

COURSE: Math
Grade Level: Second Grade

MAIN/GENERAL TOPIC	SUB-TOPIC:	ESSENTIAL QUESTIONS :	WHAT THE STUDENTS WILL KNOW:	WHAT THE STUDENT WILL BE ABLE TO DO:	ASSESSMENTS :	WHEN STUDENT DOES IT:
Addition and Subtraction facts	Apply/Master Review vocabulary Review addition facts to ten Review subtraction facts to ten <i>Review + and + symbols</i>	Why do we have numbers?	Addition and subtraction facts to 10 <i>What happens when you add 0</i> <i>Recognize and use + and = symbol</i>	Use a number line and hundreds charts <i>Write addition sentences using symbols.</i>	Teacher made quizzes Flash cards Verbal checks of strategies employed	Sept. and ongoing
Doubles	Memorize doubles sums Doubles plus one	Where do we need to use numbers in our community?	Read numbers in the environment	Demonstrate understanding by using a variety of strategies such as tallies, fingers, counters, and counting on	observations verbal checks quizzes	Sept. and ongoing
number systems	<i>Apply/Develop</i> Tens and ones identify numerals 0-100	Who uses numbers? How do I know if a number is less than or greater than	Tell which is more or less <i>Apply/Develop</i> <i>Greater, less, equal</i> use the symbols <, >, =	<i>Introduce/Apply</i> Read and write numbers to 99, across the curriculum <i>before, between, and after 1000SS</i>	observations quizzes	Sept. and ongoing
Solve word problems	<i>Apply/Develop</i> Use of addition and subtraction <i>Recognize addends and sum in word problems</i>	How do I solve problems using math	solve word problems using important information	identify key words to solve mathematical problems compute word problems	daily word problems in math journal/book quizzes	Sept. and ongoing
Introduce math journals	How do I solve problems using math	Write numbers in math journals and the problem of the day	How to word a written math story problem for journals	Explain in written form how the problem is solved	Teacher check and conference journal entries	Sept. and ongoing
Practice facts in number families Vocabulary	Missing addends Sum, Equal, Addend	Do numbers have families? What is a number family?	The relationship of addition and subtraction facts Recognizing that addition and subtraction are opposites. The strategies for finding facts families	Write number sentences using fact family knowledge When given a sum, students will write the two addends to equal that sum When given a difference, students will write the two missing numbers (subtrahend and minuends)	activities observations	Sept. and ongoing
Ordinal number	Use and understand first – ninth and use them	Why is it important to put numbers in order?	that ordinal numbers place order	Place and identify objects in order	teacher observations activities	Oct. and ongoing

	to represent ordinal relations					
	use and understand verbal ordinal terms					
	Vertical ordinal terms through 30th					

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Memorize facts	<i>Apply/Develop</i> Memorize "one more" facts Memorize "one less" facts	Why is it important to know math facts quickly? When do we add large sums?	Instant recall of double facts and strategies to manipulate the answer for one more or less up to 18	Complete facts in a given amount of time on timed tests	Timed tests CIMS tests Teacher observation Teacher made assessments Commercial assessments	October and ongoing
Place value	Place value with 1's and 10's develope an understanding of base10	HOW DO I WRITE ABD GROUP NUMBERS LARGER THAT 9 AND 99	The value of each digit in a number <i>Apply/Develop</i> 10 ones = 1 ten 10 tens = 1 hundred 10 HUNDREDS = 1 THOUSAND	Use a tens grid	Timed tests CIMS tests Teacher observation Teacher made assessments Commercial assessments	October and ongoing
Two digit Addition/Subtraction without regrouping	<i>Introduce/Apply</i> Two digit addition and subtraction without regrouping <i>Apply</i> <i>Review and use</i> <i>minus sign</i>	In subtraction why must the greater number be on the top?	Add two, two digit numbers starting in the ones column	Solve problems using ones and tens	Timed tests CIMS tests Teacher observation Teacher made assessments Commercial	October and ongoing

					assessments	
Addition	<i>Introduce/Apply</i> Add a series of single digit addends		Know strategies for adding a column of one digit numbers	Use strategies of bracketing sets of numbers: looking for doubles and sums of ten	Timed tests CIMS tests Teacher observation Teacher made assessments Commercial assessments	October and ongoing

