

Grade 5 JUMP Math Correlation to the Ontario Curriculum

NOTES:

Underlined JUMP Math lessons are review from a previous grade.

Italicized JUMP Math lessons contain prerequisite material required to meet the learning standard.

An asterisk (*) indicates when a JUMP Math lesson covers a curriculum requirement primarily in the lesson plan.

Expectation codes source: Ontario Curriculum Unit Planner

JUMP Math strands are represented by:

NS Number Sense

ME Measurement

G Geometry

PA Patterns and Algebra

PDM Probability and Data Management

Number Sense and Numeration				
Overall Expectations				
5m8	read, represent, compare, and order whole numbers to 100 000, decimal numbers to hundredths, proper and improper fractions, and mixed numbers;			
5m9	demonstrate an understanding of magnitude by counting forward and backwards by 0.01;			
5m10	solve problems involving the multiplication and division of multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to hundredths, using a variety of strategies;			
5m11	demonstrate an understanding of proportional reasoning by investigating whole-number rates.			
Specific Expectations				
Quantity Relationships		JUMP Math Lessons		
5m12	represent, compare, and order whole numbers from 0.01 to 100 000, using a variety of tools (e.g., number lines with appropriate increments, base ten materials for decimals);	Part	Unit	Lessons
		1	2	NS5-1 to 3
		2	10	NS5-46 to 50, 52, 53

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Number Sense and Numeration				
5m13	demonstrate an understanding of place value in whole numbers and decimal numbers from 0.01 to 100 000, using a variety of tools and strategies (e.g., use numbers to represent 23 011 as $20\,000 + 3000 + 0 + 10 + 1$; use base ten materials to represent the relationship between 1, 0.1, and 0.01) (Sample problem: How many thousands cubes would be needed to make a base ten block for 100 000?);	Part	Unit	Lessons
		1	2	NS5-1 to 3
		2	10	NS5-50, 52, 53
5m14	read and print in words whole numbers to ten thousand, using meaningful contexts (e.g., newspapers, magazines);	Part	Unit	Lessons
		1	2	NS5-1, 2
5m15	round decimal numbers to the nearest tenth, in problems arising from real-life situations;	Part	Unit	Lessons
		2	11	NS5-58, 59, 62
5m16	represent, compare, and order fractional amounts with like denominators including proper and improper fractions and mixed numbers, using a variety of tools (e.g., fraction circles, Cuisenaire rods, number lines) and using standard fractional notation;	Part	Unit	Lessons
		2	9	NS5-34 to 37, 41, 42, 44
5m17	demonstrate and explain the concept of equivalent fractions, using concrete materials (e.g., use fraction strips to show that $\frac{3}{4}$ is equal to $\frac{9}{12}$);	Part	Unit	Lessons
		2	9	NS5-39, 44
5m18	demonstrate and explain equivalent representations of a decimal number, using concrete materials and drawings (e.g., use base ten materials to show that three tenths [0.3] is equal to thirty hundredths [0.30]);	Part	Unit	Lessons
		2	10	NS5-50
5m19	read and write money amounts to \$1000 (e.g., \$455.35 is 455 dollars and 35 cents, or four hundred fifty-five dollars and thirty-five cents);	Part	Unit	Lessons
		2	11	NS5-56
5m20	solve problems that arise from real-life situations and that relate to the magnitude of whole numbers up to 100 000 (Sample problem: How many boxes hold 100 000 sheets of paper, if one box holds 8 packages of paper, and one package of paper contains 500 sheets of paper?).	Part	Unit	Lessons
		1	2	NS5-4 to 9
		1	3	NS5-15, 20

