines simples (pour ajuster la force nécessaire)

STRAND	QC.1.	Material World

STANDARD	1.D.	Systèmes et interaction
SUBSTRAND	1.D.4.	Fonctionnement d'objets fabriqués

COMPETENCY	1.D.4.a.	Identifier des pièces mécaniques (engrenages, cames, ressorts, machines simples, bielles)

COMPETENCY	1.D.4.b.	Reconnaît deux types de mouvement (rotation et translation)

COMPETENCY	1.D.4.c.	Décrire une séquence simple de pièces mécaniques en mouvement

STRAND	QC.1.	Material World

STANDARD	1.D.	Systèmes et interaction

SUBSTRAND	1.D.7.	**Électron technologie**
COMPETENCY	1.D.7.a.	Reconnaître l'influence et l'impact des appareils électriques sur le mode de vie des gens et l'environnement (ex.: téléphone, radio, télévision, ordinateur)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	**Techniques et instrumentation**
SUBSTRAND	1.E.2.	**Utilisation de machines simples**

COMPETENCY	1.E.2.a.	Utilise adéquatement des machines simples (levier, plan incliné, vis, poulie, treuil, roue)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	**Techniques et instrumentation**
SUBSTRAND	1.E.3.	**Utilisation d'outils**

COMPETENCY	1.E.3.a.	Adéquatement et de façon sécuritaire des outils (pince, tournevis, marteau, clé, gabarit simple)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	**Techniques et instrumentation**
SUBSTRAND	1.E.4.	**Conception et fabrication d'instruments, outils, machines, des structures (ponts, par exemple, les tours), des dispositifs (dispositif de filtration de l'eau), des modèles (ex.: planeur) et des circuits simples**

COMPETENCY	1.E.4.d.	Dessine et découpe des pièces à partir de matériaux divers en utilisant des outils appropriés
COMPETENCY	1.E.4.e.	Utilise des méthodes appropriées d'assemblage (p.ex. vis, colle, clous, punaises, noix)
COMPETENCY	1.E.4.f.	Utiliser les outils appropriés pour les travaux de finition correcte
COMPETENCY	1.E.4.g.	Utilise des machines simples, des mécanismes ou des composants électriques pour concevoir ou fabriquer un objet

STRAND   **QC.1.**   **Material World**

STANDARD	1.F.	**Un langage appropri**
SUBSTRAND	1.F.1.	**Terminologie liée à la compréhension du monde matériel**

COMPETENCY	1.F.1.a.	Utiliser adéquatement la terminologie liée à l'univers matériel
COMPETENCY	1.F.1.b.	Distinguer le sens d'un terme utilisé dans un contexte scientifique ou technologique et de sa signification dans le langage courant (par exemple la source, la matière, le corps, l'énergie, de la machine)

STRAND   **QC.2.**   **Terre et Espace**

STANDARD	2.B.	**Énergie**
SUBSTRAND	2.B.1.	**Les sources d'énergie**

COMPETENCY	2.B.1.b.	Identifier des sources d'énergie naturelles (soleil, l'eau en mouvement, le vent)

STRAND	QC.2.	Terre et Espace

STANDARD	2.B.	Énergie
SUBSTRAND	2.B.3.	Transformation de l'énergie

COMPETENCY	2.B.3.a.	Décrit ce que l'énergie renouvelable est

COMPETENCY	2.B.3.b.	Explique que la lumière du soleil, l'eau en mouvement et le vent sont des sources d'énergie renouvelables

COMPETENCY	2.B.3.c.	Décrit les méthodes inventées par les humains pour transformer des sources d'énergie renouvelables dans l'électricité (barrage hydroélectrique, éolienne, panneaux solaires)

STRAND	QC.2.	Terre et Espace

STANDARD	2.E.	Techniques et instrumentation
SUBSTRAND	2.E.3.	Conception et fabrication d'instruments de mesure et de prototypes

COMPETENCY	2.E.3.a.	Conçoit et fabrique des instruments de mesure et de prototypes

STRAND	QC.2.	Terre et Espace

STANDARD	2.F.	Un langage appropri
SUBSTRAND	2.F.1.	Terminologie liée à la compréhension de la Terre et l'univers

COMPETENCY	2.F.1.a.	Utiliser adéquatement la terminologie liée à la compréhension de la Terre et l'univers

