Mathletics
Alberta Program of Studies-updated

Skill Quests

Grades 1 – 3

May, 2022

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Grade 1

1 Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

Outcome	Quests	Content	Existing Course
Students interpret and explain quantity to 100.	Number sequences to 100	Counting by 1s to 100	CAN AB Grade 01
		Skip counting by 2s to 20	CAN AB Grade 01
		Skip counting by 10s to 100	CAN AB Grade 01
	Counting strategies	Counting collections to 20	CAN AB Grade 01
		Counting collections to 50	CAN AB Grade 01
		Counting collections to 100	CAN AB Grade 01
	Understand the conservation of number	Understanding the conservation of number	CAN AB Grade 01
	Numbers more than & less than	Numbers more than & less than	CAN AB Grade 01
	Compare & order sets up to 20	Comparing & ordering sets up to 20	CAN AB Grade 01
	Compare & order numbers to 100	Comparing & ordering numbers to 100	CAN AB Grade 02
		Exploring change in quantity up to 20	CAN AB Grade 02
	Equality & inequality	Exploring equality & inequality	CAN AB Grade 01
Students examine addition and subtraction within 20.	Addition & subtraction to 20	Adding to 20	CAN AB Grade 01
		Adding to 20 by bridging to 10	CAN AB Grade 01
		Subtracting within 20	CAN AB Grade 01
		Subtracting within 20 by bridging to 10	CAN AB Grade 01
		Adding & subtracting using a bar model	CAN AB Grade 01
		Creating addition & subtraction word problems	CAN AB Grade 01
		Finding fact families for addition & subtraction	CAN AB Grade 01
		Adding & subtracting within 20 fluently	CAN AB Grade 01

	Addition & subtraction strategies	Making a 10	CAN AB Grade 01
		Adding & subtracting to 18	CAN AB Grade 01
		Adding & subtracting using doubles	CAN AB Grade 01
		Introducing commutative property of addition	CAN AB Grade 01
	Record equalities	Recording equalities	CAN AB Grade 01
		Solving addition & subtraction equality problems	CAN AB Grade 01
Students examine one-half as a part-whole relationship.	Fraction concepts	Finding halves	CAN AB Grade 03

2 Geometry: Shapes are defined and related by geometric attributes

Outcome	Quests	Content	Existing Course
Students interpret shape in two and three dimensions	Sort 2-D shapes & 3-D objects	Sorting 2-D shapes	CAN AB Grade 01
		Sorting 3-D objects	CAN AB Grade 01
	Replicate composite 2-D shapes	Replicating composite 2-D shapes	CAN AB Grade 01
	Replicate composite 3-D objects	Replicating composite 3-D objects	CAN AB Grade 01
	Compare 2-D shapes to 3-D objects	Comparing 2-D shapes to parts of 3-D objects	CAN AB Grade 01
	3-D objects	Introducing spheres	CAN AB Grade 02
		Introducing cones	CAN AB Grade 01
		Introducing cubes	CAN AB Grade 01
		Introducing cylinders	CAN AB Grade 01
		Introducing pyramids	CAN AB Grade 01
		Introducing prisms	CAN AB Grade 01
		Identifying 3-D objects	CAN AB Grade 01
		Identifying attributes of 3-D objects	CAN AB Grade 01
		Comparing 3-D objects	CAN AB Grade 01
	2-D shapes	Naming 2-D shapes	CAN AB Grade 02
		Comparing 2-D shapes	CAN AB Grade 02

3 Measurement: Attributes such as length, area, volume, and angle are quantified by measurement

Outcome	Quests	Content	Existing Course
Students relate length to the understanding of size.	Measurement	Exploring length	CAN AB Grade 01
		Exploring volume	CAN AB Grade 01

4 Patterns: Awareness of patterns supports problem solving in various situations

Outcome	Quests	Content	Existing Course
Students examine patterns in cycles.	Repeating patterns	Recognizing repeating patterns	CAN AB Grade 01
		Reproducing repeating patterns	CAN AB Grade 01
		Manipulating repeating patterns	CAN AB Grade 01
		Extending repeating patterns	CAN AB Grade 01
		Describing & creating repeating patterns	CAN AB Grade 01
	Translate repeating patterns	Translating repeating patterns	CAN AB Grade 01
		Creating & extending repeating patterns	CAN AB Grade 02
		Identifying repeating patterns	CAN AB Grade 02
		Numeric patterns	CAN AB Grade 02

