Formative gy:	Effective Practices	Getting There Resources Mathology
gy:		
gy:		Mathology
at the end of the Questions for each These short check-ins sed regularly but the year to inform ent tables are also at the end of each hese are designed for to record observations dent progress in to I can Statements. Summative gy: What You Know" are available at the	-Whole class number talks -Integrate hands on activities -Use centers around the room with different activities -Accept variations on how students communicate -Set goals for students -Use of creative exit tickets	and ×/÷ subtraction facts and provides summary charts by grade for what students should know. -"Effective Practice for Addition and Subtraction" document provides activities and support for teaching (e.g., using anchor charts, number talks, centers, and games). This resource is designed for the grade 4 level, however, provides a good starting point for grade 5 classrooms and is useful for teaching numeracy at the start of the year. Math Tools -Pearson interactive math tools: this online resource provides lots of opportunities
ach unit.		for students to practice and play around with concepts; some specific tools are linked in the relevant unit section.
		Alternative Resources
		- <u>Saskatchewan curriculum &amp; assessments</u> - <u>Indigenous Education Numeracy (SD71)</u> -Indigenous Math Network (UBC)
	Questions for each hese short check-ins ed regularly ut the year to inform nt tables are also at the end of each hese are designed for to record observations ent progress in o I can Statements. Summative gy: hat You Know" are available at the	at the end of the Questions for each hese short check-ins ed regularly ut the year to inform nt tables are also at the end of each hese are designed for to record observations ent progress in o I can Statements. Summative Ry: hat You Know" are available at the

Grade 5 - Number Sense (Unit 1) Mid-August to Mid-September (About 4 weeks) In Grade 5, students learn to count forwards and backwards from 1 to 10 000, and how to interpret numbers up to 1 000 000 in many ways.					
Pre-assessment	Pre-assessment Assessment Classroom Routines Resources			- Comments	
Mathology: -Readiness Task: Number Relationship & Place Value (Number Task 1) *Teachers may want to change the questions in this task to reflect Yukon languages Number Sense diagnostic assessment: this is done at the start of year Computation Assessment: This should be done at the start of year to identify common problems. The focus of this assessment is: -Whole number addition & subtraction (up to 3-digits) -Multiplication & Division (1-digit multipliers and 1-digit divisors)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Representing Numbers and Using Place Value -Comparing and Ordering Quantities -Estimating Quantities <b>Summative</b> Mathology: -Show What You Know (NU1 lesson 4)	Practice for Number Sense -Flexible counting strategies -Skip Counting multiples -Comparing and Ordering -Place Value/Number Lines -Representing Numbers in many ways -Relevant Word Problems Tools for Facts Practice -See "Learning Basic Facts by Strategy" document for ideas -Basic Facts practice: simple addition & subtraction, multiplication & division	Mathology Number Unit 1: Number Relationships and Place Value Math Tools Place value blocks Number Lines Analog & Digital clocks	Number Sense should be spiralled throughout the year. Counting, mental math strategies for addition and subtraction basic facts, place value up to 5- digits, and using various ways to represent numbers up to 10 000, should be reviewed in September through regular classroom routines. In grade 5 there is also a focus on using estimation as part of regular number sense practice. <b>Spiraling and Making Connections</b> <i>Financial Literacy</i> : Review tools for calculating totals and making change <b>Time</b> Time is mostly taught in grade 4 however some ideas are expanded upon in grade 5. As in grade 4, small lessons throughout the year on time would be beneficial to reinforce comprehension. Lesson ideas are laid out in: Mathology – Measurement Unit 3 (Time) "I Can Statements" for Time are listed below in	

Number Sense – I Can Statements				
Counting	I can count forwards from 1 to 10 000 and backwards from 1000 to 0.			
Representing and	I can read numbers to 1 000 000 and say them without using the word "and".			
Writing Whole	I can write numbers to 1 000 000 using proper spacing without commas.			
Numbers	I can represent numbers to 1 000 000 in many ways including words, symbols, expressions, equations, and daily situations.			
Place Value	I can use a place value chart to represent numbers to 1 000 000.			
	I can explain the meaning or value of each digit in numbers up to 6-digits.			
	I can describe real life situations of where or when estimation of large numbers is used.			
Estimation	I can use estimation to make predictions.			
	I can use estimation to check if a situation or number statement in text or social media are reasonable.			
	I can describe when overestimating is important or when underestimation is adequate.			

