Mathletics

Alberta Program of Studies

Activities (Courses) and Skill Quests

Grades K-3

July, 2026

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Kindergarten

Number

Children investigate quantity to 10. K.N.Quantity to 10		
Activities		**Skills & Procedures**
Quantity to 10	Count to 5 How Many?	• Recognize a number of familiar objects as a quantity. • Relate a numeral to a specific quantity. • Count within 10, forward and backward, starting at any number, according to the counting principles.
	Order Numbers to 10	• Count within 10, forward and backward, starting at any number, according to the counting principles.
	Matching Numbers to 10	• Recognize a number of familiar objects as a quantity. • Represent a quantity in different ways. • Relate a numeral to a specific quantity. • Count within 10, forward and backward, starting at any number, according to the counting principles.
	Dot Display	• Subitize quantities to 5.
	More, Less or the Same to 10 Picture Graphs: More or Less	• Compare the size of two sets, using one-to-one correspondence. • Describe quantities relative to each other, using comparative language.

Children interpret compositions of quantities within 10. K.N.Compositions within 10		
Activities		**Skills & Procedures**
Quantity to 10	Model Addition	• Identify a quantity in various groups or arrangements. • Compose quantities within 10.
	Adding to Make 5 and 10	• Compose quantities within 10. • Recognize various ways to make 5 and 10.

Geometry

Children investigate shape. K.G.2D and 3D		
Activities		**Skills & Procedures**
2-D & 3-D shapes	Collect the Shapes Collect the Objects 1	• Identify familiar two- and three-dimensional shapes.

Measurement

Children explore size through direct comparison.
K.M.Size

Activities		Skills & Procedures
Measurement	Compare Length	• Compare the length, area, weight, or capacity of two objects directly.
	Everyday Length	
	Bigger or smaller shape	
	Everyday Mass	
	Which Holds More?	

Patterns

Children identify and create repeating patterns.
K.P.Patterns

Activities		Skills & Procedures
Patterns	Complete the Pattern	• Recognize change or constancy between elements in a repeating pattern. • Predict the next elements in a repeating pattern.
	Simple Patterns	

Time

Children interpret time as a sequence of events.
K.T.Time

Activities	Skills & Procedures
Teacher directed	

Grade 1

Number

Students interpret and explain quantity to 100. 1.N.Quantity to 100		
Activities		**Skills & Procedures**
Quantity to 100	Matching Numbers to 20	• Represent quantities, using words, numerals, objects, or pictures.
	Reading Numbers to 30	
	Making Big Numbers Count	
	Concept of Zero	• Identify a quantity of 0 in familiar situations.
	Going Up	• Count within 100, forward by 1s, starting at any number, according to the counting principles.
	Counting Back Within 20	• Count backward from 20 to 0 by 1s.
	Counting by Fives	• Skip count to 100, forward by 5s and 10s, starting at 0.
	Counting by Tens	
	Making Numbers Count	• Count within 100, forward by 1s, starting at any number, according to the counting principles. • Skip count to 100, forward by 5s and 10s, starting at 0.
	Share the Treasure	• Partition a set of objects by sharing and grouping.
	How Many Dots?	• Recognize quantities to 10.
	Balancing Objects	• Investigate equal and unequal quantities, including using a balance model.
	1 More, 2 Less	• Identify numbers that are one more, two more, one less, and two less than a given number.
	Before, After & Between to 100	
	Greater or Less to 100	• Investigate equal and unequal quantities, including using a balance model. • Represent a quantity relative to another, including symbolically.
Skill Quests		**Skills & Procedures**
Numbers to 100	Reading & writing 2-digit numbers	• Represent quantities, using words, numerals, objects, or pictures.
	Representing 2-digit numbers	
Count within 100	Counting by 1s	• Count within 100, forward by 1s, starting at any number, according to the counting principles. • Skip count to 20, forward by 2s, starting at 0. • Skip count to 100, forward by 5s and 10s, starting at 0.
	Skip counting by 2s	
	Skip counting by 5s	
	Skip counting by 10s	
Sharing & grouping	Sharing & grouping	• Partition a set of objects by sharing and grouping. • Demonstrate conservation of number when sharing or grouping.
1 more, 2 more, 1 less, 2 less	1 more, 2 more, 1 less, 2 less	• Identify numbers that are one more, two more, one less, and two less than a given number.
Explore equality	Exploring equality	• Investigate equal and unequal quantities, including using a balance model. • Represent a quantity relative to another, including symbolically.