5 Time: Duration is described and quantified by time.

Outcome	Quests	Content	Existing Course
Students explain time in relation to cycles	Duration - calendars	Using calendars	CAN AB Grade 02

6 Statistics: The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.

Outcome	Quests	Content	Existing Course
Students investigate and represent data.	Sort objects using 1 attribute	Sorting objects using 1 attribute	CAN AB Grade 01
	Gather & record data	Gathering, sorting & recording data	CAN AB Grade 02

Grade 2

1 Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

Outcome	Quests	Content	Existing Course
Students analyze quantity to 1000.	Number sequences	Counting by 2s to 100	CAN AB Grade 02
		Counting by 2s to 100 from any number	CAN AB Grade 02
		Counting by 10s from multiples of 10	CAN AB Grade 02
		Counting by 10s to 100 from any number	CAN AB Grade 02
		Counting a sum of money to 100¢	CAN AB Grade 02
	Even & odd numbers	Even & odd numbers	CAN AB Grade 02
	Equality & inequality	Introducing equality & inequality	CAN AB Grade 02
	Use the equal & not-equal symbol	Using the equal & not-equal symbol	CAN AB Grade 02
	(Count to 1000) Skip counting sequences	Counting by 5s to 1000, forward & backward	CAN AB Grade 03
		Counting by 10s to 1000, forward & backward	CAN AB Grade 03
		Counting by 100s to 1000, forward & backward	CAN AB Grade 03
		Counting by 1s to 1000	CAN AB Grade 03
	Compare & order numbers to 1000	Identifying numbers before & after within 1000	CAN AB Grade 03
		Comparing numbers to 1000	CAN AB Grade 03
		Ordering numbers to 1000	CAN AB Grade 03
	Represent & describe numbers to 1000	Representing & describing numbers to 1000	CAN AB Grade 03
		Connecting multiples of 10 & 100 to number words	CAN AB Grade 03

	Place value of numbers up to 1000	Identifying place value of numbers to 1000	CAN AB Grade 03
		Using place value to partition 3-digit numbers	CAN AB Grade 03
		Non-standard partitioning, 3-digit numbers	CAN AB Grade 03
		Solving place value number problems	CAN AB Grade 03
	Estimate quantities less than 1000	Estimating quantities using referents	CAN AB Grade 03
Students investigate addition and subtraction within 100.	Addition within 100	Adding 2-digit & 1-digit numbers using place value	CAN AB Grade 02
		Adding by bridging to 10 with 2- & 1-digit numbers	CAN AB Grade 02
		Adding tens to a 2-digit number using models	CAN AB Grade 02
		Adding two 2-digit numbers using place value	CAN AB Grade 02
		Adding two 2-digit numbers using a number line	CAN AB Grade 02
		Adding by compensating	CAN AB Grade 02
		Adding using compatible numbers	CAN AB Grade 02
		Using number bonds to 100	CAN AB Grade 02
	Subtraction within 100	Subtracting by bridging to 10	CAN AB Grade 02
		Subtracting 2- & 1-digit numbers using place value	CAN AB Grade 02
		Subtracting using mixed strategies	CAN AB Grade 02
		Subtracting tens from a 2-digit number	CAN AB Grade 02
		Subtracting two 2-digit numbers using place value	CAN AB Grade 02
		Subtracting two 2-digit numbers, number line	CAN AB Grade 02

		Subtracting by compensating	CAN AB Grade 02
	Addition & subtraction to 18	Addition & subtraction to 18	CAN AB Grade 02
		Adding using doubles	CAN AB Grade 02
		Subtracting using doubles	CAN AB Grade 02
		Adding doubles or near doubles	CAN AB Grade 02
		Finding fact families for addition & subtraction	CAN AB Grade 02
		Using the commutative property of addition	CAN AB Grade 03
		Counting on by bridging to 10	CAN AB Grade 03
		Addition & subtraction facts - word problems	CAN AB Grade 03

2 Geometry: Shapes are defined and related by geometric attributes.

Outcome	Quests	Content	Existing Course
Students analyze and explain geometric attributes of shape.	Sort 2-D objects	Sorting 2-D objects	CAN AB Grade 02
	Sort 3-D objects	Sorting 3-D objects	CAN AB Grade 02
	Single transformations of 2-D shapes	Introducing slides/translations	CAN AB Grade 05
		Introducing flips/reflections	CAN AB Grade 05
		Introducing turns/rotations	CAN AB Grade 05
		One-step translations, reflections & rotations	CAN AB Grade 05

3 Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.

