




BCSD 4th Grade Mathematics Curriculum


Time	Standards	Topics	Essential Questions	Content and Skills	Assessments	Resources	Options
September - June	MST3.04. AL7.04 MST3.04. AL7.05	Patterns (develop/master)	How can we find a pattern in numbers and shapes?	Patterns <ul style="list-style-type: none"> How to look for a pattern Develop a procedure for identifying patterns Write a continuation of the pattern 	NYS Math Assessment Problem of the day	http://nlvm.usu.edu/en/nav/frames_asid_184_g_2_t_1.html?from=category_g_2_t_1.html - complete the patterns http://nlvm.usu.edu/en/nav/frames_asid_170_g_2_t_3.html?open=activities&from=grade_g_2.html - pattern blocks for solving problems http://nlvm.usu.edu/en/nav/frames_asid_163_g_2_t_3.html?open=activities&from=grade_g_2.html - tessellations http://www.amblesideprimary.com/ambleweb/mentalmaths/functionmachines.html - function machine	▲ ▼ ✕
September - June	MST3.04. PS1.01 MST3.04. PS1.02 MST3.04. PS1.03 MST3.04. PS1.04 MST3.04. PS1.05 MST3.04. PS1.06 MST3.04. PS1.07 MST3.04. PS1.09 MST3.04. PS1.10 MST3.04. PS1.11 MST3.04. PS1.12 MST3.04. PS1.13 MST3.04. PS1.17 MST3.04. PS1.19	Problem solving (develop)	What key words help us to solve word problems? When should we add, subtract, multiply, or divide? What steps can we use to solve a problem?	Problem solving <ul style="list-style-type: none"> Recognize key words that will help with problem solving Choose the correct operation to solve a problem Break a problem into steps before solving it 	Problem of the day Teacher observation Quizzes Tests	http://www.berghuis.co.nz/abiator/maths/sa/saindex.html - problemsolving challenges http://www.purplemath.com/modules/translat.htm - translating key words http://library.thinkquest.org/4471/learn.htm - strategies review	▲ ▼ ✕

	<u>MST3.04. PS1.20</u> <u>MST3.04. PS1.21</u> <u>MST3.04. PS1.22</u> <u>MST3.04. PS1.23</u> <u>MST3.04. PS1.24</u> <u>MST3.04. PS1.25</u> <u>MST3.04. CN4.03</u> <u>MST3.04. RE5.07</u> <u>MST3.04. NO6.15</u> <u>MST3.04. NO6.17</u>						
Early September	<u>MST3.04. RE5.10</u> <u>MST3.04. NO6.01</u> <u>MST3.04. NO6.02</u> <u>MST3.04. NO6.03</u> <u>MST3.04. NO6.04</u> <u>MST3.04. NO6.05</u> <u>MST3.04. NO6.13</u> <u>MST3.04. AL7.02</u>	Place Value	Why is place value important? When will you use it? Why is it important to read and write numbers? When might you need to know which is a larger or smaller number? When might you need to know whether a number is odd or even?	Place Value to the millions <ul style="list-style-type: none"> Identify a place or a period in a given number Read and write standard form <ul style="list-style-type: none"> Read and write numbers to the millions Change numbers from expanded form to standard form Visually break numbers into periods in order to be able to read/write them correctly Order and Compare	Quizzes Tests Teacher Observations	http://www.funbrain.com/tens/index.html - place value puzzler http://www.starmatica.com/standalone/starrMaticaplaveValueMysteryNumbers.swf - mystery number game http://www.numbernut.com/basic/activities/number_moreless_1-100.shtml - comparing numbers	