Students examine addition and subtraction within 20. 1.N.Add and subtract within 20		
Activities		**Skills & Procedures**
Addition & subtraction	Making Teen Numbers	• Visualize quantities between 10 and 20 as compositions of 10 and another quantity.
	Make Numbers Count	

	Model Addition Adding to Ten Model Subtraction All about Ten	• Model addition and subtraction within 20 in various ways, including with a balance. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways.
	Fact Families: Add and Subtract	• Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways. • Recognize families of related addition and subtraction number facts.
	Add and Subtract Using Graphs	• Relate addition and subtraction to various contexts involving composition or decomposition of quantity. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Solve problems, using addition and subtraction.
	Adding to 10 Word Problems	• Model addition and subtraction within 20 in various ways, including with a balance. • Relate addition and subtraction to various contexts involving composition or decomposition of quantity. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways. • Solve problems, using addition and subtraction.
	Doubles and Near Doubles	• Model addition and subtraction within 20 in various ways, including with a balance. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Express addition and subtraction symbolically.
	Addition Facts Subtraction Facts to 18 All about Twenty	• Model addition and subtraction within 20 in various ways, including with a balance. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways.
	Related Facts 1	• Model addition and subtraction within 20 in various ways, including with a balance. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways. • Recognize families of related addition and subtraction number facts.
	Addition Simple Subtraction	• Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways.
	Add and Subtract Problems	• Model addition and subtraction within 20 in various ways, including with a balance. • Relate addition and subtraction to various contexts involving composition or decomposition of quantity. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Solve problems, using addition and subtraction.
Skill Quests		**Skills & Procedures**
Understand addition & subtraction	Modelling & recording addition up to 9 Modelling & recording addition up to 20 Modelling & recording subtraction up to 20 Story problems	• Model addition and subtraction within 20 in various ways, including with a balance. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways. • Express addition and subtraction symbolically. • Solve problems, using addition and subtraction.

		• Recall addition number facts, with addends to 10, and related subtraction number facts.
Addition & subtraction strategies	Counting on & back Making 10 Doubles Commutative property of addition	• Investigate addition and subtraction strategies. • Add numbers up to a sum of 20 and subtract numbers with a maximum minuend of 20. • Determine a missing quantity in a sum or difference, within 20, in a variety of ways. • Express addition and subtraction symbolically. • Recognize families of related addition and subtraction number facts. • Recall addition number facts, with addends to 10, and related subtraction number facts.
Addition & subtraction facts	Fact families Facts to 10 Facts to 20	• Recognize families of related addition and subtraction number facts. • Recall addition number facts, with addends to 10, and related subtraction number facts.

Students examine one-half as a part-whole relationship.

1.N.One-half

Activities		Skills & Procedures
Fractions	Is it Half? Halves	• Identify one-half in familiar situations.
Skill Quests		**Skills & Procedures**
Understand one-half	Understanding one-half	• Partition an even set of objects into two equal groups, limited to sets of 10 or less. • Partition a shape or object into two equal pieces. • Verify that the two halves of one whole group, shape, or object are the same size.

Geometry

Students interpret shape in two and three dimensions

1.G.2D and 3D shape

Activities		Skills & Procedures
2-D & 3-D shapes	Collect the Shapes	• Identify familiar shapes in various sizes and orientations.
	Count Sides and Corners	• Sort shapes according to one attribute and describe the sorting rule.
	Collect the Objects 1	• Identify familiar shapes in various sizes and orientations.
Skill Quests		**Skills & Procedures**
Identify two-dimensional shapes	Identifying circles Identifying squares Identifying triangles	• Identify familiar shapes in various sizes and orientations.
Identify three-dimensional shapes	Identifying spheres Identifying cones Identifying cubes Identifying cylinders Identifying prisms Identifying pyramids	
Sort shapes	Sorting three-dimensional shapes Sorting two-dimensional shapes	• Sort shapes according to one attribute and describe the sorting rule.
Composite shapes	Composite 2-D shapes Composite 3-D shapes	• Compose and decompose two- or three-dimensional composite shapes. • Identify familiar shapes within two- or three-dimensional composite shapes.

