



Ontario Mathematical Process Expectations & Essential Skills Math Software

This document outlines the correlations between the Grade 3 Ontario Mathematical Process Expectations and the Essential Skills math programs. The specific Ontario Mathematical Process Expectations are noted on the left and are matched with the relevant Essential Skills program on the right. Where correlations are not exact, the difference is noted in brackets. Essential Skills programs correlate with 94% of the Grade 3 Ontario Mathematical Process Expectations.

| 1. Number Sense and Numeration | |
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| Ontario Mathematical Process Expectations | Essential Skills Software CORRELATING PROGRAMS |
| Quantity Relationships | |
| represent, compare, and order whole numbers to 1000, using a variety of tools | Mastering Numeration 3 |
| read and print in words whole numbers to one hundred, using meaningful contexts | Mastering Numeration 3 Problem Solving 2-3 |
| identify and represent the value of a digit in a number according to its position in the number | Mastering Numeration 3 |
| compose and decompose three-digit numbers into hundreds, tens, and ones in a variety of ways, using concrete materials | |
| round two-digit numbers to the nearest ten, in problems arising from real-life situations | Problem Solving 3-4 (to 10, 100, 1000) |
| represent and explain, using concrete materials, the relationship among the numbers 1, 10, 100, and 1000 | Mastering Numeration 3 |
| divide whole objects and sets of objects into equal parts, and identify the parts using fractional names, without using numbers in standard fractional notation | Mastering Numeration 3 Problem Solving 2-3 Problem Solving 3-4 |
| represent and describe the relationships between coins and bills up to \$10 | Mastering Numeration 3 Problem Solving 2-3 |
| estimate, count, and represent the value of a collection of coins and bills with a maximum value of \$10 | |

| 1. Number Sense and Numeration | |
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| solve problems that arise from real-life situations and that relate to the magnitude of whole numbers up to 1000 | Problem Solving 2-3 Problem Solving 3-4 |
| Counting | |
| count forward by 1's, 2's, 5's, 10's, and 100's to 1000 from various starting points, and by 25's to 1000 starting from multiples of 25, using a variety of tools and strategies | Mastering Numeration 3 |
| count backwards by 2's, 5's, and 10's from 100 using multiples of 2, 5, and 10 as starting points, and count backwards by 100's from 1000 and any number less than 1000, using a variety of tools and strategies | |
| Operational Sense | |
| solve problems involving the addition and subtraction of two-digit numbers, using a variety of mental strategies | Mastering Numeration 3 Problem Solving 2-3 |
| add and subtract three-digit numbers, using concrete materials, student-generated algorithms, and standard algorithms | Mastering Numeration 3 Problem Solving 2-3 Problem Solving 3-4 |
| use estimation when solving problems involving addition and subtraction, to help judge the reasonableness of a solution | |
| add and subtract money amounts, using a variety of tools, to make simulated purchases and change for amounts up to \$10 | Mastering Numeration 3 Problem Solving 2-3 |
| relate multiplication of one-digit numbers and division by one-digit divisors to real-life situations, using a variety of tools and strategies | Problem Solving 2-3 (to 7×7) Problem Solving 3-4 (to 9×9) |
| multiply to 7×7 and divide to $49 \div 7$, using a variety of mental strategies | Mastering Numeration 3 Problem Solving 2-3 |

| 2. Measurement | |
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| Ontario Mathematical Process Expectations | Essential Skills Software CORRELATING PROGRAMS |
| Attributes, Units, and Measurement Sense | |
| estimate, measure, and record length, height, and distance, using standard units | Measurement 3 Problem Solving 2-3 Problem Solving 3-4 |
| draw items using a ruler, given specific lengths in centimetres | |
| read time using analogue clocks, to the nearest five minutes, and using digital clocks, and represent time in 12-hour notation | Measurement 3 |
| estimate, read, and record positive temperatures to the nearest degree Celsius | Measurement 3 Problem Solving 2-3 Problem Solving 3-4 |
| identify benchmarks for freezing, cold, cool, warm, hot, and boiling temperatures as they relate to water and for cold, cool, warm, and hot temperatures as they relate to air | Measurement 3 |
| estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units | Measurement 3 Problem Solving 2-3 Problem Solving 3-4 |
| estimate, measure, and record area | |
| choose benchmarks for a kilogram and a litre to help them perform measurement tasks | |
| estimate, measure, and record the mass of objects, using the standard unit of the kilogram or parts of a kilogram | Measurement 3 |
| estimate, measure, and record the capacity of containers, using the standard unit of the litre or parts of a litre | |

| 2. Measurement | |
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| Measurement Relationships | |
| compare standard units of length, and select and justify the most appropriate standard unit to measure length | Measurement 3 Problem Solving 2-3 Problem Solving 3-4 |
| compare and order objects on the basis of linear measurements in centimetres and/or metres in problem-solving contexts | |
| compare and order various shapes by area, using congruent shapes and grid paper for measuring | Measurement 3 |
| describe, through investigation using grid paper, the relationship between the size of a unit of area and the number of units needed to cover a surface | |
| compare and order a collection of objects, using standard units of mass and/or capacity | |
| solve problems involving the relationships between minutes and hours, hours and days, days and weeks, and weeks and years, using a variety of tools | Measurement 3 Problem Solving 2-3 Problem Solving 3-4 |