COMPETENCY	2.F.1.b.	Distinguer le sens d'un terme utilisé dans un contexte scientifique ou technologique et de sa signification dans le langage courant (par exemple l'espace, de la révolution)

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Mathematics
Grade **3** - Adopted: **2009**

STRAND	QC.1.	Arithmetic: Understanding and writing numbers

STANDARD	1.C.	Decimals up to hundredths
SUBSTRAND	1.C.11.	Matches

COMPETENCY	1.C.11.a.	A fraction to its decimal

STRAND	QC.3.	Arithmetic: Operations involving numbers

STANDARD	3.A.	Natural numbers (based on the benchmarks for each cycle)
SUBSTRAND	3.A.4.	Develops processes for written computation (addition and subtraction)

COMPETENCY	3.A.4.c.	Uses conventional processes to determine the difference between two natural numbers of up to four digits whose result is greater than 0

STRAND	QC.6.	Statistics

STANDARD	6.2.	Collects, describes and organizes data (classifies or categorizes) using tables

Québec Education Program Progression of Learning

STRAND	QC.1.	**Arithmetic: Understanding and writing numbers**

STANDARD	1.B.	**Fractions (using objects or drawings)**

SUBSTRAND	1.B.9.	Matches a decimal or percentage to a fraction

STRAND	QC.1.	**Arithmetic: Understanding and writing numbers**

STANDARD	1.C.	**Decimals up to hundredths**

SUBSTRAND	1.C.11.	**Matches**

COMPETENCY	1.C.11.a.	A fraction to its decimal

STRAND	QC.6.	**Statistics**

STANDARD	6.2.	Collects, describes and organizes data (classifies or categorizes) using tables

STRAND	QC.1.	**Material World**

STANDARD	1.A.	**Matter**

SUBSTRAND	1.A.6.	**Common household products**

COMPETENCY	1.A.6.a.	Associates the uses of certain household products with their properties (e.g. cleaning products remove grease, vinegar and lemon juice help preserve certain foods)

STRAND	QC.1.	**Material World**

STANDARD	1.B.	**Energy**

SUBSTRAND	1.B.1.	**Forms of energy**

COMPETENCY	1.B.1.a.	Describes different forms of energy (mechanical, electrical, light, chemical, heat, sound, nuclear)

COMPETENCY	1.B.1.b.	Identifies sources of energy in his/her environment (e.g. moving water, chemical reaction in a battery, sunlight)

STRAND	QC.1.	**Material World**

STANDARD	1.B.	**Energy**

SUBSTRAND	1.B.3.	**Transformation of energy**

COMPETENCY	1.B.3.a.	Describes situations in which human beings consume energy (e.g. heating, transportation, food consumption, recreation)

COMPETENCY	1.B.3.d.	Describes the transformations of energy from one form to another

STRAND	QC.1.	**Material World**

STANDARD	1.C.	**Forces and motion**

SUBSTRAND	1.C.2.	Magnetism and electromagnetism

COMPETENCY	1.C.2.b.	Identifies situations in which magnets are used

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces and motion
SUBSTRAND	1.C.5.	Characteristics of motion

COMPETENCY	1.C.5.a.	Describes the characteristics of motion (e.g. direction, speed)

STRAND	QC.1.	Material World

STANDARD	1.C.	Forces and motion
SUBSTRAND	1.C.6.	Effects of a force on the direction of an object

COMPETENCY	1.C.6.b.	Identifies examples of a force (e.g. pulling, pushing, throwing, squeezing, stretching)

STRAND	QC.1.	Material World

STANDARD	1.D.	Systems and interaction
SUBSTRAND	1.D.1.	Everyday technical objects

COMPETENCY	1.D.1.a.	Describes the parts and mechanisms that make up an object

COMPETENCY	1.D.1.b.	Identifies the needs that an object was originally designed to meet

STRAND	QC.1.	Material World

STANDARD	1.D.	Systems and interaction
SUBSTRAND	1.D.2.	Simple machines

COMPETENCY	1.D.2.a.	Recognizes simple machines (lever, inclined plane, screw, pulley, winch, wheel) used in an object (e.g. lever in seesaw, inclined plane for an access ramp)

COMPETENCY	1.D.2.b.	Describes the uses of certain simple machines (to adjust the force required)

STRAND	QC.1.	Material World

STANDARD	1.D.	Systems and interaction
SUBSTRAND	1.D.4.	How manufactured objects work