Measurement

Students relate length to the understanding of size. 1.M.Size		
Activities		**Skills & Procedures**
Measurement	Compare Length	• Compare and order objects according to length. • Compare the length, area, or capacity of two objects directly or indirectly by using a third object.
	Bigger or smaller shape	• Compare the length, area, or capacity of two objects directly or indirectly by using a third object.
	Which Holds More?	
	Filling Fast!	• Order objects according to length, area, or capacity.
Skill Quests		**Skills & Procedures**
Length, area & capacity	Comparing & ordering length	• Compare and order objects according to length. • Compare the length, area, or capacity of two objects directly or indirectly by using a third object. • Order objects according to length, area, or capacity.
	Comparing & ordering area	
	Comparing & ordering capacity	

Patterns

Students examine patterns in cycles. 1.P.Patterns		
Activities		**Skills & Procedures**
Patterns	Simple Patterns	• Identify the pattern core, up to four elements, in a cycle. • Extend a sequence of elements in various ways to create repeating patterns.
	Pattern Error	• Identify the pattern core, up to four elements, in a cycle.
	Missing it!	• Identify the pattern core, up to four elements, in a cycle. • Identify a missing element in a repeating pattern or cycle.
Skill Quests		**Skills & Procedures**
Repeating patterns	Understanding repeating patterns	• Identify the pattern core, up to four elements, in a cycle. • Identify a missing element in a repeating pattern or cycle. • Describe change and constancy in repeating patterns and cycles. • Extend a sequence of elements in various ways to create repeating patterns. • Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements.
	Describing repeating patterns	
	Extending repeating patterns	
	Translating repeating patterns	

Time

Students explain time in relation to cycles 1.T.Time		
Activities		**Skills & Procedures**
Time	Tomorrow and Yesterday (Scaffolded)	• Identify cycles from a calendar.
	Days: After and Before	
	Weekdays and Weekends	
	Months of the Year	
	Months After and Before	
	Using a Calendar	
Skill Quests		**Skills & Procedures**

Cycles in time	Seasons	• Describe cycles of time encountered in daily routines and nature. • Identify cycles from a calendar.
	Days of the week	
	Months of the year	

Statistics

Students investigate and represent data. 1.S.Data		
Activities		**Skills & Procedures**
Data & graphs	Sorting Data	• Collaborate to construct a concrete graph, using data collected in the learning environment.
	Read Graphs	• Create a pictograph from a concrete graph.
Skill Quests		**Skills & Procedures**
Represent data	Representing data	• Create a pictograph from a concrete graph.

Grade 2

Number

Students analyze quantity to 1000. 2.N.Quantity to 1000		
Activities		**Skills & Procedures**
Quantity to 1000	Model Numbers	• Represent quantities, using words and natural numbers.
	Place Value 2	• Identify the digits representing thousands, hundreds, tens, and ones based on place in a natural number.
	Number Lines	• Relate a number, including zero, to its position on the number line.
	Number Line Order	
	Going Up	• Count within 1000, forward and backward by 1s, starting at any number.
	Going Down	
	Counting by Twos	• Skip count by 2s and 10s, starting at any number.
	Count by Twos	
	Counting by Tens	
	Count by Tens	
	Skip Counting with Coins	• Determine the value of a collection of coins or bills of the same denomination by skip counting.
	Odd or Even	• Describe a quantity as even or odd.
	Which is Bigger?	• Compare and order natural numbers. • Describe a quantity as less than, greater than, or equal to another quantity.
	Which is Smaller?	
	Compare Numbers to 100	
Skill Quests		**Skills & Procedures**
Numbers to 1000	Reading & writing 3-digit numbers	• Represent quantities, using words and natural numbers. • Identify the digits representing thousands, hundreds, tens, and ones based on place in a natural number. • Decompose quantities into groups of 100s, 10s, and 1s. • Compare and order natural numbers. • Describe a quantity as less than, greater than, or equal to another quantity. • Describe a quantity as even or odd. • Estimate quantities, using benchmarks.
	Place value, 3-digit numbers	
	Decomposing 3-digit numbers	
	Comparing & ordering 3-digit numbers	
	Odd & even numbers	
	Estimating quantities	
Count within 1000	Counting by 1s	• Count within 1000, forward and backward by 1s, starting at any number. • Skip count by 20s, 25s, or 50s, starting at 0. • Skip count by 2s and 10s, starting at any number.
	Skip counting by 20s, 25s & 50s	
	Skip counting by 2s & 10s	
Count money	Counting money	• Determine the value of a collection of coins or bills of the same denomination by skip counting.
Explore equality	Exploring equality	• Model equality and inequality between two quantities, including with a balance.