				<ul style="list-style-type: none"> Compare numbers based on their place value Write number sentences using $>$, $<$, $=$, not equal <p>Odd and Even Numbers</p> <ul style="list-style-type: none"> Identify odd and even multi-digit numbers 			
September	<u>MST3.04.RP2.03</u> <u>MST3.04.RE5.08</u> <u>MST3.04.NO6.26</u> <u>MST3.04.NO6.27</u> <u>MST3.04.SP10.05</u>	Estimation	<p>When might you need to round numbers?</p> <p>When might you need to round decimals?</p> <p>When does a good or poor prediction make a difference in your life?</p>	<p>Rounding whole numbers to nearest 10's, 100's, 1000's (develop/master)</p> <ul style="list-style-type: none"> Rules of rounding <p>Rounding decimals to tenths (introduce/apply)</p> <ul style="list-style-type: none"> Rules of rounding <p>Predicting outcomes (introduce/apply)</p> <ul style="list-style-type: none"> Estimate sums and differences of whole numbers and decimals Use rounding to estimate an answer Make a logical prediction based on available information Give estimated 	<p>Quiz</p> <p>CIMS Test</p> <p>Book or Teacher made test</p> <p>Teacher observation</p> <p>Class participation</p> <p>Problem of the Day</p>	<p>http://www.shodor.org/interactivate/activities/estimator/ - interactive estimator tool</p> <p>http://www.factmonster.com/math/numbers/rounding.html - rounding numbers review rules</p> <p>http://www.aplusmath.com/Flashcards/rounding.html - rounding flashcards</p> <p>http://www.softschools.com/math/practice/rounding_numbers.jsp - rounding numbers games</p>	


				answers			
September	<u>MST3.04.AL7.01</u>	Addition	<p>How do we add numbers?</p> <p>What is the commutative property?</p> <p>What is the associative property?</p>	<p>Sums to Millions (include column addition) (introduce/apply)</p> <ul style="list-style-type: none"> • Meaning of addend and sum • Calculate sums • Check answers • Solve for missing addends • Recognize and use addition and equal sign • Write symbol in number sentences <p>Commutative & Associative Properties (introduce)</p> <ul style="list-style-type: none"> • Identify commutative or associative property in a problem • Master fact families 	<p>Mad minutes Quizzes</p> <p>Student self assessment</p> <p>Teacher observation</p>	<p>http://www.321know.com/g4_38cx5.htm - addition review and practice- thousands</p> <p>http://www.netrover.com/~jjrose/random/container.htm - 2-3-digit addition games</p> <p>http://www.shodor.org/interactivate/activities/ArithmeticFour/ - Arithmetic Four</p> <p>http://www.purplemath.com/modules/numbprop.htm - review of properties</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_154_g_2_t_1.html?from=grade_g_2.html - Base Block Addition</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_209_g_2_t_1.html?open=activities&from=grade_g_2.html - Chip Abacus</p>	
Late September - October	<u>MST3.04.CO3.09</u> <u>MST3.04.NO6.14</u>	Subtraction (develop/master) Minuends up to 10,00 including zeroes (introduce)	<p>How do we subtract numbers?</p>	<p>Subtraction</p> <ul style="list-style-type: none"> • Meaning of subtrahend, minuend, and difference • Calculate the correct difference • Use addition to 	<p>Mad Minutes Quizzes</p> <p>CIMS or book test</p>	<p>http://nlvm.usu.edu/en/nav/frames_asid_155_g_2_t_1.html?from=grade_g_2.html - Base Blocks subtraction</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_209_g_2_t_1.html?open=activities&from=grade_g_2.html Chip Abacus</p> <p>http://www.321know.com/g4_38gx1.htm - subtraction - 4-digits</p>	