Outcome	Quests	Content	Existing Course
Students communicate length using units.	Measure length using non-standard units	Measuring length using non-standard units	CAN AB Grade 02
	Compare & order objects	Comparing & ordering objects by length	CAN AB Grade 02

4 Patterns: Awareness of patterns supports problem solving in various situations

Outcome	Quests	Content	Existing Course
Students explain and analyze patterns in a variety of contexts.	Explore repeating patterns	Identifying repeating patterns	CAN AB Grade 02

5 Time: Duration is described and quantified by time.

Outcome	Quests	Content	Existing Course
Students relate duration to time.	Explore the passing of time	Calendars	CAN AB Grade 02
		Days of the week & months of the year	CAN AB Grade 02

6 Statistics: The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.

Outcome	Quests	Content	Existing Course
Students relate data to a variety of representations.	Gather & record data	Gathering, sorting & recording data	CAN AB Grade 02
	Interpret data	Using pictographs	CAN AB Grade 02
		Using basic graphs	CAN AB Grade 02
		Using a tally	CAN AB Grade 02
		Making a graph	CAN AB Grade 02
		Answering questions about a graph	CAN AB Grade 02

Grade 3

1 Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

Outcome	Quests	Content	Existing Course
Students interpret place value within 100 000.	Number concepts to 10 000	Reading & writing numbers to 10 000	CAN AB Grade 04
		Understanding place value, 4-digit numbers	CAN AB Grade 04
		Partitioning 4-digit numbers	CAN AB Grade 04
	Compare & order numbers to 10 000	Identifying numbers before & after to 10 000	CAN AB Grade 04
		Identifying missing numbers to 10 000	CAN AB Grade 04
		Comparing & ordering numbers to 10 000	CAN AB Grade 04
Students apply strategies for addition and subtraction within 1000 Students analyze and apply strategies for multiplication and division within 100.	Estimate - two 2-digit number problems	Estimating with two 2-digit number problems	CAN AB Grade 03
	Addition & subtraction to 1000	Adding up to 1000 using split strategy	CAN AB Grade 03
		Adding up to 1000 using formal algorithm	CAN AB Grade 03
		Subtracting up to 1000 using split strategy	CAN AB Grade 03
		Subtracting up to 1000 using formal algorithm	CAN AB Grade 03
		Adding & subtracting to 1000 using split strategy	CAN AB Grade 03
		Solving addition & subtraction word problems	CAN AB Grade 03
	Multiplication concepts to 5 x 5	Using repeated addition to multiply	CAN AB Grade 03
		Exploring multiplication by 2	CAN AB Grade 03
		Exploring multiplication by 3	CAN AB Grade 03

		Exploring multiplication by 4	CAN AB Grade 03
		Exploring multiplication by 5	CAN AB Grade 03
		Multiplication facts to 5 x 5	CAN AB Grade 03
	Division concepts (up to 5 x 5 facts)	Using repeated subtraction to divide	CAN AB Grade 03
		Dividing by 2	CAN AB Grade 03
		Dividing by 3	CAN AB Grade 03
		Dividing by 4	CAN AB Grade 03
		Dividing by 5	CAN AB Grade 03
	Multiply by 0 & 1, divide by 1	Multiplying by 1 or 0	CAN AB Grade 03
		Dividing by 1	CAN AB Grade 03
	Multiplication facts to 9 x 9	Exploring multiplication by 2	CAN AB Grade 04
		Exploring multiplication by 3	CAN AB Grade 04
		Exploring multiplication by 4	CAN AB Grade 04
		Exploring multiplication by 5	CAN AB Grade 04
		Exploring multiplication by 6	CAN AB Grade 04
		Exploring multiplication by 7	CAN AB Grade 04
		Exploring multiplication by 8	CAN AB Grade 04
		Exploring multiplication by 9	CAN AB Grade 04
		Recalling multiplication facts to 7 x 7	CAN AB Grade 04
	Division facts to 81 ÷ 9	Dividing by 2 & 5	CAN AB Grade 04
		Dividing by 3 & 6	CAN AB Grade 04
		Dividing by 4 and 8	CAN AB Grade 04
		Dividing by 9	CAN AB Grade 04
	Multiplication & division facts	Recall multiplication & division facts to 7 x 7	CAN AB Grade 04
		Understand relationship, multiplication & division	CAN AB Grade 04
Students interpret fractions in relation to one whole	Compare & order fractions	Comparing & ordering unit fractions with models	CAN AB Grade 04
		Comparing & ordering common fractions with models	CAN AB Grade 04

