

# Mathematics Learning Goals

## Standard 1 - Number, Operations and Concepts

EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
<b>1.EY4.1.a</b> Count forwards to 10 and backwards from 5	<b>1.EY5.1.a</b> Count to 20 and backwards from 10	<b>1.G1.1.a</b> Count forwards to 100 starting at any number and backwards from 20				
<b>1.EY4.1.b</b> Write and order numbers 1 to 10	<b>1.EY5.1.b</b> Order, identify and write numbers from 0 to 20	<b>1.G1.1.b</b> Identify, model, represent and order numbers 0 through 100 (>,<) using greater than, less than t	<b>1.G2.1.b</b> Identify, model, represent, order and compare numbers up to 1000	<b>1.G3.1.b</b> Identify, model, represent, order and compare numbers up to 10,000	<b>1.G4.1.b</b> Identify model, represent, order and compare whole numbers up to 1,000,000 and decimals up to a hundredth in digit and word form	<b>1.G5.1.b</b> Identify model, represent, order and compare numbers up to and including 8 digits and decimals using standard and expanded form
<b>1.EY4.1.c</b> Count a set of objects up to 10 with 1 to 1 correspondence	<b>1.EY5.1.c</b> Accurately manage 1 to 1 correspondence of numbers to 20	<b>1.G1.1.c</b> Identify place value up to 3 digits	<b>1.G2.1.c</b> Identify place value up to 4 digits and expand	<b>1.G3.1.c</b> Identify place value up to 5 digits and recognize the role of 0 as a place holder	<b>1.G4.1.c</b> Identify place value in whole numbers up to 7-digits	<b>1.G5.1.c</b> Identify place value in numbers up to 8-digits
	<b>1.EY5.1.d</b> Find one more and one less of a number to 20	<b>1.G1.1.d</b> Identify one more one less and ten more ten less	<b>1.G2.1.d</b> Estimate by rounding numbers to the nearest 10	<b>1.G3.1.d</b> Estimate by rounding numbers to the nearest 10 and 100	<b>1.G4.1.d</b> Estimate by rounding numbers to the nearest thousand, hundred, ten, one and tenth	<b>1.G5.1.d</b> Estimate the magnitude of numbers by rounding to digits up to and including 8 digit numbers and decimals to hundredths
<b>1.EY3/4.1.e</b> Demonstrate ordinal numbers from 1st to 3rd	<b>1.EY5.1.e</b> Demonstrate ordinal numbers from 1st to 10th	<b>1.G1.1.e</b> Use ordinal numbers from 1st to 31st related to a calendar	<b>1.G2.1.e</b> Use and write the ordinal numbers from 1st to 31st as used in a calendar			

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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
				<b>1.G3.1.f</b> Identify the place value of a tenth	<b>1.G4.1.f</b> Identify, read, write, order and compare one and two place decimal numbers and determine the value of each digit (up to hundredths)	<b>1.G5.1.f</b> Identify, read, write, order and compare one and two place decimal numbers and determine the value of each digit (up to thousandths)
					<b>1.G4.1.g</b> Identify, read, write, order and compare negative and positive whole numbers	<b>1.G5.1.g</b> Identify, read, write, order and compare negative numbers.
						<b>1.G5.1.h</b> Identify and describe properties of prime, composite, square and triangular numbers
<b>1.EY4.2.a</b> Add/subtract 1 or 2 to a number up to 5 with manipulatives	<b>1.EY5.2.a</b> Add/subtract 1 or 2 to a number up to 10 with manipulatives and know number bonds to 10	<b>1.G1.2.a</b> Identify number bonds for numbers up to 10 and the number 20	<b>1.G2.2.a</b> Add and subtract basic number facts both orally and in written form	<b>1.G3.2.a</b> Add and subtract number facts both orally and in written form	<b>1.G4.2.a</b> Mentally add and subtract 1, 10, 100 to numbers crossing place value borders	<b>1.G5.2.a</b> Add and subtract two or more numbers that include decimals through hundredths, with regrouping
<b>1.EY4.2.b</b> Represent practical situations to a model addition and sharing up to ten	<b>1.EY5.2.b</b> Use the vocabulary and symbol of +, -, =	<b>1.G1.2.b</b> Use the range of mathematical terms for +, -, =	<b>1.G2.2.b</b> Add and subtract 2-digit numbers without regrouping	<b>1.G3.2.b</b> Add and subtract 3 digit numbers and estimate sums and differences	<b>1.G4.2.b</b> Add and subtract numbers with the same number of decimal places	<b>1.G5.2.b</b> Add and subtract numbers with the same and different number of decimal places