		/apply		<p>check answers</p> <ul style="list-style-type: none"> Solve for missing numbers Use math terminology in every day work in subtraction & addition (sum, difference) 			
Late October - early November	<p>MST3.04.CO3.04 MST3.04.CO3.05 MST3.04.RE5.01 MST3.04.SP10.01 MST3.04.SP10.02 MST3.04.SP10.03 MST3.04.SP10.04 MST3.04.SP10.05 MST3.04.SP10.06</p>	Graphing	<p>How do you collect data? How do you format the data? What graph is used to format/show different types of data? How do you interpret/read all graphs?</p>	<p>Read and Create Graphs</p> <ul style="list-style-type: none"> Organize and interpret data using: coordinate grids (introduce), stem and leaf plots (apply/develop), bar, line, picture, and pie graphs (apply/develop), line plots (apply/develop) Collect data Construct tables, charts, and graphs to display and analyze real world data 	<p>Quizzes CIMS or book test Project</p>	<p>http://nlvm.usu.edu/en/nav/frames_asid_109_g_2_t_1.html?open=activities&from=grade_g_2.html - Grapher</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_323_g_2_t_5.html?from=grade_g_2.html - Chart maker</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_174_g_2_t_5.html?open=instructions&from=grade_g_2.html - Histogram</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_183_g_2_t_5.html?open=activities&from=grade_g_2.html - Pie Chart</p> <p>http://nces.ed.gov/nceskids/createagraph/ - create a graph - line graphs!</p> <p>http://www.funbrain.com/cgi-bin/co.cgi?A1=s&A2=0&INSTRUCTS=1 - coordinates</p>	
November - December	<p>MST3.04.NO6.06 MST3.04.NO6.15 MST3.04.NO6.16 MST3.04.NO6.17 MST3.04.</p>	Multiplication	<p>How do we multiply numbers? What is a factor? What is a multiple? What is a prime</p>	<p>Multiplication</p> <ul style="list-style-type: none"> Facts through 12 (apply/develop) Use the facts to accurately multiply Solve for missing numbers 	<p>Mad Minutes Quizzes Teacher observation CIMS or book test</p> <hr/> <p>1st Quarter Class Checklist</p>	<p>http://membres.distributel.net/~skipper/MadMath/mmm.htm - online math minutes - set your level</p> <p>http://www.harcourtschool.com/activity/mult/mult.html - Multiplication Mystery</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_192_g_2_t_1.html?from=grade_g_2.html - rectangle multiplication</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_322_g_2_t_1.html?from=grade_g_2.html</p>	

	<p><u>NO6.18</u> <u>MST3.04.</u> <u>NO6.19</u> <u>MST3.04.</u> <u>NO6.20</u></p>		<p>number?</p> <p>What are the steps in the multiplication process?</p> <p>What is the commutative property? What is the associative property?</p>	<p>Factors, Multiples, and Prime Numbers (introduce)</p> <ul style="list-style-type: none"> • Meaning of factor, multiple, prime number and product • Identify factors, multiples, and prime numbers <p>Multiplication of 3 digit by 1 or 2 digit numbers (introduce)</p> <ul style="list-style-type: none"> • Rules of multiplication • Calculate the correct product <p>Commutative and Associative Properties (apply/develop)</p> <ul style="list-style-type: none"> • Identify commutative and associative property in a problem • Understand what the commutative and associative property are 	<p>1st Quarter Math Interest Inventory 1 Sample Mathematical Writing (mathlogs, exit slips, self-assessment, number story log)</p>	<p>m=grade_g_2.html- visualize multiplication</p> <p>http://illuminations.nctm.org/ActivityDetail.aspx?ID=155 - interactive times table</p>	
<p>Late January - Early February</p>	<p><u>MST3.04.</u> <u>SP10.05</u> <u>MST3.04.</u> <u>SP10.06</u></p>	<p>Probability & Statistics</p>	<p>How can we predict the chance that an event will happen?</p> <p>How can we use a fraction to</p>	<p>Probability & Statistics</p> <ul style="list-style-type: none"> • Predict & list possible outcomes • Interpret data • Collect data • Use observations, survey and 	<p>Problem of the day NYS Assessment Quizzes</p> <hr/> <p>2nd Quarter Class Checklist Mid Year Assessment</p>	<p>http://nlvm.usu.edu/en/nav/frames_asid_186_g_2_t_5.html?open=activities&from=grade_g_2.html - probability spinner</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_183_g_2_t_5.html?open=activities&from=grade_g_2.html - percentages and fractions using pie chart</p> <p>http://illuminations.nctm.org/ActivityDetail.aspx?ID=143 - probability lesson and activity</p>	