COMPETENCY	1.D.4.a.	Identifies the mechanical parts (e.g. gears, cams, springs, simple machines, connecting rods)

COMPETENCY	1.D.4.b.	Recognizes two types of motion (rotation and translation)

COMPETENCY	1.D.4.c.	Describes a simple sequence of mechanical parts in motion

STRAND	QC.1.	Material World

STANDARD	1.D.	Systems and interaction

SUBSTRAND	1.D.7.	Electron technology

COMPETENCY	1.D.7.a.	Recognizes the influence and the impact of electric appliances on people's way of life and surroundings (e.g. telephone, radio, television, computer)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.2.	Use of simple machines

COMPETENCY	1.E.2.a.	Appropriately uses simple machines (lever, inclined plane, screw, pulley, winch, wheel)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.3.	Use of tools

COMPETENCY	1.E.3.a.	Appropriately and safely uses tools (e.g. pliers, screwdriver, hammer, wrench, simple template)

STRAND   **QC.1.**   **Material World**

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.4.	Design and manufacture of instruments, tools, machines, structures (e.g. bridges, towers), devices (e.g. water filtration device), models (e.g. glider) and simple circuits

COMPETENCY	1.E.4.d.	Draws and cuts parts out of various materials using appropriate tools
COMPETENCY	1.E.4.e.	Uses appropriate assembling methods (e.g. screws, glue, nails, tacks, nuts)
COMPETENCY	1.E.4.f.	Uses appropriate tools for proper finishing work
COMPETENCY	1.E.4.g.	Uses simple machines, mechanisms or electrical components to design or make an object

STRAND   **QC.1.**   **Material World**

STANDARD	1.F.	Appropriate language
SUBSTRAND	1.F.1.	Terminology related to an understanding of the material world

COMPETENCY	1.F.1.a.	Appropriately uses terminology related to the material world
COMPETENCY	1.F.1.b.	Distinguishes between the meaning of a term used in a scientific or technological context and its meaning in everyday language (e.g. source, matter, body, energy, machine)

STRAND   **QC.2.**   **Earth and Space**

STANDARD	2.B.	Energy
SUBSTRAND	2.B.1.	Sources of energy

COMPETENCY	2.B.1.b.	Identifies natural sources of energy (sun, moving water, wind)

STRAND   **QC.2.**   **Earth and Space**

STANDARD	2.B.	Energy
SUBSTRAND	2.B.3.	Transformation of energy

COMPETENCY	2.B.3.a.	Describes what renewable energy is
COMPETENCY	2.B.3.b.	Explains that sunlight, moving water and wind are renewable sources of energy
COMPETENCY	2.B.3.c.	Describes the methods invented by humans to transform renewable sources of energy into electricity (hydroelectric dam, wind turbine, solar panels)

STRAND	QC.2.	Earth and Space

STANDARD	2.E.	Techniques and instrumentation
SUBSTRAND	2.E.3.	Design and manufacture of measuring instruments and prototypes

COMPETENCY	2.E.3.a.	Designs and manufactures measuring instruments and prototypes

STRAND	QC.2.	Earth and Space

STANDARD	2.F.	Appropriate language
SUBSTRAND	2.F.1.	Terminology related to an understanding of the Earth and the universe

COMPETENCY	2.F.1.a.	Appropriately uses terminology related to an understanding of the Earth and the universe
COMPETENCY	2.F.1.b.	Distinguishes between the meaning of a term used in a scientific or technological context and its meaning in everyday language (e.g. space, revolution)

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STRAND	QC.1.	Material World

STANDARD	1.A.	Matter
SUBSTRAND	1.A.6.	Common household products

COMPETENCY	1.A.6.a.	Associates the uses of certain household products with their properties (e.g. cleaning products remove grease, vinegar and lemon juice help preserve certain foods)

STRAND	QC.1.	Material World

STANDARD	1.B.	Energy
SUBSTRAND	1.B.1.	Forms of energy

COMPETENCY	1.B.1.a.	Describes different forms of energy (mechanical, electrical, light, chemical, heat, sound, nuclear)
COMPETENCY	1.B.1.b.	Identifies sources of energy in his/her environment (e.g. moving water, chemical reaction in a battery, sunlight)