	Grade 5- Number Operations: Addition/Subtraction & Multiplication/Division (Unit 2) Mid-September to end of October (About 6 weeks) Jnderstanding relationships between operations promotes computational fluency and enhances problem solving skills.						
Understanding re							
	A	Getting The	re				
Pre-assessment	Assessment	Classroom Routines	Resources	Comments			
Mathology: -Readiness Tasks: Fluency with Addition & Subtraction (Number Task 2) Fluency with Multiplication & Division Facts (Number Task 4)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Conceptual Meaning of Addition and Subtraction -Developing Fluency of Whole Number Addition and Subtraction Summative Mathology: -Show What You Know (NU2 lesson 9 & NU4 lesson 25)	Daily Practice -See "Learning Basic Facts by Strategy" document for ideas on how to practice Multiplication and Division of multi-digit numbers -See "Effective Practice for Addition and Subtraction (Grade 4)" for ideas on how to review Addition and Subtraction -Relevant Word Problems -Time: Review of 5/10/25 minute intervals	Mathology Number Unit 2: Fluency with Addition and Subtraction Number Unit 4: Fluency with Multiplication and Division Math Tools <u>Arrays</u> Input Output <u>Machine</u> Place Value Blocks	Addition and subtraction to 1 000 000 are practiced as classroom routines throughout the year. These should be revisited when teaching decimal numbers. In Grade 5, students learn multiplication of 2-digit numbers by 2-digit numbers, and division of 3-digit numbers with remainders. Strategies for doubling/halving, and using the distributive property are introduced. <b>Spiraling and Making Connections</b> -Increasing and Decreasing Patterns -One-step Equations <i>Financial Literacy:</i> -Review of Monetary Calculations with decimal notation -Financial Literacy Readiness Task (Number Task 6) <b>Time</b> Mathology: -Mathology: Measurement Readiness Task (Measurement Task 3)			

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Number Operations – I Can Statements					
Comparing and	I can compare and order numbers to 1 000 000 and explain my strategy.				
Ordering	I can order numbers from 1 to 1 000 000 on a number line using benchmarks.				
Addition and	I can add and subtract numbers up to a 1 000 000.				
Subtraction	I can use flexible strategies to combine numbers in a variety of ways.				
	I can use estimation strategies to predict and verify sums and differences to 1 000 000.				
	I can recall multiplication facts and division facts, as well as neighbours, times 4 and times 5.				
	I can use front-end rounding to estimate products and quotients.				
Multiplication and	I can multiply numbers up to 2-digits by 2-digits and apply strategies such as halving, doubling and the distributive property.				
Division	I can divide numbers up to 3-digits, including dividing with remainders.				
	I can use multiplication and division in real life contexts with decimals.				