Number Sense and Numeration

Counting		JUMP Math Lessons		
		Part	Unit	Lessons
5m21	count forward by hundredths from any decimal number expressed to two decimal places, using concrete materials and number lines (e.g., use base ten materials to represent 2.96 and count forward by hundredths: 2.97, 2.98, 2.99, 3.00, 3.01, ...; “Two and ninety-six hundredths, two and ninety-seven hundredths, two and ninety-eight hundredths, two and ninety-nine hundredths, three, three and one hundredth, ...”) (Sample problem: What connections can you make between counting by hundredths and measuring lengths in centimetres and metres?).	2	10	NS5-48
Operational Sense		JUMP Math Lessons		
		Part	Unit	Lessons
5m22	solve problems involving the addition, subtraction, and multiplication of whole numbers, using a variety of mental strategies (e.g., use the commutative property: $5 \times 18 \times 2 = 5 \times 2 \times 18$, which gives $10 \times 18 = 180$);	1	2	NS5-8, 9, 12
		1	3	NS5-15 to 17
5m23	add and subtract decimal numbers to hundredths, including money amounts, using concrete materials, estimation, and algorithms (e.g., use 10×10 grids to add 2.45 and 3.25);	1	2	NS5-4 to 6, 10, 11
		2	10	NS5-54, 55
		2	11	NS5-56, 57, 59, 62
5m24	multiply two-digit whole numbers by two-digit whole numbers, using estimation, student-generated algorithms, and standard algorithms;	Part	Unit	Lessons
		1	3	NS5-15, 18, 20, 21
5m25	divide three-digit whole numbers by one-digit whole numbers, using concrete materials, estimation, student-generated algorithms, and standard algorithms;	Part	Unit	Lessons
		1	4	NS5-28, 30 to 33
5m26	multiply decimal numbers by 10, 100, 1000, and 10 000, and divide decimal numbers by 10 and 100, using mental strategies (e.g., use a calculator to look for patterns and generalize to develop a rule);	Part	Unit	Lessons
		2	11	NS5-60, 61
5m27	use estimation when solving problems involving the addition, subtraction, multiplication, and division of whole numbers, to help judge the reasonableness of a solution.	Part	Unit	Lessons
		1	2	NS5-12
		1	3	NS5-20, 21
		1	4	NS5-29, 32, 33

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Number Sense and Numeration				
Proportional Relationships		JUMP Math Lessons		
5m28	describe multiplicative relationships between quantities by using simple fractions and decimals (e.g., “If you have 4 plums and I have 6 plums, I can say that I have $1\frac{1}{2}$ or 1.5 times as many plums as you have.”);	Part	Unit	Lessons
		2	9	NS5-45
5m29	determine and explain, through investigation using concrete materials, drawings, and calculators, the relationship between fractions (i.e., with denominators of 2, 4, 5, 10, 20, 25, 50, and 100) and their equivalent decimal forms (e.g., use a 10×10 grid to show that $\frac{2}{5} = \frac{40}{100}$, which can also be represented as 0.4);	Part	Unit	Lessons
		2	10	NS5-53*
5m30	demonstrate an understanding of simple multiplicative relationships involving whole-number rates, through investigation using concrete materials and drawings (Sample problem: If 2 books cost \$6, how would you calculate the cost of 8 books?).	Part	Unit	Lessons
		1	1	PA5-4
		2	8	PA5-14
		2	9	NS5-45

Measurement				
Overall Expectations				
5m31	estimate, measure, and record perimeter, area, temperature change, and elapsed time, using a variety of strategies;			
5m32	determine the relationships among units and measurable attributes, including the area of a rectangle and the volume of a rectangular prism.			
Specific Expectations				
Attributes, Units, and Measurement Sense		JUMP Math Lessons		
5m33	estimate, measure (i.e., using an analogue clock), and represent time intervals to the nearest second;	Part	Unit	Lessons
		1	5	ME5-5 ME5-9
5m34	estimate and determine elapsed time, with and without using a time line, given the durations of events expressed in minutes, hours, days, weeks, months, or years (Sample problem: You are travelling from Toronto to Montreal by train. If the train departs Toronto at 11:30 a.m. and arrives in Montreal at 4:56 p.m., how long will you be on the train?);	Part	Unit	Lessons
		1	5	ME5-5 ME5-6 to 8, 10
5m35	measure and record temperatures to determine and represent temperature changes over time (e.g., record temperature changes in an experiment or over a season) (Sample problem: Investigate the relationship between weather, climate, and temperature changes over time in different locations.);	Part	Unit	Lessons
		1	5	ME5-11
		1	7	PDM5-7
5m36	estimate and measure the perimeter and area of regular and irregular polygons, using a variety of tools (e.g., grid paper, geoboard, dynamic geometry software) and strategies.	Part	Unit	Lessons
		2	14	ME5-12 to 16
Measurement Relationships		JUMP Math Lessons		
5m37	select and justify the most appropriate standard unit (i.e., millimetre, centimetre, decimetre, metre, kilometre) to measure length, height, width, and distance, and to measure the perimeter of various polygons;	Part	Unit	Lessons
		1	5	ME5-1 ME5-2 to 4
		2	14	ME5-12, 13
5m38	solve problems requiring conversion from metres to centimetres and from kilometres to metres (Sample problem: Describe the multiplicative relationship between the number of centimetres and the number of metres that represent a length. Use this relationship to convert 5.1 m to centimetres.);	Part	Unit	Lessons
		1	5	ME5-2, 3
		2	11	NS5-60
5m39	solve problems involving the relationship between a 12-hour clock and a 24-hour clock (e.g., 15:00 is 3 hours after 12 noon, so 15:00 is the same as 3:00 p.m.);	Part	Unit	Lessons
		1	5	ME5-6