		Comparing fractions with the same numerator	CAN AB Grade 04
	Represent fractions less than/equal to 1	Introducing the terms numerator & denominator	CAN AB Grade 04
		Understanding fractions	CAN AB Grade 04
		Representing halves, fourths & eighths	CAN AB Grade 04
		Representing thirds & sixths	CAN AB Grade 04
		Representing fifths	CAN AB Grade 04
		Representing tenths	CAN AB Grade 04
		Representing eighths	CAN AB Grade 04

2 Algebra: Equations express relationships between quantities.

Outcome	Quests	Content	Existing Course
Students illustrate equality with equations.	One-step add/sub problems with unknowns	One-step number problems with unknowns up to 20	CAN AB Grade 03
		One-step number problems with unknowns up to 100	CAN AB Grade 03
	One-step equations using all operations	Finding missing numbers: add & subtract equations	CAN AB Grade 04
		One-step equations: addition and subtraction	CAN AB Grade 04
		One-step equations: multiplication and division	CAN AB Grade 04
		One-step equations: balancing number sentences	CAN AB Grade 04

3 Geometry: Shapes are defined and related by geometric attributes

Outcome	Quests	Content	Existing Course
Students relate geometric properties to shape.	Regular & irregular polygons	Understanding regular & irregular polygons	CAN AB Grade 03
	Sort & identify two-dimensional shapes	Sorting 2-D shapes	CAN AB Grade 03

4 Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.

Outcome	Quests	Content	Existing Course
Students determine length using standard units	Understand & measure perimeter	Understanding & calculating perimeter	CAN AB Grade 03
	Understand & measure length (m, cm)	Measuring in standard units: cm & m	CAN AB Grade 03
		Selecting units of measurement: m, cm	CAN AB Grade 03
		Ordering & comparing lengths: m, cm	CAN AB Grade 03
		Converting between m & cm	CAN AB Grade 03
		Estimating & measuring in cm	CAN AB Grade 03
Students interpret angles.	Identify 90° angles	Introducing right angles	CAN AB Grade 05
		Identifying right angles in quadrilaterals	CAN AB Grade 05

5 Patterns: Awareness of patterns supports problem solving in various situations.

Outcome	Quests	Content	Existing Course
Students analyze patterns in numerical sequences.	Increasing patterns	Working with increasing number patterns to 100	CAN AB Grade 03
		Working with increasing number patterns to 1000	CAN AB Grade 03
	Decreasing patterns	Working with decreasing number patterns within 100	CAN AB Grade 03
		Working with decreasing number pattern within 1000	CAN AB Grade 03
	Skip counting patterns	Skip counting by 25s	CAN AB Grade 03

6 Time: Duration is described and quantified by time.

Outcome	Quests	Content	Existing Course
Students tell time using clocks	Understand passage of time	Introducing time in hours, minutes & seconds	CAN AB Grade 03
	Read & record time	Telling time to the hour & half hour	CAN AB Grade 04
		Telling time to the quarter hour	CAN AB Grade 04
		Telling time to 5 minutes	CAN AB Grade 04
		Telling time to the minute	CAN AB Grade 04
		Using am & pm notation	CAN AB Grade 04

7 Statistics: The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.

Outcome	Quests	Content	Existing Course
Students interpret and explain representations of data	Graphs using many-to-one correspondence	Using pictographs with many-to-one correspondence	CAN AB Grade 04
		Compare pictographs with different correspondence	CAN AB Grade 04

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