	Grade 5 – Measurement (Unit 3) October (About 3 weeks)					
Pre-assessment	Assessment	e, measure, and compa Getting Thei Classroom Routines		imeter and area of quadrilaterals. Comments		
Mathology: -Readiness Task: Length, Perimeter, Area (Measurement Task 1)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Measuring Area and Perimeter of Rectangles -Measuring Area of Parallelograms and Triangles -Using Measurement of Time	Daily Practice -Math Talks -Times 4 & times 5 -Halving & doubling -Division with remainders -Word problems involving elapsed time	Mathology Measurement Unit 1: Length, Perimeter and Area Math Tools <u>Geoboards</u> <u>2D</u> <u>Geometry</u> <u>Elapsed</u>	The focus of learning in the measurement unit for grade 5 is on concepts linked to geometry. Students are investigating how to measure the perimeter and area of regular and irregular polygons in a variety of different ways and making the connections between the measured perimeter of an irregular shapes and the idea of additive areas. Students are also expanding on concepts linked to measurement of Time. As in grade 4, these ideas should be taught throughout the year. <b>Spiraling and Making Connections</b> -Counting: units -Using all four operations to compare and solve problems <i>Financial Literacy</i> : Introduce notation for money		
	<b>Summative</b> Mathology: -Show What You Know: (Measurement U1 activity 6)		<u>Time</u>	<b>Time</b> -Measurement Unit 3 - Activity 12: Exploring Elapsed Time (Measurement Unit 1, Activity 13)		

	Measurement – I Can Statements			
	I can relate perimeter and area. (e.g., square shape yields greatest area for given perimeter).			
	I can construct a rectangle with given perimeter and area and explain my strategy.			
Perimeter and Area	I can measure the area of squares and rectangles, using tiles, geoboards and grid paper.			
	I can use formulas to determine perimeter and area of a rectangle.			
	I can use traditional dwellings to calculate area.			
	I can estimate how much time has elapsed (seconds, minutes, hours, days).			
	I can name events that last for a few seconds, minutes, hours, days, or months.			

2D objects and 3D	Grade 5 - Geometry of Quadrilaterals and Prisms (Unit 4) December (About 3 weeks) 2D objects and 3D shapes with similar attributes can be described, measured, and compared.					
Pre-assessment	Assessment	Getting Th Classroom Routines	nere Resources	- Comments		
Mathology: -Readiness Task: 2D Shapes and 3D Solids (Geometry Task 1A)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Properties of 2D Shapes and 3D Objects -Investigating Quadrilaterals Summative Mathology: -Show What You Know (Geometry Unit 1A Lesson 4)	Daily Practice -Multiplication and Division facts -Relevant word problems for polygons (Perimeter & Area) -Time: using digital clocks -Money: making change <i>Extension activities:</i> -Mass, Capacity, Volume (Measurement Unit 2)	Mathology Geometry Unit 1A: 2D Shapes and 3D Objects Math Tools Pattern Blocks Explore Objects Nets Rubik's cube solver	In this unit, students are building on their understanding of regular and irregular polygons by sorting and classifying by specific geometric attributes and interpreting nets. They are also expanding their repertoire to include triangular prisms. Seasonal activities to explore in this unit could include Christmas trees and ornaments. <b>Spiraling and Making Connections</b> <i>Financial Literacy</i> : Making monetary calculations in real life <b>Time</b> -Practice questions involving elapsed time.		
Time	l can exp	lain how time is connected to	daily and seasonal cyc	les, moon cycles, tides, journeys and events.		

I Can Statements		
	I can describe and construct triangular prisms.	
	I can describe and sort quadrilaterals.	

	I can sketch 2-D shapes or 3-D object from its attributes.
Geometry	I can identify prisms in the environment.

## Grade 5– Fractions and Decimals (Unit 5)

January (About 3 weeks)

Fractions are numbers that represent an amount or quantity. Fractions can represent the number of parts of a region or set, or equal shares and equal sized portions. Decimals can also represent parts of a whole, and can be compared to base-ten fractions.