STRAND	QC.1.	Material World

STANDARD	1.B.	Energy
SUBSTRAND	1.B.3.	Transformation of energy

COMPETENCY	1.B.3.a.	Describes situations in which human beings consume energy (e.g. heating, transportation, food consumption, recreation)
COMPETENCY	1.B.3.d.	Describes the transformations of energy from one form to another

STRAND	**QC.1.**	**Material World**
STANDARD	**1.C.**	**Forces and motion**
SUBSTRAND	**1.C.2.**	**Magnetism and electromagnetism**
COMPETENCY	1.C.2.b.	Identifies situations in which magnets are used

STRAND	**QC.1.**	**Material World**
STANDARD	**1.C.**	**Forces and motion**
SUBSTRAND	**1.C.5.**	**Characteristics of motion**
COMPETENCY	1.C.5.a.	Describes the characteristics of motion (e.g. direction, speed)

STRAND	**QC.1.**	**Material World**
STANDARD	**1.C.**	**Forces and motion**
SUBSTRAND	**1.C.6.**	**Effects of a force on the direction of an object**
COMPETENCY	1.C.6.b.	Identifies examples of a force (e.g. pulling, pushing, throwing, squeezing, stretching)

STRAND	**QC.1.**	**Material World**
STANDARD	**1.D.**	**Systems and interaction**
SUBSTRAND	**1.D.1.**	**Everyday technical objects**
COMPETENCY	1.D.1.a.	Describes the parts and mechanisms that make up an object
COMPETENCY	1.D.1.b.	Identifies the needs that an object was originally designed to meet

STRAND	**QC.1.**	**Material World**
STANDARD	**1.D.**	**Systems and interaction**
SUBSTRAND	**1.D.2.**	**Simple machines**
COMPETENCY	1.D.2.a.	Recognizes simple machines (lever, inclined plane, screw, pulley, winch, wheel) used in an object (e.g. lever in seesaw, inclined plane for an access ramp)
COMPETENCY	1.D.2.b.	Describes the uses of certain simple machines (to adjust the force required)

STRAND	**QC.1.**	**Material World**
STANDARD	**1.D.**	**Systems and interaction**
SUBSTRAND	**1.D.4.**	**How manufactured objects work**
COMPETENCY	1.D.4.a.	Identifies the mechanical parts (e.g. gears, cams, springs, simple machines, connecting rods)

COMPETENCY	1.D.4.b.	Recognizes two types of motion (rotation and translation)

COMPETENCY	1.D.4.c.	Describes a simple sequence of mechanical parts in motion

STRAND	QC.1.	Material World

STANDARD	1.D.	Systems and interaction
SUBSTRAND	1.D.7.	Electron technology

COMPETENCY	1.D.7.a.	Recognizes the influence and the impact of electric appliances on people's way of life and surroundings (e.g. telephone, radio, television, computer)

STRAND	QC.1.	Material World

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.2.	Use of simple machines

COMPETENCY	1.E.2.a.	Appropriately uses simple machines (lever, inclined plane, screw, pulley, winch, wheel)

STRAND	QC.1.	Material World

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.3.	Use of tools

COMPETENCY	1.E.3.a.	Appropriately and safely uses tools (e.g. pliers, screwdriver, hammer, wrench, simple template)

STRAND	QC.1.	Material World

STANDARD	1.E.	Techniques and instrumentation
SUBSTRAND	1.E.4.	Design and manufacture of instruments, tools, machines, structures (e.g. bridges, towers), devices (e.g. water filtration device), models (e.g. glider) and simple circuits

COMPETENCY	1.E.4.d.	Draws and cuts parts out of various materials using appropriate tools

COMPETENCY	1.E.4.e.	Uses appropriate assembling methods (e.g. screws, glue, nails, tacks, nuts)

COMPETENCY	1.E.4.f.	Uses appropriate tools for proper finishing work

COMPETENCY	1.E.4.g.	Uses simple machines, mechanisms or electrical components to design or make an object

STRAND	QC.1.	Material World

STANDARD	1.F.	Appropriate language
SUBSTRAND	1.F.1.	Terminology related to an understanding of the material world

COMPETENCY	1.F.1.a.	Appropriately uses terminology related to the material world

COMPETENCY	1.F.1.b.	Distinguishes between the meaning of a term used in a scientific or technological context and its meaning in everyday language (e.g. source, matter, body, energy, machine)

STRAND	QC.2.	Earth and Space

STANDARD	2.B.	Energy
SUBSTRAND	2.B.1.	Sources of energy

COMPETENCY	2.B.1.b.	Identifies natural sources of energy (sun, moving water, wind)