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			<b>1.G2.2.c</b> Add three or more 1-digit numbers with sums up to 20 mentally	<b>1.G3.2.c</b> Add and subtract 3 digit numbers with regrouping/exchanging		
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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
		<b>1.G1.2.d</b>	<b>1.G2.2.d</b> Add or subtract multiples of 10 to each other and from a 2- or 3-digit numbers	<b>1.G3.2.d</b> Complete simple addition and subtraction using numbers in decimal form		
	<b>1.EY5.2.e</b> Represent and solve simple addition and subtraction problems to 10 using a range of strategies	<b>1.G1.2.e</b> Represent and solve simple addition and subtraction problems using a range of strategies	<b>1.G2.2.e</b> Use strategies and technology to self-check addition and subtraction problems	<b>1.G3.2.e</b> Self-check subtraction problems with addition (inverse operation)		
					<b>1.G4.2.f</b> Add and subtract positive and negative integers	<b>1.G5.2.f</b> Add and subtract positive and negative integers and two negative integers
<b>1.EY4.3.a</b> Experiment and role play with currency, especially the Euro	<b>1.EY5.3.a</b> Identify coins including Euros and Cents	<b>1.G1.3.a</b> Order and identify different amounts of money and the coins used up to 1 Euro and use in a real life context	<b>1.G2.3.a</b> Use addition and subtraction of money in real life situations.			
	<b>1.EY5.3.b</b> Experiment with coins to make simple values	<b>1.G1.3.b</b> Give change from 20 Cent or lower				

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	<b>1.EY5.4.a</b> Count objects by twos up to 20	<b>1.G1.4.a</b> Count by twos, fives and tens and recognize simple patterns to 100	<b>1.G2.4.a</b> Count in tens, fifties and hundreds up to 1000	<b>1.G3.4.a</b> Use repeated addition and repeated subtraction and recognize their connection with multiplication and division	<b>1.G4.4.a</b> Find the product of 2 two-digit numbers	<b>1.G5.4.a</b> Use multiplication facts with speed and accuracy, to compute products both orally and in written form
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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
		<b>1.G1.4.b</b> Follow the process of grouping	<b>1.G2.4.b</b> Find multiples of 2,3,4,5 and 10	<b>1.G3.4.b</b> Find fact families for single digit numbers	<b>1.G4.4.b</b> Mentally calculate division facts using inverse of multiplication tables	<b>1.G5.4.b</b>
		<b>1.G1.4.c</b> Make groups of objects (e.g.: 2 groups of 3 items makes 6 )	<b>1.G2.4.c</b> Multiply a 1-digit and 2-digit number by 10	<b>1.G3.4.c</b> Find the multiples of single digit numbers to 100	<b>1.G4.4.c</b> Identify the least (lowest) common multiple (LCM) within multiplication tables	<b>1.G5.4.c</b> Find the product of any whole and decimal number by a 3-digit number and decimals
		<b>1.G1.4.d</b> Double and halve whole numbers up to 20	<b>1.G2.4.d</b> Doubles and half of whole numbers with sums up to 100	<b>1.G3.4.d</b> Divide with single digit divisors to find single digit quotients with and without remainders	<b>1.G4.4.d</b> Complete division problems using one digit divisors and up to 3 digit dividends including remainders	<b>1.G5.4.d</b> Divide 4 digit numbers by single digit number with or without remainders
		<b>1.G1.4.e</b> Divide sets of objects into equal groups	<b>1.G2.4.e</b> Demonstrate division as the inverse of multiplication using fact families (2,3,4,5 and 10) is this too difficult for an inverse	<b>1.G3.4.e</b> Find the product of a 2 and 3 digit number and a single digit number	<b>1.G4.4.e</b> Use the inverse operation to check division calculations	<b>1.G5.4.e</b> Interpret the remainder in division problems and convert between mixed numbers and decimals
			<b>1.G2.4.f</b> Recognize and represent divisions as groupings into equal sets and solve simple problems using these representations	<b>1.G3.4.f</b> Multiply and divide 3-digit numbers by 10 and 100		<b>1.G5.4.f</b> Divide multiple digit numbers by two digit numbers without remainders

