Mathematics Correlation - Grade 2

Ontario Mathematical Process Expectations & Essential Skills Math Software

This document outlines the correlations between the Grade 2 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 89% of the Grade 2 Ontario Mathematical Process Expectations.**

1. Number Sense and Numeration	
Ontario Mathematical Process Expectations	**Essential Skills Software CORRELATING PROGRAMS**
Quantity Relationships	
represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools	**Mastering Numeration 2**
read and print in words whole numbers to twenty, using meaningful contexts	
compose and decompose two-digit numbers in a variety of ways, using concrete materials	
determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer	
determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts	
regroup fractional parts into wholes, using concrete materials	
compare fractions using concrete materials, without using standard fractional notation	
estimate, count, and represent the value of a collection of coins with a maximum value of one dollar	

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1. Number Sense and Numeration	
Counting	
count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10	**Mastering Numeration 2** (to 100)
count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts	**Mastering Numeration 2** (by 1s from 20)
locate whole numbers to 100 on a number line and on a partial number line	**Mastering Numeration 3**
Operational Sense	
solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies	**Mastering Numeration 2**
describe relationships between quantities by using whole-number addition and subtraction	**Mastering Numeration 2** **Problem Solving 2-3**
represent and explain, through investigation using concrete materials and drawings, multiplication as the combining of equal groups	**Mastering Numeration 2**
represent and explain, through investigation using concrete materials and drawings, division as the sharing of a quantity equally	
solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials, student-generated algorithms, and standard algorithms	**Mastering Numeration 2** **Problem Solving 2-3**
add and subtract money amounts to 100¢, using a variety of tools and strategies	**Mastering Numeration 2**

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2. Measurement	
Ontario Mathematical Process Expectations	**Essential Skills Software CORRELATING PROGRAMS**
Attributes, Units, and Measurement Sense	
choose benchmarks – in this case, personal referents – for a centimetre and a metre to help them perform measurement tasks	**Measurement 2** **Problem Solving 2-3**
estimate and measure length, height, and distance, using standard units and non-standard units	
record and represent measurements of length, height, and distance in a variety of ways	
select and justify the choice of a standard unit or a nonstandard unit to measure length	
estimate, measure, and record the distance around objects, using non-standard units	
estimate, measure, and record area, through investigation using a variety of non-standard units	
estimate, measure, and record the capacity and/or mass of an object, using a variety of non-standard units	**Measurement 2**
tell and write time to the quarter-hour, using demonstration digital and analogue clocks	
construct tools for measuring time intervals in non-standard units	
describe how changes in temperature affect everyday experiences	**Measurement 2**
use a standard thermometer to determine whether temperature is rising or falling	**Measurement 2** **Problem Solving 2-3**
Measurement Relationships	
describe, through investigation, the relationship between the size of a unit of area and the number of units needed to cover a surface	**Measurement 2**

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2. Measurement	
compare and order a collection of objects by mass and/or capacity, using non-standard units	**Measurement 2** **Problem Solving 2-3**
determine, through investigation, the relationship between days and weeks and between months and years	**Measurement 2** **Problem Solving 2-3**

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3. Geometry and Spatial Sense	
Ontario Mathematical Process Expectations	**Essential Skills Software CORRELATING PROGRAMS**
Geometric Properties	
distinguish between the attributes of an object that are geometric properties and the attributes that are not geometric properties, using a variety of tools	
identify and describe various polygons and sort and classify them by their geometric properties, using concrete materials and pictorial representations	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
identify and describe various threedimensional figures and sort and classify them by their geometric properties, using concrete materials	
create models and skeletons of prisms and pyramids, using concrete materials, and describe their geometric properties	
locate the line of symmetry in a twodimensional shape	**Patterning, Geometry & Data Management 2**
Geometric Relationships	
compose and describe pictures, designs, and patterns by combining two-dimensional shapes	**Problem Solving 2-3**
compose and decompose two-dimensional shapes	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
cover an outline puzzle with twodimensional shapes in more than one way	**Problem Solving 2-3**
build a structure using three-dimensional figures, and describe the two-dimensional shapes and three-dimensional figures in the structure	
Location and Movement	
describe the relative locations and the movements of objects on a map	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**

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3. Geometry and Spatial Sense	
draw simple maps of familiar settings, and describe the relative locations of objects on the maps	
create and describe symmetrical designs using a variety of tools	**Patterning, Geometry & Data Management 2**

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4. Patterning and Algebra	
Ontario Mathematical Process Expectations	**Essential Skills Software CORRELATING PROGRAMS**
Patterns and Relationships	
identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators	
identify repeating, growing, and shrinking patterns found in real-life contexts	**Problem Solving 2-3**
represent a given growing or shrinking pattern in a variety of ways	**Patterning, Geometry & Data Management 2**
create growing or shrinking patterns	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
create a repeating pattern by combining two attributes	**Patterning, Geometry & Data Management 2**
demonstrate, through investigation, an understanding that a pattern results from repeating an operation or making a repeated change to an attribute	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
Expressions and Equality	
demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials	**Mastering Numeration 1**
represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign	
determine the missing number in equations involving addition and subtraction to 18, using a variety of tools and strategies	**Problem Solving 2-3**

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4. Patterning and Algebra	
identify, through investigation, and use the commutative property of addition to facilitate computation with whole numbers	**Problem Solving 3-4**
identify, through investigation, the properties of zero in addition and subtraction	

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5. Data Management and Probability	
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 attributes simultaneously	**Patterning, Geometry & Data Management 2**
gather data to answer a question, using a simple survey with a limited number of responses	
collect and organize primary data that is categorical or discrete, and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed	
Data Relationships	
read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, and describe the data using mathematical language	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
pose and answer questions about class generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts	
distinguish between numbers that represent data values and numbers that represent the frequency of an event	
demonstrate an understanding of data displayed in a graph, by comparing different parts of the data and by making statements about the data as a whole	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**
Probability	
describe probability as a measure of the likelihood that an event will occur, using mathematical language	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**

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5. Data Management and Probability	
describe the probability that an event will occur, through investigation with simple games and probability experiments and using mathematical language	**Patterning, Geometry & Data Management 2** **Problem Solving 2-3**