Measurement				
5m40	create, through investigation using a variety of tools (e.g., pattern blocks, geoboard, grid paper) and strategies, two-dimensional shapes with the same perimeter or the same area (e.g., rectangles and parallelograms with the same base and the same height) (Sample problem: Using dot paper, how many different rectangles can you draw with a perimeter of 12 units? with an area of 12 square units?);	Part	Unit	Lessons
		2	14	ME5-13 to 16
5m41	determine, through investigation using a variety of tools (e.g., concrete materials, dynamic geometry software, grid paper) and strategies (e.g., building arrays), the relationships between the length and width of a rectangle and its area and perimeter, and generalize to develop the formulas [i.e., $Area = length \times width$; $Perimeter = (2 \times length) + (2 \times width)$];	Part	Unit	Lessons
		2	14	ME5-13, 15, 16
5m42	solve problems requiring the estimation and calculation of perimeters and areas of rectangles (Sample problem: You are helping to fold towels, and you want them to stack nicely. By folding across the length and/or the width, you fold each towel a total of three times. You want the shape of each folded towel to be as close to a square as possible. Does it matter how you fold the towels?);	Part	Unit	Lessons
		2	14	ME5-13, 15, 16
5m43	determine, through investigation, the relationship between capacity (i.e., the amount a container can hold) and volume (i.e., the amount of space taken up by an object), by comparing the volume of an object with the amount of liquid it can contain or displace (e.g., a bottle has a volume, the space it takes up, and a capacity, the amount of liquid it can hold) (Sample problem: Compare the volume and capacity of a thin-walled container in the shape of a rectangular prism to determine the relationship between units for measuring capacity [e.g., millilitres] and units for measuring volume [e.g., cubic centimetres].);	Part	Unit	Lessons
		2	14	<u>ME5-20, 21</u> ME5-22
5m44	determine, through investigation using stacked congruent rectangular layers of concrete materials, the relationship between the height, the area of the base, and the volume of a rectangular prism, and generalize to develop the formula (i.e., $Volume = area\ of\ base \times height$) (Sample problem: Create a variety of rectangular prisms using connecting cubes. For each rectangular prism, record the area of the base, the height, and the volume on a chart. Identify relationships.);	Part	Unit	Lessons
		2	14	ME5-17 to 19
5m45	select and justify the most appropriate standard unit to measure mass (i.e., milligram, gram, kilogram, tonne).	Part	Unit	Lessons
		2	14	<u>ME5-23</u> ME5-24

Geometry and Spatial Sense

Overall Expectations

5m46	identify and classify two-dimensional shapes by side and angle properties, and compare and sort three-dimensional figures;
5m47	identify and construct nets of prisms and pyramids;
5m48	identify and describe the location of an object, using the cardinal directions, and translate two-dimensional shapes.

Specific Expectations

Geometric Properties		JUMP Math Lessons		
5m49	distinguish among polygons, regular polygons, and other two-dimensional shapes;	Part	Unit	Lessons
		1	6	G5-2, 6
5m50	distinguish among prisms, right prisms, pyramids, and other three-dimensional figures;	Part	Unit	Lessons
		2	13	G5-21 to 23
5m51	identify and classify acute, right, obtuse, and straight angles;	Part	Unit	Lessons
		1	6	G5-1, 3, 4
5m52	measure and construct angles up to 90°, using a protractor;	Part	Unit	Lessons
		1	6	G5-3, 4
5m53	identify triangles (i.e., acute, right, obtuse, scalene, isosceles, equilateral), and classify them according to angle and side properties;	Part	Unit	Lessons
		1	6	G5-5 G5-7
5m54	construct triangles, using a variety of tools (e.g., protractor, compass, dynamic geometry software), given acute or right angles and side measurements (Sample problem: Use a protractor, ruler, and pencil to construct a scalene triangle with a 30° angle and a side measuring 12 cm.).	Part	Unit	Lessons
		1	6	G5-4, 7
Geometric Relationships		JUMP Math Lessons		
5m55	identify prisms and pyramids from their nets;	Part	Unit	Lessons
		2	13	G5-25, 26
5m56	construct nets of prisms and pyramids, using a variety of tools (e.g., grid paper, isometric dot paper, Polydrons, computer application).	Part	Unit	Lessons
		2	13	G5-26
Location and Movement		JUMP Math Lessons		
5m57	locate an object using the cardinal directions (i.e., north, south, east, west) and a coordinate system (e.g., “If I walk 5 steps north and 3 steps east, I will arrive at the apple tree.”);	Part	Unit	Lessons
		2	12	G5-12, 13, 16