STRAND	QC.2.	Earth and Space

STANDARD	2.B.	Energy
SUBSTRAND	2.B.3.	Transformation of energy

COMPETENCY	2.B.3.a.	Describes what renewable energy is
COMPETENCY	2.B.3.b.	Explains that sunlight, moving water and wind are renewable sources of energy
COMPETENCY	2.B.3.c.	Describes the methods invented by humans to transform renewable sources of energy into electricity (hydroelectric dam, wind turbine, solar panels)

STRAND	QC.2.	Earth and Space

STANDARD	2.E.	Techniques and instrumentation
SUBSTRAND	2.E.3.	Design and manufacture of measuring instruments and prototypes

COMPETENCY	2.E.3.a.	Designs and manufactures measuring instruments and prototypes

STRAND	QC.2.	Earth and Space

STANDARD	2.F.	Appropriate language
SUBSTRAND	2.F.1.	Terminology related to an understanding of the Earth and the universe

COMPETENCY	2.F.1.a.	Appropriately uses terminology related to an understanding of the Earth and the universe
COMPETENCY	2.F.1.b.	Distinguishes between the meaning of a term used in a scientific or technological context and its meaning in everyday language (e.g. space, revolution)

Saskatchewan Curriculum
Mathematics
Grade **3** - Adopted: **2009**

OUTCOME / COURSE	SK.N3.	Number

FOCUS	N3.2.	Demonstrate understanding of addition of whole numbers with answers to 1000 and their corresponding subtractions (limited to 1, 2, and 3-digit numerals) including: representing strategies for adding and subtracting concretely, pictorially, and symbolically; solving situational questions involving addition and subtraction; estimating using personal strategies for adding and subtracting. [CN, ME, PS, R, V]
OUTCOME	N3.2.c.	Observe and generalize personal strategies for subtracting 2-digit quantities (given concrete materials, pictures, and symbolic decompositions).
OUTCOME	N3.2.d.	Apply and explain personal mental mathematics strategies to determine the sums and differences of two-digit quantities.
OUTCOME	N3.2.j.	Transfer knowledge of the basic addition facts up to 18 and the related subtraction facts to determine the sums and differences of quantities less than 1000.

OUTCOME / COURSE	SK.SP3.	Statistics and Probability
FOCUS	SP3.1.	Demonstrate understanding of first-hand data using tally marks, charts, lists, bar graphs, and line plots (abstract pictographs), through: collecting, organizing, and representing; solving situational questions.[C, CN, PS, R, V]
OUTCOME	SP3.1.b.	Analyze a set of line plots to determine the common attributes of line plots.
OUTCOME	SP3.1.e.	Answer questions related to the data presented in a bar graph or line plots.
OUTCOME	SP3.1.g.	Pose and solve situational questions related to self, family, or community by collecting and organizing data, representing the data using a bar graph or line plot, and interpreting the data display.
OUTCOME	SP3.1.h.	Analyze interpretations of bar graphs or line plots and explain whether or not the interpretation is valid based on the data display.
OUTCOME	SP3.1.i.	Examine how various cultures past and present, including First Nations and Métis, collect, represent, and use first-hand data.

Saskatchewan Curriculum
Mathematics
Grade **4** - Adopted: **2007**

OUTCOME / COURSE	SK.N4.	Number Strand
FOCUS	N4.2.	Demonstrate an understanding of addition of whole numbers with answers to 10 000 and their corresponding subtractions (limited to 3 and 4-digit numerals) by: using personal strategies for adding and subtracting, estimating sums and differences, solving problems involving addition and subtraction. [C, CN, ME, PS, R]
OUTCOME	N4.2.a.	Explain how to keep track of digits that have the same place value when adding or subtracting numbers.

OUTCOME / COURSE	SK.N4.	Number Strand
FOCUS	N4.7.	Demonstrate an understanding of decimal numbers in tenths and hundredths (pictorially, orally, in writing, and symbolically) by: describing, representing, relating to fractions. [C, CN, V]
OUTCOME	N4.7.h.	Read and write decimals as fractions (e.g., 0.5 is zero and five tenths).
OUTCOME	N4.7.i.	Express orally and in symbolic form a decimal in fractional form.
OUTCOME	N4.7.j.	Express orally and in symbolic form a fraction with a denominator of 10 or 100 as a decimal.
OUTCOME	N4.7.k.	Express a pictorial or concrete representation as a fraction or decimal (e.g., 15 shaded squares on a hundred grid can be expressed as 0.15 or 15/100).
OUTCOME	N4.7.l.	Express orally and in symbolic form the decimal equivalent for a fraction (e.g., 50/100 can be expressed as 0.50).