	Assessment	Getting There		Commente
Pre-assessment		Classroom Routines	Resources	Comments
Mathology: -Readiness Task: Fractions and Decimals (Number Task 3)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Exploring Fractions, Decimals, and Percents	Daily Practice -Relevant Word Problems -Math Talks -Number Lines & Place Value -Base-ten fractions & decimals -Time: Analogue clocks and fractions of time -Money: review of decimal addition <i>Extension Activities</i> :	Mathology Number Unit 3: Fractions and Decimals Math Tools Fraction Circles Fraction Relationships	Building on their understanding of fractions, students are now making connections between fractions and decimals, and how our number system, built on a base-ten system, connects to decimals and base-ten fractions. They are also now ordering both fractions and decimals on number lines. <b>Spiraling and Making Connections</b> -Measurement: half the distance, half a cup etc. -Number lines: connecting decimals to place value -Partitioning quantities (e.g., halves into thirds) <i>Financial Literacy:</i> -Fractions of dollars/coins -Monetary calculations with making change
	Summative Mathology: -Show What You Know (NU3, Lesson 18)	-Relating mixed numbers to improper fractions (NU3, Lesson 11) -Relating Fractions, Decimals & Percents (NU3 Lesson 17)	Fraction Strips	<b>Time</b> -Half past or quarter to and past on analogue clocks

I Can Statements				
	I can convert between fractions and decimals.			
Fractions	I can model and explain that equivalent fractions represent the same quantity using concrete materials and drawings.			
	I can create equivalent fractions and understand they still represent the same amount.			
	I can use strategies to position a set of fractions with like and unlike denominators on a number line.			

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Grade 5 – Operations with Decimals (Unit 6) February (About 4 weeks) Whole-number, fraction, and decimal benchmarks help us to compare, order, and estimate sums and differences of fractions and decimals.					
Pre-assessment	Assessment	Getting Ther Classroom Routines	e Resources	Comments	
Mathology: -Readiness Task: Decimals (Number Task 5) Computation Assessment (Mid-year): The focus of this mid-year assessment is on whole and decimal numbers to 1000ths, and looks at: -Addition & subtraction (multi-digit) -Multiplication & Division (whole numbers; 2-digit by 2-digit multiplication, and 1-digit divisors)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Conceptual Meaning of Addition and Subtraction of Decimals Summative Mathology: -Show What You Know (Number Unit 5, Lesson 32)	Daily Practice -Number Lines with decimal numbers -Multiplication and Division facts -Practice converting between fractions & decimals <i>Extension Activities</i> : -Operations with Fractions and Decimals: See Lessons for Number Activities 29/30/31 in NU 5.	Mathology Number Unit 5: Operations with Decimals Math Tools <u>Number Lines</u> with Decimals <u>Place-value</u> <u>Blocks</u>	Extending on their understanding of the connections between place value and decimals, students are now applying addition and subtraction operations to decimal numbers up to thousandths. Concepts in this unit should be taught with an emphasis on estimation and modelling, with the use of visual aids and number lines to represent and compare decimal numbers and fractions. <b>Spiraling and Making Connections</b> <i>Financial Literacy</i> : Transactions involving making change and related word problems. <b>Time</b> Mathology: -Solving problems involving Time – Measurement Activity 14	

	I Can Statements			
	I can write a decimal in fraction form.			
	I can write fractions with denominators of 10 000 or 1 000 as a decimal.			
	I can represent decimal numbers up to the thousandths in many ways including concrete materials & pictures.			
Decimals	I can use visual models to represent decimals.			
	I can read and write decimals in decimal notation up to thousandths.			
	I can describe the value of each digit in each decimal.			
	I can express a tenth as an equivalent hundredth and thousandth and explain similarities and differences, e.g., 0.2, 0.20. 0.200			
	I can estimate decimal sums and differences.			
	I can add and subtract decimal numbers up to the thousandths.			

Working with patte	rns helps to generalize		and Relations (Unit 7 eak (About 2 weeks)	·
Pre-assessment	Assessment	Getting Th Classroom Routines		Comments
Mathology: -Readiness Task: Increasing and Decreasing Patterns (Patterning and Algebra Task 1)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Generalizing and Representing Patterns -Extending Patterns to Solve Problems Summative Mathology: -Show What You Know (Patterning & Algebra U1, Lesson 4)	Daily Practice -Relevant Word Problems -Daily practice of addition and subtraction with decimal numbers including money -Interpreting Increasing and decreasing patterns through graphs, charts and tables	Mathology Patterning Unit 1: Patterns and Relations Math Tools Data and Graphs Pattern Blocks Input Output Machine	In this unit, students are building on their understanding of increasing and decreasing patterns, learning how to develop their own patterning rules, and using all operations interpret problems involving patterning. <b>Spiraling and Making Connections</b> -Applying all four operations <i>Financial Literacy:</i> Solving Problems involving representation of financial data <b>Time</b> -Connecting constructs of time in nature