Students investigate addition and subtraction within 100. 2.N.Add and subtract within 100		
Activities		**Skills & Procedures**
Addition & subtraction	Addition	• Recall and apply addition number facts, with addends to 10, and related subtraction number facts. • Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100.
	Simple Subtraction	
	Fact Families: Add and Subtract	
	Add 3 Single Digit Numbers	

	Add 3 Numbers Using Bonds to 10	• Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Complements to 10, 20, 50	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	10 More, 10 Less	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100.
	Adding to 2-digit numbers	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Add 3 Numbers: Bonds to Multiples of 10	• Investigate strategies for addition and subtraction of two-digit numbers. • Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Subtract Tens	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Decompose Numbers to Subtract	• Investigate strategies for addition and subtraction of two-digit numbers. • Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Mental Addition Mental Subtraction	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways.
	Bar Model Problems 1 Bar Model Problems 2	• Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Solve problems, using addition and subtraction of countable quantities or measurable lengths.
Skill Quests		**Skills & Procedures**
Add & subtract within 100	Addition & subtraction facts Visualizing 100 Adding with more than 2 addends Adding & subtracting 1 & 2-digits, making 10 Adding & subtracting up to 2-digits, place value Adding & subtracting 1 & 2-digits, basic facts Adding & subtracting 1 & 2-digits, strategies Adding & subtracting zero Adding & subtracting 2-digits, number line Adding & subtracting 2-digits, 100 chart Addition & subtraction word problems	• Recall and apply addition number facts, with addends to 10, and related subtraction number facts. • Visualize 100 as a composition of multiples of 10 in various ways. • Compose a sum in multiple ways, including with more than two addends. • Investigate strategies for addition and subtraction of two-digit numbers. • Add numbers up to a sum of 100 and subtract numbers with a maximum minuend of 100. • Determine a missing quantity in a sum or difference, within 100, in a variety of ways. • Solve problems, using addition and subtraction of countable quantities or measurable lengths.

Students interpret part-whole relationships using unit fractions. 2.N.Unit fractions		
Activities		**Skills & Procedures**
Fractions	Halves	• Model a unit fraction by partitioning a whole object or whole set into equal parts, limited to 10 or fewer equal parts.
	Shade Fractions	
Skill Quests		**Skills & Procedures**
Unit fractions	Understanding equal parts	• Model a unit fraction by partitioning a whole object or whole set into equal parts, limited to 10 or fewer equal parts. • Compare different unit fractions of the same whole, limited to denominators of 10 or less.
	Comparing & ordering unit fractions	

Geometry

Students analyze and explain geometric attributes of shape. 2.G.2D and 3D		
Activities		**Skills & Procedures**
Geometry	Count Sides and Corners	• Sort shapes according to two geometric attributes and describe the sorting rule.
	Faces, Edges and Vertices	
	Relate Shapes and Solids	• Relate the faces of three-dimensional shapes to two-dimensional shapes.
	Transformations	• Investigate translation, rotation, and reflection of two- and three-dimensional shapes.
Skill Quests		**Skills & Procedures**
Sort shapes	Sorting two-dimensional shapes	• Sort shapes according to two geometric attributes and describe the sorting rule.
	Sorting three-dimensional shapes	
Faces of three-dimensional shapes	Introducing faces	• Relate the faces of three-dimensional shapes to two-dimensional shapes.
Transformations	Translations	• Investigate translation, rotation, and reflection of two- and three-dimensional shapes.
	Reflections	
	Rotations	

Measurement

Students communicate length using units. 2.M.Length		
Activities		**Skills & Procedures**
Measurement	Measuring Length with Blocks	• Measure length with non-standard units by tiling, iterating, or using a self-created measuring tool.
	Compare Length	• Compare and order measurements of different lengths measured with the same non-standard units, and explain the choice of units.
	How Long is That?	• Measure length with standard units by tiling or iterating with a centimetre.
	Ordering Lengths (cm)	• Compare and order measurements of different lengths measured with centimetres.
Skill Quests		**Skills & Procedures**
Length	Measuring length using non-standard units	• Measure length with non-standard units by tiling, iterating, or using a self-created measuring tool.
	Comparing & ordering length	

	Measuring length using centimetres	• Compare and order measurements of different lengths measured with the same non-standard units, and explain the choice of units. • Measure length with standard units by tiling or iterating with a centimetre.