| 3. Geometry and Spatial Sense | |
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| Ontario Mathematical Process Expectations | Essential Skills Software CORRELATING PROGRAMS |
| Geometric Properties | |
| use a reference tool to identify right angles and to describe angles as greater than, equal to, or less than a right angle | Problem Solving 3-4 |
| identify and compare various polygons and sort them by their geometric properties | Patterning, Geometry & Data Management 3 Problem Solving 2-3 Problem Solving 3-4 |
| compare various angles, using concrete materials and pictorial representations, and describe angles as bigger than, smaller than, or about the same as other angles | Problem Solving 3-4 |
| compare and sort prisms and pyramids by geometric properties, using concrete materials | Patterning, Geometry & Data Management 3 |
| construct rectangular prisms, and describe geometric properties of the prisms | Problem Solving 2-3 Problem Solving 3-4 |
| Geometric Relationships | |
| solve problems requiring the greatest or least number of two-dimensional shapes needed to compose a larger shape in a variety of ways | Patterning, Geometry & Data Management 3 Problem Solving 2-3 Problem Solving 3-4 |
| explain the relationships between different types of quadrilaterals | Patterning, Geometry & Data Management 3 Problem Solving 3-4 |
| identify and describe the two-dimensional shapes that can be found in a threedimensional figure | Patterning, Geometry & Data Management 3 |
| describe and name prisms and pyramids by the shape of their base | Problem Solving 2-3 Problem Solving 3-4 |
| identify congruent two-dimensional shapes by manipulating and matching concrete materials | Patterning, Geometry & Data Management 3 |

| 3. Geometry and Spatial Sense | |
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| Location and Movement | |
| describe movement from one location to another using a grid map | Patterning, Geometry & Data Management 3 Problem Solving 2-3 Problem Solving 3-4 |
| identify flips, slides, and turns, through investigation using concrete materials and physical motion, and name flips, slides, and turns as reflections, translations, and rotations | |
| complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry | Patterning, Geometry & Data Management 3 |

| 4. Patterning and Algebra | |
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| Ontario Mathematical Process Expectations | Essential Skills Software CORRELATING PROGRAMS |
| Patterns and Relationships | |
| identify, extend, and create a repeating pattern involving two attributes, using a variety of tools | Patterning, Geometry & Data Management 3 Problem Solving 2-3 Problem Solving 3-4 |
| identify and describe, through investigation, number patterns involving addition, subtraction, and multiplication, represented on a number line, on a calendar, and on a hundreds chart | |
| extend repeating, growing, and shrinking number patterns | |
| create a number pattern involving addition or subtraction, given a pattern represented on a number line or a pattern rule expressed in words | |
| represent simple geometric patterns using a number sequence, a number line, or a bar graph | |
| demonstrate, through investigation, an understanding that a pattern results from repeating an action, repeating an operation, using a transformation, or making some other repeated change to an attribute | |
| Expressions and Equality | |
| determine, through investigation, the inverse relationship between addition and subtraction | Problem Solving 3-4 |
| determine, the missing number in equations involving addition and subtraction of one- and two-digit numbers, using a variety of tools and strategies | Problem Solving 2-3 Problem Solving 3-4 |
| identify, through investigation, the properties of zero and one in multiplication | |
| identify, through investigation, and use the associative property of addition to facilitate computation with whole numbers | Problem Solving 3-4 |

| 5. Data Management and Probability | |
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| Ontario Mathematical Process Expectations | Essential Skills Software CORRELATING PROGRAMS |
| Collection and Organization of Data | |
| demonstrate an ability to organize objects into categories, by sorting and classifying objects using two or more attributes simultaneously | Patterning, Geometry & Data Management 3 Problem Solving 2-3 |
| collect data by conducting a simple survey about themselves, their environment, issues in their school or community, or content from another subject | Patterning, Geometry & Data Management 3 Problem Solving 3-4 |
| collect and organize categorical or discrete primary data and display the data in charts, tables, and graphs, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence | Patterning, Geometry & Data Management 3 |
| Data Relationships | |
| read primary data presented in charts, tables, and graphs, then describe the data using comparative language, and describe the shape of the data | Patterning, Geometry & Data Management 3 Problem Solving 2-3 |
| interpret and draw conclusions from data presented in charts, tables, and graphs | Problem Solving 3-4 |
| demonstrate an understanding of mode, and identify the mode in a set of data | |
| Probability | |
| predict the frequency of an outcome in a simple probability experiment or game, then perform the experiment, and compare the results with the predictions, using mathematical language | Patterning, Geometry & Data Management 3 Problem Solving 2-3 |
| demonstrate, through investigation, an understanding of fairness in a game and relate this to the occurrence of equally likely outcomes | Problem Solving 3-4 |