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Learn Mathematical Strategies	<i>Apply/Develop</i> Use different strategies for adding (counting on, doubles, one less than ten for nine facts)	Would you like to know easier ways to add numbers?	Brainstorm ways to add	Recall an effective strategy when solving an addition problem	Teacher observations CIMS tests Teacher made assessments Commercial assessments	November and ongoing
Estimation	<i>Making good guesses</i>	What does it mean to estimate?	That an estimation is a good guess	Students will be able to make good guesses using number concepts	Teacher observations CIMS tests Teacher made assessments Commercial assessments	October and ongoing
Numbers to 100	<i>Introduce/Apply</i> Addition Read and write numbers to 100 Compare numbers to 100	Why do we need big numbers?	Know how to read, write and understand/interpret three digit numbers <i>Record and use</i> 10 hundred = 1000	<i>Read and write number before, between, after</i>	Teacher observations CIMS tests Teacher made assessments Commercial assessments	November and ongoing
Addition	<i>Introduce</i> Addition with regrouping to the tens	Why do we regroup? What can we do when our sum in the ones column is more than 9?	Know how to "carry" the ones to the tens place	Manipulate ones and tens and trade when needed Trade ten ones for a ten to solve addition problems	Teachers observation Use of manipulative to model strategies	December and ongoing

					Commercial assessments	
Graphs	Charts: bar graphs: pictographs <i>Introduce Bar</i>	What can you learn from a graph? Why would you create a graph?	How to interpret information from a graph. This is one form of collecting information.	Read and understand graphs. Construct their own graphs Tally when collecting data for graphs Answer questions using the information on a graph Use information on a graph to solve problems Compare and contrast information on a graph <i>Bar graph</i> <i>formulate questions about self and surroundings</i> <i>students will compare by counting</i>	Student created graphs using data Teacher observation Teacher created materials Demonstrate ability to use a variety of graphs to compare and contrast data	January and ongoing

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Skip counting	Multiples of 2's, 5's, 10's and 100's <i>Introduce/Apply</i> <i>By 3 s to 36</i> <i>By 4 s to 48</i>	How can skip counting make your life easier? Who uses skip counting? How can skip counting help you with multiplication in the future?	How to count groupings of 2's, 5's, 10's and 100's <i>Introduce</i> <i>Counting backwards by 100 by 1 s, 2 s, 5 s.</i>	Use these skills in counting coins Recall this skill in telling time(5's)	Use a hundreds chart to color numbers in 2's, 5's 10's showing patterns	January and ongoing
Patterns	<i>Introduce/Apply</i> Odd/Even Numbers use concrete materials to justify a number as odd or even	What makes some numbers odd?	How to tell an odd number from an even number	How to identify even and odd numbers	Teacher observation Teacher created assessment Commercial Assessments	Jan. and ongoing
Subtraction	<i>Introduce</i> With regrouping <i>State?</i>	Why would we regroup in subtraction? When can we regroup? Could there be a time when you subtract a greater number from a smaller number?	When and why regrouping is used?	Trade one ten for ten ones when regrouping when necessary Understanding the concept of when to trade Show understanding of regrouping in written form Be able to use (borrowing) regrouping in word problems	Teacher observation Commercial assessment Use of manipulatives to demonstrate understand-	Feb.