I Can Statements			
I can use patterns to solve problems.			
Patterns	I can extend patterns using repeated addition, subtraction, multiplication and division.		
	I can extend patterns using mathematical expressions.		
	I can describe a pattern rule for increasing and decreasing patterns with variables.		

Variables, algebra	Grade 5 – One Step Equations Algebraic Relationships (Unit 8) April (About 4 weeks) Variables, algebraic expressions, and equations can be used to represent relationships in math.					
Pre-assessment Assessment Getting There				Comments		
Mathology: -Readiness Task: Variables and Equations (Patterning & Algebra Task 2)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Solving for Unknowns in Equations -Solving and Graphing for Inequalities	Classroom Routines Daily Practice -Represent a Number -Word Problems involving patterning -Math Talks Extension Activities: -Inequality Game: See Patterning & Algebra Activity O	Resources Mathology Patterning Unit 2: Variables and Equations Math Tools Pan Balance Input Output Machine Number Lines	Building on the last unit of Patterning, students are now describing patterns with variables. In Grade 4, they are introduced to equations and how to use inverse operations to solve simple one-step equations. They are now addressing more complex problems with all four operations, describing their strategies, and verifying their solutions. <b>Spiraling and Making Connections</b> -Problem Solving with equality <i>Financial Literacy</i> : applying simple linear relationships that involve financial decisions.		
	Summative Mathology: -Show What You Know (Pattering & Algebra U2 Lesson 10)	Activity 9.		Time Solving problems involving: -Elapsed time -Relationship between units of time		

I Can Statements			
	I can express a given word problem as an equation with one unknown symbol.		
Patterns	I can solve one-step equations with a variable.		
	I can model how to solve equations using multiple strategies, e.g., guess-and-check, balance models.		

Grade 5 – Transformations (Unit 9) Start of May to Mid-May (About 2 weeks) We can describe the movement of 2D shapes on a plane by its transformations.					
		Gettin	g There		
Pre-assessment	Assessment	Classroom Routines	Resources	Comments	
Mathology: -Readiness Task: Transformations (Geometry Task 2)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Applying and Visualizing Translations and Reflections -Applying and Visualizing Rotations on a Grid	Daily Practice -Word Problems involving all operations -Solving one-step equations	Mathology Geometry Unit 2B: Transformations Math Tools <u>Shapes</u> 2D Geometry	This unit builds on the idea of symmetry introduced in Grade 4, in conjunction with their understanding of 2D shapes. Students are now applying three transformations to objects in the first Quadrant: translations, reflections, and rotations. Teachers are encouraged to incorporate elements of art and design into this unit. <b>Spiraling and Making Connections</b> -Geometry of 2D shapes and 3D objects -Measurement on a grid	
	Summative Mathology: -Show What You Know (Geometry U2A Lesson 9)			<b>Time</b> -Daily applications of measuring time	

I Can Statements			
	I can perform single transformations on concrete objects.		
Transformations	I can perform and describe single transformations: slide(translate), flip (reflection), turn (rotation).		
	I can identify transformations in weaving, cedar baskets, designs in First Nations art.		