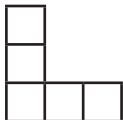
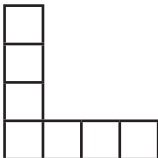
Geometry and Spatial Sense				
5m58	compare grid systems commonly used on maps (i.e., the use of numbers and letters to identify an area; the use of a coordinate system based on the cardinal directions to describe a specific location);	Part	Unit	Lessons
		2	12	G5-16
5m59	identify, perform, and describe translations, using a variety of tools (e.g., geoboard, dot paper, computer program);	Part	Unit	Lessons
		2	12	G5-15, 18
5m60	create and analyse designs by translating and/or reflecting a shape, or shapes, using a variety of tools (e.g., geoboard, grid paper, computer program) (Sample problem: Identify translations and/or reflections that map congruent shapes onto each other in a given design.).	Part	Unit	Lessons
		2	12	G5-18

Patterning and Algebra

Overall Expectations

5m61	determine, through investigation using a table of values, relationships in growing and shrinking patterns, and investigate repeating patterns involving translations;
5m62	demonstrate, through investigation, an understanding of the use of variables in equations.

Specific Expectations

Patterns and Relationships		JUMP Math Lessons		
5m63	create, identify, and extend numeric and geometric patterns, using a variety of tools (e.g., concrete materials, paper and pencil, calculators, spreadsheets);	Part	Unit	Lessons
		1	1	PA5-1, 2
5m64	build a model to represent a number pattern presented in a table of values that shows the term number and the term;	Part	Unit	Lessons
		1	1	PA5-5, 7
5m65	make a table of values for a pattern that is generated by adding or subtracting a number (i.e., a constant) to get the next term, or by multiplying or dividing by a constant to get the next term, given either the sequence (e.g., 12, 17, 22, 27, 32, ...) or the pattern rule in words (e.g., start with 12 and add 5 to each term to get the next term);	Part	Unit	Lessons
		1	1	PA5-2 PA5-3, 5, 7
5m66	make predictions related to growing and shrinking geometric and numeric patterns (Sample problem: Create growing L's using tiles. The first L has 3 tiles, the second L has 5 tiles, the third L has 7 tiles, and so on. Predict the number of tiles you would need to build the 10 th L in the pattern.); <div><div></div><div></div><div></div><div>Figure 1 Figure 2 Figure 3</div></div>	Part	Unit	Lessons
		1	1	PA5-3, 5, 7
5m67	extend and create repeating patterns that result from translations, through investigation using a variety of tools (e.g., pattern blocks, dynamic geometry software, dot paper).	Part	Unit	Lessons
		2	12	G5-18
Variables, Expressions, and Equations		JUMP Math Lessons		
5m68	demonstrate, through investigation, an understanding of variables as changing quantities, given equations with letters or other symbols that describe relationships involving simple rates (e.g., the equations $C = 3 \times n$ and $3 \times n = C$ both represent the relationship between the total cost (C), in dollars, and the number of sandwiches purchased (n), when each sandwich costs \$3);	Part	Unit	Lessons
		2	8	PA5-11, 15, 16

Patterning and Algebra				
5m69	demonstrate, through investigation, an understanding of variables as unknown quantities represented by a letter or other symbol (e.g., $12 = 5 + \square$ or $12 = 5 + s$ can be used to represent the following situation: “I have 12 stamps altogether and 5 of them are from Canada. How many are from other countries?”);	Part	Unit	Lessons
		2	8	PA5-10 to 13
5m70	determine the missing number in equations involving addition, subtraction, multiplication, or division and one- or two-digit numbers, using a variety of tools and strategies (e.g., modelling with concrete materials, using guess and check with and without the aid of a calculator) (Sample problem: What is the missing number in the equation $8 = 88 \div \square$?).	Part	Unit	Lessons
		1	2	NS5-4 to 6
		2	8	PA5-8 PA5-9, 12 to 16