				Use math journals to write word problems showing regrouping	ing	
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Money	Coin recognition <i>Introduce</i> Paper money Recognition – 1 s, 5 s, 10 s, 20 s Dollar sign and decimal point Cent sign <i>Introduce/Apply</i> Addition and subtraction with money	Why do we need money? What would happen if we didn't know about money value?	How to count sums of money. How to make change. The importance of consumerism. The strategies of counting money How to Identify if an answer makes sense. Identify equivalent coins of a dollar	Name coin and value Role play as customer and cashier Solve word problems using dollars and cents Writing their own word problems using dollars and cents	Teacher observation Commercial material Journal entries	Mar. and ongoing
Time	<i>Introduce</i> Hours Minutes Intervals Before/after Half hour	What would your life be like if you didn't have a clock (how to tell time)?	How to tell time on a digital and analog clock That there is 60 seconds in a minute and 60 minutes in an hour we count by fives to tell time	Tell time to the hour, half hour, , five minute interval using both digital and analog clock Write time when given an analog clock Solve word problems involving time	Teacher observation Commercial assessment CIMS Journal entries	Mar. and ongoing
Calendar	Days; weeks; months; years; Elapsed time	If we didn't have calendars would you know when it was your birthday?	How to use and make a calendar Recite the calendar poem Know knuckles methods	Manipulate information found within a calendar Answer direct questions found on a given calendar	Teacher Observation Student created calendar	Sept.. and ongoing

Calendar			Order of the days of the week Order of the months	Create their own calendar Identify various uses of a calendar	Journal entries using calendar information	Sept. and ongoing
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Measurements	Nonstandard/ Standard Introduce Volume; Linear (perimeter) Tall, width Weights	What do we measure? Who needs this? Why would someone use measuring? What is the purpose of measuring? When would someone need to use measuring?	How to measure using all the methods and models Standard/non-standard) What tools are appropriate for a given situation Use ruler whole "and" How to compare and contrast like measurement families Lighter than heavier than	Read the tool being used to measure (ruler, scale) Solve word problems involving measurement Write word problems using measuring estimate measurements compare and order objects according to length	Teacher observation Commercial assessment Demonstration Journal entries	April and ongoing
Geometric figures	Introduce Recognize and name the following shapes: sphere, cube, cone, rectangular prism, and cylinder 2 D Shapes explore line of symmetry	When shapes are not flat, what do we call them? What does it mean to be symmetrical?	Compare 2 dimensional shapes 3 dimensional shapes Identify and name 2D shapes (circle, square, triangle, rectangle)	Recognize geometric figures in their environment and identify them by name. Group objects to like proper.	Teacher observations CIMS tests Teacher made assessments Commercial assessments	May

Three digit addition and subtraction	<p><i>Introduce</i> With regrouping</p> <p><i>Introduce</i> Story problems using three digit addition and subtraction</p>	<p>Do people need to know how to add or subtract passed 99?</p> <p>What would happen if we put numbers anywhere to add or subtract them?</p>	<p>How to regroup to the hundreds place</p> <p>How to align numbers in their place value to the hundreds place.</p>	<p>Transfer what they have learned about two place addition/subtraction to three place addition/subtraction</p> <p>Write word problems using 3 digit addition/subtraction</p> <p>Always move to the "neighbor" on the left to "go a knocking" when borrowing.</p> <p><i>Write 3 digits to 1000</i></p>	<p>Teacher observation</p> <p>Commercial assessment</p> <p>Math Journal entries</p>	<p>June and next year!</p>
Multiplication/ Division	<p>Simple Introduction</p> <p>By using repeated addition</p> <p>readiness for division dividing objects into groups (fair share)</p>	<p>Is there an even quicker way to add?</p> <p>Where do people in the real world use division?</p> <p>Are multiplication and division related?</p>	<p>The relationship between multiplication and division</p> <p>The relationship between multiplication and addition</p>	<p>Skip count 2's, 5's 10's</p> <p>Recognize that the times-tables have an order</p> <p>Recognize the commutative properties of multiplication</p>	<p>Teacher Observation</p> <p>Use of Manipulative</p> <p>To model Word problems</p>	<p>June and next year!</p>