			show probability?	<p>experiments</p> <p>Using fractions to represent outcomes</p> <ul style="list-style-type: none"> Show probability as a fraction Write fractions to show an outcome 	1 Sample Mathematical Writing	http://illuminations.nctm.org/ActivityDetail.aspx?ID=79 - adjustable spinner	
February	MST3.04.NO6.15 MST3.04.NO6.16 MST3.04.NO6.17 MST3.04.NO6.20 MST3.04.NO6.21 MST3.04.NO6.22	Division (introduce)	<p>What is the opposite of multiplication?</p> <p>How do we divide numbers?</p>	<p>Division</p> <ul style="list-style-type: none"> Rules of simple division Use multiplication facts to find the quotient Solve for missing numbers <p>Division of 3 digit by 1 digit numbers (with and without remainders)</p> <ul style="list-style-type: none"> Rules of division Find the correct quotient 	<p>Quizzes</p> <p>Mad Minutes</p> <p>CIMS or book test</p>	<p>http://nlvm.usu.edu/en/nav/frames_asid_193_g_2_t_1.html?from=grade_g_2.html - Rectangle division</p> <p>http://www.amblesideprimary.com/ambleweb/mentalmaths/dividemachine.html - Division machine - basic</p>	<p>▲</p> <p>▼</p> <p>X</p>
Late February		Averaging	How are median, mode, and mean different?	Averaging (introduce) Find the median, mode, and mean	Projects Teacher observation	<p>http://www.purplemath.com/modules/meanmode.htm - mean, median, mode review</p> <p>http://www.shodor.org/interactivate/lessons/introstatistics/ - Mean, median, mode lessons</p>	<p>▲</p> <p>▼</p> <p>X</p>
March	MST3.04.GE8.01 MST3.04.GE8.02 MST3.04.GE8.05 MST3.04.	Geometry	<p>What are the names of shapes and figures?</p> <p>What different kinds of lines</p>	<p>Plane and Solid Figures(develop)</p> <ul style="list-style-type: none"> Identify common plan and solid figures (2 & 3 	<p>Projects</p> <p>Quizzes</p> <p>Test</p> <p>Visual Project</p> <p>Geoboards</p>	<p>http://www.funbrain.com/poly/index.html - Shape Surveyor</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_184_g_2_t_1.html?from=category_g_2_t_1.html - complete the pattern</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_165_g_2_t_3.html?open=instructions&from=grade_g_2.html - create congruent triangles</p>	<p>▲</p> <p>▼</p> <p>X</p>

	<p><u>GE8.06</u> <u>MST3.04.</u> <u>GE8.07</u> <u>MST3.04.</u> <u>GE8.08</u></p>		<p>are there?</p> <p>What types of angles are there?</p> <p>What is a line of symmetry?</p> <p>What is a flip?</p> <p>What is a turn?</p> <p>What is a slide?</p>	<p>dimensional)</p> <p>Lines and Angles (introduce & apply)</p> <ul style="list-style-type: none"> Recognize and identify lines, lines segments, ray Recognize and identify right, acute and obtuse angles <p>Symmetry (apply/develop)</p> <ul style="list-style-type: none"> Recognize and draw lines of symmetry <p>Congruent figures (introduce)</p> <ul style="list-style-type: none"> Recognize and identify a flip, turn, and slide Identify vertices, faces, and edges 		<p>http://nlvm.usu.edu/en/nav/frames_asid_297_g_2_t_3.html?open=activities&from=grade_g_2.html - transformations - reflections</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_299_g_2_t_3.html?open=activities&from=grade_g_2.html - rotations</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_195_g_2_t_3.html?open=activities&from=grade_g_2.html - space blocks</p> <p>http://nlvm.usu.edu/en/nav/frames_asid_129_g_2_t_3.html?open=activities&from=grade_g_2.html - constructing 3-D shapes</p>	
April	<p><u>MST3.04.</u> <u>ME9.01</u> <u>MST3.04.</u> <u>ME9.02</u> <u>MST3.04.</u> <u>ME9.03</u> <u>MST3.04.</u> <u>ME9.04</u> <u>MST3.04.</u> <u>ME9.05</u> <u>MST3.04.</u> <u>ME9.06</u> <u>MST3.04.</u> <u>ME9.07</u></p>	Measurement	<p>What is perimeter?</p> <p>What is area?</p> <p>What is volume?</p> <p>What is circumference?</p> <p>What is the difference between metric and customary</p>	<p>Weight/Mass (apply/develop)</p> <ul style="list-style-type: none"> Explain what perimeter, area, volume and circumference(introduce) are Calculate perimeter, area, volume, circumference Select tools and units appropriate to the object 	<p>Quizzes Tests Projects</p> <hr/> <p>3rd Quarter Class Checklist 1 Sample Mathematical Writing</p>	<p>http://www.funbrain.com/measure/index.html - Measure It!</p> <p>http://shodor.org/interactivate/activities/PerimeterExplorer/?version=1.5.0_06&browser=MSIE&vendor=Sun_Microsystems_Inc. - Perimeter Explorer</p> <p>http://shodor.org/interactivate/activities/ShapeExplorer/ Shape Explorer - area</p> <p>http://www.harcourtschool.com/activity/con_math/g04c24.dcr - equivalent measurements</p>	