Data Management and Probability

Overall Expectations

5m71	collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including broken-line graphs;
5m72	read, describe, and interpret primary data and secondary data presented in charts and graphs, including broken-line graphs;
5m73	represent as a fraction the probability that a specific outcome will occur in a simple probability experiment, using systematic lists and area models.

Specific Expectations

Collection and Organization of Data		JUMP Math Lessons		
5m74	distinguish between discrete data (i.e., data organized using numbers that have gaps between them, such as whole numbers, and often used to represent a count, such as the number of times a word is used) and continuous data (i.e., data organized using all numbers on a number line that fall within the range of the data, and used to represent measurements such as heights or ages of trees);	Part	Unit	Lessons
		1	7	PDM5-3
5m75	collect data by conducting a survey or an experiment (e.g., gather and record air temperature over a two-week period) to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements;	Part	Unit	Lessons
		1	7	PDM5-7
5m76	collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs (including broken-line graphs) that have appropriate titles, labels (e.g., appropriate units marked on the axes), and scales that suit the range and distribution of the data (e.g., to represent precipitation amounts ranging from 0 mm to 50 mm over the school year, use a scale of 5 mm for each unit on the vertical axis and show months on the horizontal axis), using a variety of tools (e.g., graph paper, simple spreadsheets, dynamic statistical software);	Part	Unit	Lessons
		1	7	PDM5-1, 2, 4, 7, 8
5m77	demonstrate an understanding that sets of data can be samples of larger populations (e.g., to determine the most common shoe size in your class, you would include every member of the class in the data; to determine the most common shoe size in Ontario for your age group, you might collect a large sample from classes across the province);	Part	Unit	Lessons
		1	7	PDM5-8
5m78	describe, through investigation, how a set of data is collected (e.g., by survey, measurement, observation) and explain whether the collection method is appropriate.	Part	Unit	Lessons
		1	7	PDM5-7, 8

Data Management and Probability				
Data Relationships		JUMP Math Lessons		
5m79	read, interpret, and draw conclusions from primary data (e.g., survey results, measurements, observations) and from secondary data (e.g., precipitation or temperature data in the newspaper, data from the Internet about heights of buildings and other structures), presented in charts, tables, and graphs (including broken-line graphs);	Part	Unit	Lessons
		1	7	PDM5-1, 2, 4, 7, 8
5m80	calculate the mean for a small set of data and use it to describe the shape of the data set across its range of values, using charts, tables, and graphs (e.g., “The data values fall mainly into two groups on both sides of the mean.”; “The set of data is not spread out evenly around the mean.”);	Part	Unit	Lessons
		1	7	PDM5-5, 6
5m81	compare similarities and differences between two related sets of data, using a variety of strategies (e.g., by representing the data using tally charts, stem-and-leaf plots, double bar graphs, or broken-line graphs; by determining measures of central tendency [i.e., mean, median, and mode]; by describing the shape of a data set across its range of values).	Part	Unit	Lessons
		1	7	PDM5-2, 5, 6
Probability		JUMP Math Lessons		
5m82	determine and represent all the possible outcomes in a simple probability experiment (e.g., when tossing a coin, the possible outcomes are heads and tails; when rolling a number cube, the possible outcomes are 1, 2, 3, 4, 5, and 6), using systematic lists and area models (e.g., a rectangle is divided into two equal areas to represent the outcomes of a coin toss experiment);	Part	Unit	Lessons
		2	15	PDM5-9, 13 to 15
5m83	represent, using a common fraction, the probability that an event will occur in simple games and probability experiments (e.g., “My spinner has four equal sections and one of those sections is coloured red. The probability that I will land on red is $\frac{1}{4}$.”);	Part	Unit	Lessons
		2	15	PDM5-12 to 15
5m84	pose and solve simple probability problems, and solve them by conducting probability experiments and selecting appropriate methods of recording the results (e.g., tally chart, line plot, bar graph).	Part	Unit	Lessons
		2	15	PDM5-15

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