Mathletics
Saskatchewan Program of Studies

Understanding Practice and Fluency (UPF)

Grades 1 – 2
November, 2021

Mathletics

Mathletics

Saskatchewan Program of Studies
Understanding, Practice and Fluency (UPF)
November 2021

Grade 1

1 Number

Outcome	Quests	Content
1. Say the number sequence, 0 to 100, by: 1s forward and backward between any two given numbers, 2s to 20, forward starting at 0, 5s and 10s to 100, forward starting at 0.	Number sequences to 100	Counting by 1s to 100
		Skip counting by 2s to 30
		Skip counting by 5s to 100
		Skip counting by 10s to 100
		Skip counting by 2s, 5s & 10s
3. Demonstrate an understanding of counting by: indicating that the last number said identifies "how many", showing that any set has only one count using the counting on strategy, using parts or equal groups to count sets.	Counting strategies	Counting collections to 20
4. Represent and describe whole numbers to 20 concretely, pictorially, and symbolically.	Represent & describe numbers to 20	Number names to 20
		Sequencing numbers to 20
		Partitioning numbers to 20
5. Compare sets containing up to 20 elements to solve problems using referents (known quantity) and one-to-one correspondence.	Compare & order sets up to 20	Comparing & ordering sets up to 20
		Exploring change in quantity up to 20
7. Demonstrate, concretely, physically, and pictorially, how whole numbers can be represented by a variety of equal groupings with and without singles.	Represent numbers to 30	Representing numbers to 30 in equal groups
8. Identify the number, up to 20, that is one more, two more, one less, and two less than a given number.	Numbers more than & less than	Identifying numbers more than & less than
9. Demonstrate an understanding of addition of numbers with answers to 20 and the corresponding subtraction facts, concretely, pictorially, physically, and symbolically by: using familiar and mathematical language to describe additive and subtractive actions from their experience, creating and solving problems in context that involve addition and subtraction, modelling addition and subtraction using a variety of	Addition & subtraction to 20	Adding to 20
		Adding to 20 by bridging to 10
		Subtracting within 20
		Subtracting within 20 by bridging to 10
		Adding & subtracting using a bar model
		Creating add/subtract word problems
		Finding fact families for addition & subtraction
		Adding & subtracting within 20 fluently

concrete and visual representations, and recording the process symbolically.		
10. Describe and use mental mathematics strategies (memorization not intended), such as: counting on and counting back, making 10, doubles, using addition to subtract to determine basic addition facts to 18 and related subtraction facts.	Addition & subtraction strategies	Making a 10
		Addition & subtraction to 18
		Adding & subtracting using doubles
		Introducing commutative property of addition

2 Patterns and Relations

Outcome	Quests	Content
1. Demonstrate an understanding of repeating patterns (two to four elements) by: describing, reproducing, extending, creating patterns using manipulatives, diagrams, sounds, and actions.	Repeating patterns	Recognizing repeating patterns
		Reproducing repeating patterns
		Manipulating repeating patterns
		Extending repeating patterns
		Describing & creating repeating patterns
2. Translate repeating patterns from one form of representation to another.	Translate repeating patterns	Translating repeating patterns
3. Describe equality as a balance and inequality as an imbalance, concretely, physically, and pictorially (0 to 20).	Equality & inequality	Exploring equality & inequality
4. Record equalities using the equal symbol.	Record equalities	Recording equalities
		Solving addition & subtraction equality problems

3 Shape and Space

Outcome	Quests	Content
1. Demonstrate an understanding of measurement as a process of comparing by: identifying attributes that can be compared, ordering objects, making statements of comparison, filling, covering, or matching.	Measurement	Exploring length
		Exploring volume
		Exploring mass
		Exploring area
2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.	Sort 2-D shapes & 3-D objects	Sorting 2-D shapes
		Sorting 3-D objects
3. Replicate composite 2-D shapes and 3-D objects.	Replicate composite 2-D shapes	Replicating composite 2-D shapes
	Replicate composite 3-D objects	Replicating composite 3-D objects
4. Compare 2-D shapes to parts of 3-D objects in the environment.	Compare 2-D shapes to 3-D objects	Comparing 2-D shapes to parts of 3-D objects