OUTCOME / COURSE	SK.SP4.	Statistics and Probability Strand
FOCUS	SP4.1.	Demonstrate an understanding of many-to-one correspondence by: comparing correspondences on graphs, justifying the use of many-to-one correspondences, interpreting data shown using a many-to-one correspondence, creating bar graphs and pictographs using many-to-one correspondence. [C, R, T, V]

OUTCOME	SP4.1.e.	Select many-to-one correspondence for displaying a set of data in a graph and justify the choice.
OUTCOME	SP4.1.h.	Answer a question using a graph in which data are displayed using a many-to-one correspondence.

Saskatchewan Curriculum
Science
Grade **3** - Adopted: **2011**

OUTCOME / COURSE	SK.SM.	Physical Science: Structures and Materials (SM)
FOCUS	SM3.1.	Investigate properties of materials and methods of joinery used in structures. [CP, TPS]
OUTCOME	SM3.1.a.	Identify problems to be solved relating to the properties of materials in structures (e.g., What is the purpose of the structure? What materials are appropriate for constructing the structure? What are appropriate methods of joinery?).
OUTCOME	SM3.1.e.	Analyze how various similar and dissimilar materials can be joined (e.g., gluing, nailing, screwing, stapling, taping, Velcroing and tying) and identify the most appropriate methods for joining specific materials for an identified use.
OUTCOME	SM3.1.f.	Use appropriate tools (e.g., hammer, nail, glue, and scissors) to cut, shape, make holes, sew, and assemble materials safely.
OUTCOME	SM3.1.h.	Assess the suitability of various materials for constructing structures, including methods of strengthening those materials (e.g., adding more layers, tying or gluing together, triangulation, cross-bracing, and changing the shape of the materials).
OUTCOME	SM3.1.i.	Examine the suitability of using recycled materials to construct structures (e.g., tires as highway surfacing, and reclaimed lumber or straw bales for houses).

OUTCOME / COURSE	SK.SM.	Physical Science: Structures and Materials (SM)
FOCUS	SM3.2.	Assess the function and characteristics of strong, stable, and balanced natural and human-built structures. [CP, TPS]
OUTCOME	SM3.2.j.	Estimate measurements to select appropriate quantities of required materials for constructing a structure.
OUTCOME	SM3.2.k.	Follow safety procedures and rules while constructing structures and explain the need for such procedures and rules.
OUTCOME	SM3.2.m.	Assess the strength, stability, and balance of personally- constructed structures and make changes to improve the structure as deemed necessary.
OUTCOME	SM3.2.n.	Identify materials or parts of a structure that failed and hypothesize why they failed.

The 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

The 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

The 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
SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.5.	communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes

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

SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.2.	identify and describe impacts of coding and of emerging technologies on everyday life

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

SUB-ORGANIZER / SPECIFIC EXPECTATION	A3.2.	investigate how science and technology can be used with other subject areas to address real-world problems

The 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

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

SUB-ORGANIZER / SPECIFIC EXPECTATION	A1.5.	communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes

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	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
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
SUB-ORGANIZER / SPECIFIC EXPECTATION	A2.2.	identify and describe impacts of coding and of emerging technologies on everyday life, including skilled trades

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	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	A3.2.	investigate how science and technology can be used with other subject areas to address real-world problems

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	D1.	Relating Science and Technology to Our Changing World: evaluate the impacts of various machines and their mechanisms on society and the environment
SUB-ORGANIZER / SPECIFIC EXPECTATION	D1.1.	assess the impacts of machines and their mechanisms on the daily lives of people in various communities
SUB-ORGANIZER / SPECIFIC EXPECTATION	D1.2.	assess and compare the environmental impacts of using different machines designed for similar purposes

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

SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.2.	identify the parts of various mechanisms and describe the purpose of each part
SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.3.	describe how different mechanisms transmit various types of motion, including rotary motion, from one system to another
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
SUB-ORGANIZER / SPECIFIC EXPECTATION	D2.5.	explain how forces are changed in a variety of machines