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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
					<b>1.G4.4.g</b> Identify the least (lowest) common multiple (LCM) within multiplication tables	
					<b>1.G4.4.h</b> Investigate products involving 10, 100 and 1000 as factor	<b>1.G5.4.h</b> Mentally find products involving 10, 100, and 1000 as factors
	<b>1.EY5.5.a</b> Begin to explore relationship of part to whole in everyday situations	<b>1.G1.5.a</b> Recognize and represent simple fractions as parts of a whole	<b>1.G2.5.a</b> Interpret and compare simple proper fractions	<b>1.G3.5.a</b> Use manipulatives, diagrams and models to order and compare fractions	<b>1.G4.5.a</b> Order and compare fractions	<b>1.G5.5.a</b> Use knowledge of LCM to compare and order fractions
			<b>1.G2.5.b</b> Recognize and find equivalent fractions in context	<b>1.G3.5.b</b> Recognize and represent equivalence in simple fractions	<b>1.G4.5.b</b> Identify and demonstrate equivalent fractions	<b>1.G5.5.b</b> Present ratios and fractions in equivalent forms and apply to everyday situations
			<b>1.G2.5.c</b> Add and subtract fractions with the same denominator (within one whole)	<b>1.G3.5.c</b> Add or subtract fractions with the same denominators	<b>1.G4.5.c</b> Add and subtract simple fractions by finding a common denominator	<b>1.G5.5.c</b> Add and Subtract two fractions different denominators
			<b>1.G2.5.d</b> Find simple fractions of small amounts	<b>1.G3.5.d</b> Find fractions of amounts where the numerator is 1	<b>1.G4.5.d</b> Find proper fractions of whole numbers where numerator is greater than 1	<b>1.G5.5.d</b> Write fractions as percentages using the percent symbol and apply to everyday situations

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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
				<b>1.G3.5.e</b> Recognize mixed number fractions	<b>1.G4.5.e</b> Convert between mixed number and improper fractions	<b>1.G5.5.e</b> Find the sum or difference of two mixed numbers and improper fractions with like and unlike denominators (without regrouping)
				<b>1.G3.5.f</b> Make connections between fractions and decimal notations	<b>1.G4.5.f</b> Convert simple fractions to decimals up to hundredths.	<b>1.G5.5.f</b> Use the four operations to solve fraction and decimal problems and apply them to everyday situations
						<b>1.G5.5.g</b> Use the LCM of denominators to compare two fractions with different denominators

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## Standard 2 - Shape Space and Measure Continuum

EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5, Grade 1 and Grade 2	Grade 1, Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 and Grade 5
<b>2.EY3/4.1.a</b> Recognize, sort and name familiar 2D and 3D shapes e.g. Circle, triangle, square, rectangle, cube	<b>2.EY5.1.a</b> Recognize and classify familiar 2D and 3D shapes.	<b>2.G1.1.a</b> Classify and draw familiar 2D shapes	<b>2.G2.1.a</b> Describe polygons and their properties	<b>2.G3.1.a</b> Classify, describe, draw and visualize a wider range of 2D shapes including specific quadrilaterals and triangles	<b>2.G4.1.a</b> Classify, compare and describe polygons using geometric terminology	<b>2.G5.1.a</b> Classify different polygons and explain reasoning
	<b>2.EY5.1.b</b> Recognize symmetry in basic 2D shapes	<b>2.G1.1.b</b> Identify a line of symmetry in 2D shapes	<b>2.G2.1.b</b> Find multiple lines of symmetry in 2D shapes	<b>2.G3.1.b</b> Identify and draw lines of symmetry in the environment and in art	<b>2.G4.1.b</b> Identify and create symmetrical patterns with 2 lines of symmetry.	<b>2.G5.1.b</b> Identify points, lines, rays and segments.
			<b>2.G2.1.c</b> Identify and describe half and quarter turns using specific mathematical terminology e.g. compass points, right angles	<b>2.G3.1.c</b> Identify angles as measures of turn and compare angle sizes in everyday situations.	<b>2.G4.1.c</b> Compare, recognize and draw acute and obtuse angles and use a protractor to the nearest 5 degrees	<b>2.G5.1.c</b> Estimate, recognize and draw acute, obtuse and reflex angles and use a protractor to the nearest degree
						<b>2.G5.1.d</b> Define, identify and draw the terms circumference, radius, diameter and center in relation to a circle
		<b>2.G1.2.a</b> Describe properties of simple 3D shapes using terminology of faces, edges and vertices.	<b>2.G2.2.a</b> Classify 3D shapes according to the number and shape of	<b>2.G4.2.a</b> Make models of 3D shapes and describe their key properties	<b>2.G4.2.a</b> Visualize and describe three-dimensional shapes from 2D nets and drawings and use	<b>2.G5.2.a</b> Apply knowledge of properties of 2D shapes to create 3D shapes



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			faces, number of vertices and edges.		nets to make common solids	
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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
<b>2.EY3/4.3.a</b> Connect days of week to familiar events	<b>2.EY5.3.a</b> Compare and order the duration of events using everyday language of time	<b>2.G1.3.a</b> Describe duration using months, weeks, days and hours	<b>2.G2.3.a</b> Use a calendar to identify the date and determine the number of days in each month	<b>2.G3.3.a</b> Investigate the relationship between units of time.	<b>2.G4.3.a</b> Use am and pm notations and solve simple time problems	<b>2.G5.3.a</b> Compare 12 and 24 hr time systems
	<b>2.EY5.3.b</b> Tell the time to the hour on an analogue clock	<b>2.G1.3.b</b> Tell time to the half hour on a digital and analogue clock	<b>2.G2.3.b</b> Tell the time to the nearest 5 minutes on analogue and digital clocks	<b>2.G3.3.b</b> Tell the time to the minute	<b>2.G4.3.b</b> Convert between units of time	<b>2.G5.3.b</b> Investigate and solve more complex time problems in everyday situations
			<b>2.G3.3.c</b> Calculate elapsed time between events within an hour	<b>2.G4.3.c</b> Calculate elapsed time between events over an hour		
<b>2.EY3/4.4.a</b> Use direct and indirect comparisons to decide which is longer, heavier or holds more and explain reasoning in everyday language	<b>2.EY5.4.a</b> Measure and compare the length, mass and capacity of pairs of objects using nonstandard units of measure	<b>2.G1.4.a</b> Estimate, measure and compare the length, mass and capacity of objects using non-standard and standard units	<b>2.G2.4.a</b> Estimate, measure, compare, add and subtract lengths, mass and volume	<b>2.G3.4.a</b> Estimate, measure and compare objects using familiar metric units of length, mass, area and volume	<b>2.G4.4.a</b> Choose the appropriate metric unit and estimate and measure length, area, volume and capacity, mass and temperature	<b>2.G5.4.a</b> Use all four operations of number to solve problems using measure - length, mass, capacity and volume, using decimal notation and including scaling
			<b>2.G2.4.b</b> Describe relationships between metric standard units in length, mass and volume	<b>2.G3.4.b</b> Read a variety of scaled instruments to measure length, mass, capacity and temperature and convert between measurements	<b>2.G4.4.b</b> Convert between common metric units and write measurements in different forms	<b>2.G5.4.b</b> Convert between common metric units of length, mass, capacity and volume using decimal representation of the metric system