Patterns

Students explain and analyze patterns in a variety of contexts.
2.P.Patterns

Activities		Skills & Procedures
Patterns	Counting on a 100 grid	• Investigate patterns in a hundreds chart.
	Simple Patterns	• Create and express a repeating pattern with a pattern core of up to four elements that change by more than one attribute.
	Missing it!	
Skill Quests		**Skills & Procedures**
Patterns	Increasing patterns	• Create increasing patterns, using sounds, objects, pictures, or actions. • Create and express a repeating pattern with a pattern core of up to four elements that change by more than one attribute.
	Repeating patterns	

Time

Students relate duration to time.
2.T.Time

Activities		Skills & Procedures
Time	Days of the Week	• Describe the relationship between days, weeks, months, and years.
	Days: After and Before	
	Weekdays and Weekends	
	Months of the Year	
	Months After and Before	
	Using a Calendar	
Skill Quests		**Skills & Procedures**
Time	Calendars	• Express significant events, using calendar dates. • Describe the relationship between days, weeks, months, and years."
	Days in a month	

Statistics

Students relate data to a variety of representations.
2.S.Data

Activities		Skills & Procedures
Data & graphs	Tally Charts	• Record data in a table.
	Analyzing Data	• Construct graphs to represent data.
	Picture Graphs: single-unit scale	• Interpret graphs to answer questions.
	Picture Graphs: More or Less	
Skill Quests		**Skills & Procedures**
Understand & create graphs	Understanding & creating tables	• Record data in a table. • Construct graphs to represent data. • Interpret graphs to answer questions.
	Pictographs	
	Bar graphs	
	Dot plots	

Grade 3

Number

Students interpret place value within 100 000. 3.N.Place value within 100 000		
Activities		**Skills & Procedures**
Place value to 100 000	Place Value - Thousands	• Identify the place value of each digit in a natural number.
	Place Value 2 (×10 and ÷10)	• Relate the values of adjacent places.
	Numbers in Words	• Express natural numbers, using words and numerals.
	Place Value 3	• Express various compositions of a natural number, using place value.
	Smallest and largest numbers	
	Expanding Numbers	• Determine the value of each digit in a natural number. • Express various compositions of a natural number, using place value.
	Expanded Notation	
	Understanding Place Value 2	• Express various compositions of a natural number, using place value.
	Understanding Place Value 3	
	Nearest 10?	• Round natural numbers to various places.
	Nearest 100?	
	Nearest 1000?	
	Rounding Numbers	
	Which Is Greater?	• Compare and order natural numbers.
	Which Is Less?	
	Ascending Order	
	Descending Order	
	Greater Than or Less Than?	• Compare and order natural numbers. • Express the relationship between two numbers, using <, >, or =.
Skill Quests		**Skills & Procedures**
Numbers to 100 000	Reading & writing numbers to 100 000	• Express natural numbers, using words and numerals. • Identify the place value of each digit in a natural number. • Express various compositions of a natural number, using place value. • Round natural numbers to various places. • Compare and order natural numbers. • Express the relationship between two numbers, using <, >, or =.
	Place value	
	Decomposing numbers	
	Rounding to the nearest 10	
	Rounding to the nearest 100	
	Rounding to the nearest 1000	
	Rounding numbers up to 5 digits	
	Comparing & ordering 4-digit numbers	
Count & represent money	Counting & representing money	• Count and represent the value of a collection of nickels, dimes, and quarters as cents.

Students apply strategies for addition and subtraction within 1000 3.N.Add and subtract within 1000		
Activities		**Skills & Procedures**
Addition & subtraction	Bump Add and Subtract	• Relate strategies for the addition and subtraction of two-digit numbers to strategies for the addition and subtraction of three-digit numbers.
	Jump Add and Subtract	
	Split Add and Subtract	

	Compensation - Add	
	Compensation - Subtract	
	Magic Symbols 1	
	Pyramid Puzzles 1	
	Pyramid Puzzles 2	
	Add 3-Digit Numbers	• Add and subtract natural numbers, using standard algorithms.
	Add 3-Digit Numbers: Regroup	• Add and subtract natural numbers, using standard algorithms. • Model regrouping by place value for addition and subtraction.
	3-Digit Differences	• Add and subtract natural numbers, using standard algorithms.
	3-Digit Differences: 1 Regrouping	• Add and subtract natural numbers, using standard algorithms. • Model regrouping by place value for addition and subtraction.
	3-Digit Differences: 2 Regroupings	
	3-Digit Differences with Zeros	
	Estimate Differences	• Estimate sums and differences.
Skill Quests		**Skills & Procedures**
Addition & subtraction strategies	Adding & subtracting using a number line	• Relate strategies for the addition and subtraction of two-digit numbers to strategies for the addition and subtraction of three-digit numbers.
	Adding & subtracting using place value	
Addition & subtraction, algorithm	Adding up to 2-digit numbers	• Add and subtract natural numbers, using standard algorithms.
	Adding up to 3-digit numbers	
	Subtracting up to 2-digit numbers	
	Subtracting up to 3-digit numbers	
Estimate addition & subtraction	Estimating addition & subtraction	• Estimate sums and differences.
Addition & subtraction word problems	Addition & subtraction word problems	• Solve problems, using addition and subtraction.