Grade 5 - Data Management (Unit 10a) Mid-May to end of May (About 2 weeks) We can use many-to-one correspondence to create and display data in ways that help us predict and interpret situations.						
Pre-assessment	Assessment	Getting The Classroom Routines	re Resources	Comments		
Mathology: -Readiness Task: Data Management (Task 1A)	Formative -Exit ticket questions in each section of Practice Questions.	<b>Daily Practice</b> -Review Questions involving Bar graphs and Pictographs	Mathology Data Unit 1: Data Management	In this unit, students are expanding on their understanding of many-to-one correspondence by representing data with double bar graphs. They are also starting to use reasoning in their interpretation of data, to justify inferences they make about data		
Computation Assessment: The focus of this end-of-year assessment is on whole and decimal numbers to 100ths, and looks at: -Decimal Numbers -Addition & subtraction (multi-digit)	Assessment Tables: -Collecting, Organizing, and Representing Data -Interpreting Double-Bar Graphs	-Word Problems involving all operations -Daily practice of addition and subtraction with decimal numbers (including money)	Math Tools	<ul> <li>Spiraling and Making Connections</li> <li>Multiplication and division</li> <li>Patterns and Relations</li> <li>Financial Literacy: Interpreting data involving financial decisions in real life</li> </ul>		
-Multiplication (whole numbers; 2- digit by 2-digit) -Division (whole numbers; 2- and 3- digits by 1-digit divisor)	Summative Mathology: -Show What You Know (Data Man. U1A Lesson 4)			<b>Time</b> Mathology: Time Consolidation Activity (Measurement Unit 3 –Activity 15)		

I Can Statements		
Data Management	I can create many-to-one correspondence in graphs.	
Data Management	I can use a double bar graph.	

Probabilities can be	expressed and compare		ability (Unit 10 out 1 week) ractions and pe	
Pre-assessment	Assessment	Getting The Classroom Routines	•	Comments
Mathology: -Readiness Task: Data Management and Probability (Task 2)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Making Predictions and Conducting Experiments -Theoretical Probability of Independent Events	Daily Practice -Word problems involving data -Representing fractions -Converting fractions to decimals using benchmarks -Daily practice of multiplication and division	Mathology Data Unit 2: Probability Math Tools <u>Probability</u>	In this unit, students continue to explore probability through games and experiments and learn how to predict the outcomes of an event. Students also learn how predicted and experimental outcomes are related, and how they can represent outcomes using decimals, ratios, fractions, and percents. Spiraling and Making Connections -Problem Solving with fractions and decimals
	Summative Mathology: -Show What You Know (Data Man. 2 lesson 8)			<b>Time</b> Mathology: -Show What You Know: Measurement Unit 3: Lesson 18 -Connect the Times Game (in Time: Consolidation, activity 18)

I Can Statements		
Probability	I can predict outcomes of independent events.	
Fiobability	I can represent single outcome probabilities using fractions.	

Flexible computatior	nal strategies help to mak	Grade 5- Financial Lit Done throughou se informed financial decision	it the year	
Pre-assessment	Assessment	Getting There		Commonte
		Classroom Routines	Resources	Comments
Mathology: -Number Readiness Task: Financial Literacy (Number Task 6)	Formative -Exit ticket questions in each section of Practice Questions. Assessment Tables: -Problem Solving with Money -Designing a Basic Budget Summative Mathology: -Show What You Know (NU6, Lesson 38)	Daily Practice-Relevant Problems involving financial decisions-Computations involving finances, e.g., making change-Math Talks with decimals-Math Talks with decimalsExtension Activities: -Exploring Taxes: See Financial Literacy, (NU6 Lesson 33) -Best Value (Unit Rate): See Financial Literacy, (NU6 Lesson 36)	Mathology Number Unit 8: Financial Literacy Math Tools Money	In this unit, students are applying their computational fluency with operations to both estimate and solve problems involving financial decisions. They are also building on prior knowledge of how to make informed financial decisions that now include budgets. <b>Spiraling and Making Connections</b> -Four Operations: Comparing and ordering etc. -Adding and subtracting decimals -Problem Solving in real life contexts

I Can Statements					
	I can make monetary calculations, including making change, up to \$1000 in real-life contexts.				
Financial Literacy	I can make a simple financial plan to meet a goal.				
	I can develop a budget that considers income and expenses.				