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					<b>2.G4.4.c</b> Calculate perimeter and area of rectangles and squares using familiar metric units	<b>2.G5.4.c</b> Measure and calculate the perimeter and area of rectilinear shapes
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EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5 Grade 1 Grade 2	Grade 1 Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 Grade 5 and Grade 6
<b>2.EY3/4.5.a</b> Follow simple directions related to position	<b>2.EY5.5.a</b> Describe position and movement using everyday language of location and direction	<b>2.G1.5.a</b> Give and follow directions using terminology such as clockwise, anticlockwise, forwards and backwards	<b>2.G2.5.a</b> Locate positions on a grid using 2 point coordinates	<b>2.G3.5.a</b> Describe and plot positions on a grid as co-ordinates in the first quadrant	<b>2.G4.5.a</b> Describe positions on a Cartesian coordinate graph	<b>2.G5.5.a</b> Identify and plot coordinates in all four quadrants of a Cartesian Coordinate graph
			<b>2.G2.5.b</b> Investigate the effect of one step translate and flips with or without technologies	<b>2.G3.5.b</b> Describe how a figure, translates, reflects and rotates	<b>2.G4.5.b</b> Identify, describe and represent the position of a shape following a reflection or translation using the appropriate language (angle and direction)	<b>2.G5.5.b</b> Predict and draw the position of a shape following a reflection, translation or rotation on a coordinate plane, using appropriate language
			<b>2.G2.5.c</b> Identify and describe half and quarter turns using specific mathematical terminology e.g. compass points, right angles			

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## Standard 4 - Data Handling and Statistic

EY3, EY4 and EY5	EY4, EY5 and Grade 1	EY5, Grade 1 and Grade 2	Grade 1, Grade 2 and Grade 3	Grade 2, Grade 3 and Grade 4	Grade 3, Grade 4 and Grade 5	Grade 4 and Grade 5
<b>4.EY4.a</b> Sort objects by simple properties	<b>4.EY5.a</b> Sort objects by specific properties	<b>4.G1.a</b> Select appropriate questions and collect relevant primary data	<b>4.G2.a</b> Identify a question of interest and gather relevant primary data	<b>4.G3.a</b> Pose questions and collect primary data	<b>4.G4.a</b> Pose questions to select and trial methods for primary data collection.	<b>4.G5.a</b> Pose questions and collect both categorical and numerical data.
<b>4.EY4.b</b> Collect and organize data using simple displays and make simple inferences	<b>4.EY5.b</b> Represent and compare data using a graph or drawing and make simple inferences	<b>4.G1.b</b> Represent data with objects or drawings, where one object represents one data value	<b>4.G2.b</b> Use primary and secondary data to construct relevant visual representations	<b>4.G3.b</b> Construct different forms of graphs appropriate for the data collected	<b>4.G4.b</b> Organize and display the data using a selection of charts and graphs.	<b>4.G5.b</b> Display data using a wide variety of charts and graphs that represent one or composite variable
	<b>4.EY5.c</b> Interpret data e.g. who is the tallest in the class? Using a graph and make simple inferences connected to comparison.	<b>4.G1.c</b> Use visual representation to make simple inferences and comparison	<b>4.G2.c</b> Use visual representation of primary and secondary data to make inferences and compare data.	<b>4.G3.c</b> Interpret and compare primary and secondary data displays	<b>4.G4.c</b> Read, describe, and interpret primary and secondary data presented in charts and graphs with a variety of scales.	<b>4.G5.c</b> Describe and interpret different data sets in context.
				<b>4.G3.d</b> Extract information from primary and secondary data to solve comparison, sum and difference problems	<b>4.G4.d</b> Calculate the mode, median and range of a set of data, given in a form of a list	<b>4.G5.d</b> Gather and interpret data by finding the mean, median, mode and range.
		<b>4.G1.e</b> Identify outcomes of familiar events, describe them using everyday language	<b>4.G2.e</b> Identify practical activities and everyday events that involve chance.	<b>4.G3.e</b> Conduct chance experiments and identify and describe possible outcomes and recognize the variation in results	<b>4.G4.e</b> Use data, simple probability experiments and everyday events to make simple predictions and	<b>4.G5.e</b> Find likely outcomes and represent probabilities of those outcomes using simple fractions,

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					describe the chances of occurrence.	decimals and percentages.
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