Students analyze and apply strategies for multiplication and division within 100.

3.N.Multipy and divide within 100

Activities		Skills & Procedures
Understand multiplication	Groups of Two	• Compose a product, using equal groups of objects. • Relate multiplication to repeated addition. • Relate multiplication to skip counting. • Visualize and model products and quotients as arrays.
	Groups of Three	
	Groups of Four	
	Groups of Five	
	Groups of Six	
	Groups of Seven	
	Groups of Eight	
	Groups of Nine	
	Groups of Ten	
	Multiplication Arrays	
	Model Multiplication to 5 × 5	• Relate multiplication to repeated addition. • Relate multiplication to skip counting. • Visualize and model products and quotients as arrays. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically.
	Arrays 1	
	Multiplication Problems 1	• Compose a product, using equal groups of objects. • Relate multiplication to repeated addition. • Relate multiplication to skip counting. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100.

		• Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Solve problems, using multiplication and division in sharing or grouping situations.
Understand division	Dividing by Two	• Model a quotient by partitioning a quantity into equal groups or groups of a certain size, with or without remainders. • Visualize and model products and quotients as arrays.
	Dividing by Three	
	Dividing by Four	
	Dividing by Five	
	Dividing by Six	
	Dividing by Seven	
	Dividing by Eight	
	Dividing by Nine	
	Dividing Tens	
	Share the Treasure	• Model a quotient by partitioning a quantity into equal groups or groups of a certain size, with or without remainders.
	Remainders by Arrays	• Model a quotient by partitioning a quantity into equal groups or groups of a certain size, with or without remainders. • Visualize and model products and quotients as arrays. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically.
Multiplication & division	Times Tables	• Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Recall multiplication number facts, with factors to 10, and related division facts.
	Missing Numbers: × and ÷ facts	• Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Verify a product or quotient, using inverse operations. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Recall multiplication number facts, with factors to 10, and related division facts.
	Fact Families: Multiply and Divide	• Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Verify a product or quotient, using inverse operations. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Recognize families of related multiplication and division number facts. • Recall multiplication number facts, with factors to 10, and related division facts.
	Related Facts 2	• Model a quotient by partitioning a quantity into equal groups or groups of a certain size, with or without remainders. • Visualize and model products and quotients as arrays. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Verify a product or quotient, using inverse operations. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Recognize families of related multiplication and division number facts. • Recall multiplication number facts, with factors to 10, and related division facts.
	Bar model × ÷	• Relate multiplication to repeated addition. • Relate multiplication to skip counting.

		• Investigate multiplication and division strategies. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Solve problems, using multiplication and division in sharing or grouping situations.
Skill Quests		**Skills & Procedures**
Understand multiplication & division	Repeated addition & subtraction with arrays	• Relate multiplication to repeated addition. • Visualize and model products and quotients as arrays. • Recognize interpretations of multiplication and division in various contexts. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Determine a missing quantity in a product or quotient in a variety of ways. • Express multiplication and division symbolically. • Solve problems, using multiplication and division in sharing or grouping situations.
	Relating multiplication & division	
	Representing multiplication & division	
Multiplication & division facts	Multiplying by 2	• Relate multiplication to repeated addition. • Investigate multiplication by 0. • Visualize and model products and quotients as arrays. • Recognize interpretations of multiplication and division in various contexts. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Determine a missing quantity in a product or quotient in a variety of ways. • Solve problems, using multiplication and division in sharing or grouping situations. • Recognize families of related multiplication and division number facts. • Recall multiplication number facts, with factors to 10, and related division facts.
	Multiplying by 3	
	Multiplying by 4	
	Multiplying by 5	
	Multiplying by 6	
	Multiplying by 7	
	Multiplying by 8	
	Multiplying by 9	
	Multiplying by 10	
	Dividing by 2	
	Dividing by 3	
	Dividing by 4	
	Dividing by 5	
	Dividing by 6	
	Dividing by 7	
	Dividing by 8	
	Dividing by 9	
	Dividing by 10	
	Multiplication facts to 10 x 10	
	Fact families	
	Multiplying by 0 or 1	
Multiplication strategies	Multiplying using doubling	• Investigate multiplication and division strategies. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Express multiplication and division symbolically.
	Multiplying using compensation	
	Multiplying using the distributive property	
Division strategies	Dividing using multiplication	• Investigate multiplication and division strategies. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Express multiplication and division symbolically.
	Dividing using related facts	
	Dividing using place value	
Understand remainders	Understanding remainders	• Model a quotient by partitioning a quantity into equal groups or groups of a certain size, with or without remainders.
Multiplication & division word problems	Multiplication & division word problems	• Visualize and model products and quotients as arrays. • Recognize interpretations of multiplication and division in various contexts. • Multiply numbers up to a product of 100 and divide numbers with a maximum dividend of 100. • Solve problems, using multiplication and division in sharing or grouping situations.