Grade 2

1 Number

Outcome	Quests	Content
1. Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: representing (including place value), describing, skip counting, differentiating between odd and even numbers, estimating with referents, comparing two numbers, ordering three or more numbers.	Number sequences	Counting by 2s to 100
		Counting by 5s to 100
		Counting by 10s to 100
		Counting by 10s to 100 from any number
		Counting in 2s, 5s or 10s
	Even & odd numbers	Even & odd numbers
	Ordinal numbers	Introducing ordinal numbers
	Numbers to 100	Number names to 100
		Counting collections to 50
		Numbers to 100
		Representing numbers to 100 using a tally
		Counting in tens & ones
	Count a sum of money to 100¢	Counting a sum of money to 100¢
	Compare & order numbers to 100	Comparing & ordering numbers to 100
	Place value of numbers to 100	Place value of numbers to 50
		Standard partitioning of numbers to 100
		Non-standard partitioning of numbers to 100
	Place value problems: 2-digit numbers	Solving place value problems with 2-digit numbers
2. Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: representing strategies for adding and subtracting concretely, pictorially, and symbolically, creating and solving problems involving addition and subtraction, estimating, using personal strategies for adding and subtracting with and without the support of manipulatives, analyzing the effect of adding or subtracting zero, analyzing the effect of the ordering of the quantities (addends, minuends, and subtrahends) in	Add & subtract a zero	Adding & subtracting a zero
	Addition & subtraction to 18	Adding & subtracting to 18
		Adding doubles & near doubles
		Solving number problems using near doubles
		Using the commutative property of addition
		Counting on by bridging to 10
		Addition & subtraction facts - word problems
	Addition within 100	Adding 2-digit & 1-digit numbers using place value
		Adding by bridging to 10 with 2- & 1-digit numbers
		Adding tens to a 2-digit number using models

addition and subtraction statements.		Adding two 2-digit numbers using place value
		Adding two 2-digit numbers using a number line
		Adding by compensating
		Adding compatible pairs
		Using number bonds to 100
	Subtraction within 100	Subtracting by bridging to 10
		Subtracting 2- & 1-digit numbers using place value
		Subtracting using mixed strategies
		Subtracting tens from a 2-digit number
		Subtracting two 2-digit numbers using place value
		Subtracting two 2-digit numbers, number line
		Subtracting by compensating
	Addition & subtraction within 100	Adding up to find the difference
		Add/subtract place value patterns
		Add/subtract using mixed strategies
		Add/subtract two 2-digit numbers using place value
		Solving addition & subtraction word problems
		Number sentences to solve word problems
		Estimating sums & differences
		Judging the reasonableness of answers

2 Patterns and Relations

Outcome	Quests	Content
1. Demonstrate understanding of repeating patterns (three to five elements) by: describing, representing patterns in alternate modes, extending, comparing, creating patterns using manipulatives, pictures, sounds, and actions.	Explore repeating patterns	Creating & extending repeating patterns
		Identifying repeating patterns
		Numeric patterns
2. Demonstrate understanding of increasing patterns by: describing, reproducing, extending, creating patterns using manipulatives, pictures, sounds, and actions (numbers to 100).	Explore increasing number patterns	Exploring addition patterns to 100
		Exploring patterns to 100 using multiples
		Connecting objects & symbols to number patterns
		Exploring growing number patterns up to 100
		Exploring visual patterns
3. Demonstrate understanding of equality and inequality concretely and pictorially (0 to 100) by: relating equality and inequality to balance, comparing sets, recording equalities with an equal sign, recording inequalities with a not equal sign, solving problems involving equality and inequality.	Equality & inequality	Introducing equality & inequality
	Using the equal & not-equal symbol	Using the equal & not-equal symbol

3 Shape and Space

Outcome	Quests	Content
1. Demonstrate understanding of non-standard units for linear measurement by: describing the choice and appropriate use of non-standard units, estimating, measuring, comparing and analyzing measurements.	Non-standard measurement: length	Exploring non-standard measurement of length
		Comparing & ordering objects by length
		Measuring length using non-standard units
2. Demonstrate understanding of non-standard units for measurement of mass by: describing the choice and appropriate use of non-standard units, estimating, measuring, comparing and analyzing measurements.	Non-standard measurement: mass	Non-standard measurement of mass
		Comparing & ordering objects by mass
3. Describe, compare, and construct 3-D objects, including: cubes, spheres, cones, cylinders, pyramids.	3-D objects	Introducing spheres
		Introducing cones
		Introducing cubes
		Introducing cylinders
		Introducing pyramids
		Introducing prisms
		Identifying 3-D objects
		Comparing 3-D objects
4. Describe, compare, and construct 2-D shapes, including: triangles, squares, rectangles, circles.	2-D shapes	Naming 2-D shapes
		Comparing 2-D shapes
5. Demonstrate understanding of the relationship between 2-D shapes and 3-D objects.	Sort 2-D shapes & 3-D objects	Sorting 2-D shapes
		Sorting 3-D objects
	Identify 2-D shapes in the environment	Identifying 2-D shapes in the environment

4 Statistics and Probability

Outcome	Quests	Content
1. Demonstrate understanding of concrete graphs and pictographs.	Gather & record data	Gathering, sorting & recording data
	Interpret data	Using pictographs
		Using basic graphs
		Using a tally
		Making a graph
		Answering questions about a graph

Mathletics

For more information about Mathletics,
contact our friendly team.

www.mathletics.com/contact