Students interpret fractions in relation to one whole

3.N.Fractions and wholes

Activities		Skills & Procedures
Fractions	Halves and Quarters	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less. • Visualize fractions as compositions of a unit fraction.
	Thirds and Sixths	
	Model Fractions	• Name a given fraction. • Express fractions, including one whole, symbolically, limited to denominators of 12 or less.
	Partition into Equal Parts	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less. • Express fractions, including one whole, symbolically, limited to denominators of 12 or less.
	Uneven partitioned shapes 2	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less.
	Part-Whole Rods 1	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less. • Express fractions, including one whole, symbolically, limited to denominators of 12 or less.
	Fractions of a Collection	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less.
	Fraction Fruit Sets 1	
	Identifying Fractions on a Number Line	• Name a given fraction. • Express fractions, including one whole, symbolically, limited to denominators of 12 or less. • Relate a fraction less than one to its position on the number line, limited to denominators of 12 or less.
	Equivalent Fraction Wall 2	• Express fractions, including one whole, symbolically, limited to denominators of 12 or less. • Relate various representations of the same fraction, limited to denominators of 12 or less.
	Compare Fractions 1a	• Compare different fractions of the same whole that have the same denominator. • Express the relationship between two fractions of the same whole, using <, >, or =.
	Compare Fractions 1b	
Skill Quests		**Skills & Procedures**
Fractions	Halves & fourths	• Model fractions of a whole quantity, length, shape, or object, in various ways, limited to denominators of 12 or less. • Visualize fractions as compositions of a unit fraction. • Identify the numerator and denominator of a fraction in various representations. • Name a given fraction. • Express fractions, including one whole, symbolically, limited to denominators of 12 or less. • Relate a fraction less than one to its position on the number line, limited to denominators of 12 or less. • Compare different fractions of the same whole that have the same denominator. • Compare different fractions of the same whole that have the same numerator and different denominators. • Express the relationship between two fractions of the same whole, using <, >, or =."
	Thirds & sixths	
	Fifths & tenths	
	Writing one as a fraction	
	Matching fractions with their model	
	Fractions on the number line	
	Comparing & ordering fractions	

Algebra

Students illustrate equality with equations. 3.A.Equality		
Activities		**Skills & Procedures**
Equality	Composing Numbers to 10 Composing Numbers to 20 Composing Additions to 20	• Write equations that represent equality between a number and an expression or between two different expressions of the same number. • Model equations that include an unknown value, including with a balance. • Determine an unknown value on the left or right side of an equation, limited to equations with one operation.
	Missing Numbers Find the Missing Number 1	• Determine an unknown value on the left or right side of an equation, limited to equations with one operation.
Skill Quests		**Skills & Procedures**
Equality with equations	Representing equality Determining the unknown value, add & subtract Determining the unknown value, multiply & divide Solving word problems using equations	• Write equations that represent equality between a number and an expression or between two different expressions of the same number. • Determine an unknown value on the left or right side of an equation, limited to equations with one operation. • Solve problems, using equations, limited to equations with one operation.

Geometry

Students relate geometric properties to shape. 3.G.Geometric properties		
Activities		**Skills & Procedures**
Geometry	What Line am I?	• Investigate the relationships between the sides of a polygon, including perpendicular, parallel, and equal, using referents for 90° or by measuring.
	Collect the Polygons Count Sides and Corners	• Sort polygons according to geometric properties and describe the sorting rule.
	Transformations	• Examine geometric properties of polygons by translating, rotating, or reflecting, using hands-on materials or digital applications.
Skill Quests		**Skills & Procedures**
Polygons	Properties of quadrilaterals Comparing & describing polygons Sorting polygons Regular & irregular polygons	• Investigate the relationships between the sides of a polygon, including perpendicular, parallel, and equal, using referents for 90° or by measuring. • Investigate the relationships between vertices of a polygon, including equal or right angles, using direct comparison or referents for 90°. • Describe geometric properties of regular and irregular polygons. • Sort polygons according to geometric properties and describe the sorting rule. • Classify polygons as regular or irregular, using geometric properties.
Transformations	Translations & reflections	• Examine geometric properties of polygons by translating, rotating, or reflecting, using hands-on materials or digital applications.

Measurement

Students determine length, using standard units. 3.M.Length		
Activities		**Skills & Procedures**
Measurement	How Long is That?	• Measure lengths of straight lines and curves, with millimetres, centimetres, or metres.
	Perimeter	• Determine the perimeter of polygons.
	Perimeter: Triangles 2	
	Perimeter Detectives 1	
Skill Quests		**Skills & Procedures**
Measure length	Measuring length	• Justify the choice of millimetres, centimetres, or metres to measure various lengths. • Measure lengths of straight lines and curves, with millimetres, centimetres, or metres. • Estimate length by visualizing the iteration of a referent for a centimetre or metre.
	Understanding units of length	
	Estimating & measuring length	
Perimeter	Determining the perimeter using geoboards & grids	• Determine the perimeter of polygons. • Determine the length of an unknown side, given the perimeter of a polygon.
	Determining the perimeter of polygons	
	Finding the length of an unknown side	

Students interpret angles. 3.M.Angles		
Activities		**Skills & Procedures**
Measurement	Equal Angles	• Compare two angles directly by superimposing.
	Comparing Angles	• Estimate which of two angles is greater.
	Right Angle Relation	• Identify 90° angles in the environment, using a referent.
Skill Quests		**Skills & Procedures**
Understand angles	Comparing angles	• Compare two angles directly by superimposing. • Identify 90° angles in the environment, using a referent.
	Right angles	

Patterns

Students analyze patterns in numerical sequences. 3.P.Patterns		
Activities		**Skills & Procedures**
Patterns	Counting on a 100 grid	• Recognize skip-counting sequences in various representations, including rows or columns of a multiplication table.
	Count by 2s, 5s and 10s	
	Increasing Patterns	
	Decreasing Patterns	
	Describing Patterns	• Recognize skip-counting sequences in various representations, including rows or columns of a multiplication table. • Describe the change from term to term in a numerical sequence, using mathematical operations.
Skill Quests		**Skills & Procedures**
Numerical sequences	Patterns in the multiplication table	

	Skip-counting sequences	• Recognize familiar numerical sequences, including the sequence of even or odd numbers. • Recognize skip-counting sequences in various representations, including rows or columns of a multiplication table. • Determine any missing term in a skip-counting sequence, using multiplication. • Describe the change from term to term in a numerical sequence, using mathematical operations.
	Skip counting by 2s	
	Skip counting by 3s	
	Skip counting by 4s	
	Skip counting by 5s	
	Skip counting by 10s	

Time

Students tell time, using clocks. 3.T.Time		
Activities		**Skills & Procedures**
Time	Tell Time to the Hour	• Tell time, using analog and digital clocks.
	Tell Time to the Half Hour	
	Five Minute Times	
	What is the Time?	
	24 Hour Time	• Express time of day in relation to one 24-hour cycle.
Skill Quests		**Skills & Procedures**
Tell time	Hours, minutes & seconds	• Investigate relationships between seconds, minutes, and hours, using an analog clock. • Describe time of day as a.m. or p.m. relative to 12-hour cycles of day and night. • Tell time, using analog and digital clocks. • Express time of day in relation to one 24-hour cycle.
	Telling time using digital clocks	
	Telling time using analog clocks	
	Understanding AM & PM	
	Understanding 24-hour notation	

Statistics

Students interpret and explain representations of data. 3.S.Data		
Activities		**Skills & Procedures**
Data & graphs	Dot Plots	• Consider possible answers to a statistical question based on the data collected.
	Analyzing Data	• Represent first-hand and second-hand data in a dot plot or bar graph with one-to-one correspondence.
Skill Quests		**Skills & Procedures**
Understand representations of data	Bar graphs	• Represent first-hand and second-hand data in a dot plot or bar graph with one-to-one correspondence. • Consider possible answers to a statistical question based on the data collected.
	Dot plots	

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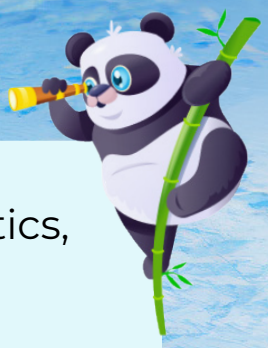

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3P Learning