			<p>measurement? How do we find length? How do we find volume? How do we find the weight of something? How can we tell what the temperature is?</p> <p>What are equivalent measures?</p>	<p>being weighed including grams and kilograms</p> <p>Metric and Customary Measurements (apply/develop)</p> <ul style="list-style-type: none"> • State the difference between metric and customary measurement • Determine/calculate length, volume, weight, and temperature • Select tools and units appropriate for length measured • Measure capacity using milliliters, liters, cups, pints, quarts, gallons, ounces, pounds, and Fahrenheit • Combine larger units 12 in = 1' 			
Late April	<u>MST3.04.</u> <u>ME9.09</u>	Time	<p>How do you read an analogue clock to the seconds?</p> <p>What is elapsed time? How can you tell how long it took to do something?</p>	<p>Time to seconds</p> <ul style="list-style-type: none"> • Tell time to seconds • Relate unit fractions to the face of clock whole = 60 minutes <p>Elapsed Time</p> <ul style="list-style-type: none"> • Calculate the passage of time, 	<p>Quizzes Tests Projects Observation</p>	<p>http://www.shodor.org/interactivate/activities/ElapsedTime/ - elapsed time interactive tool</p> <p>http://nlvm.usu.edu/en/NAV/frames_asid_318_g_2_t_4.html - What Time Will it Be?</p>	

				elapsed time in 1/2 hours, hours not crossing a.m./p.m.			
Early May	MST3.04.NO6.11 MST3.04.NO6.12 MST3.04.ME9.08	Money	<p>How do we count money?</p> <p>How much change should we get when we buy something?</p>	<p>Counting money</p> <ul style="list-style-type: none"> Count combinations of coins and bills <p>Making change</p> <ul style="list-style-type: none"> Make change in varying amounts 	Games Teacher Observation	http://www.superkidz.com/count2.html - How Much Change? http://www.funbrain.com/cashreg/index.html - Change Maker	
Late May	MST3.04.NO6.07 MST3.04.NO6.08 MST3.04.NO6.09 MST3.04.NO6.23 MST3.04.AL7.02	Fractions	<p>What do the numerals in a fraction mean?</p> <p>How do we write and name fractions?</p> <p>What are equivalent fractions?</p> <p>How can you tell which fraction is larger?</p> <p>How do we add fractions?</p> <p>How do we subtract fractions?</p> <p>What does simples form mean?</p>	<p>Naming and writing fractions (apply/develop)</p> <ul style="list-style-type: none"> Read fractions, name fractions Write fractions to show a part of a whole <p>Equivalent fractions (introduce/apply)</p> <ul style="list-style-type: none"> Identify equivalent fractions <p>Comparing and ordering fractions (introduce/apply)</p> <ul style="list-style-type: none"> Compare and order fractions from smallest to largest and vice versa <p>Add and subtraction</p>	Quizzes CIMS or book tests Projects	http://www.interactivestuff.org/sums4fun/efrac1.html - equivalent fractions practice http://illuminations.nctm.org/ActivityDetail.aspx?ID=11 Fractions Model I - visual and numerical representation http://www.thatquiz.org/tq/practice.html?fracineq - Fraction Inequality practice	

			<p>How do we find simplest form?</p> <p>How can we write a fraction that shows part of a whole?</p> <p>What is a ratio?</p>	<p>fractions (introduce/apply)</p> <ul style="list-style-type: none">• Add and subtract fractions with common denominators• State the rules of addition and subtraction of fractions with common denominators <p>Simplest Form</p> <ul style="list-style-type: none">• Determine and write the simplest form of a fraction <p>Mixed numbers and improper fractions (introduce/apply)</p> <ul style="list-style-type: none">• Identify the difference between mixed numbers and improper fractions• Change improper fractions to a mixed number and vice versa <p>Fraction of a set (introduce/apply)</p> <ul style="list-style-type: none">• State the difference between a numerator and a denominator• Write the fraction that represents a part of a whole			
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				<p>Ratios</p> <ul style="list-style-type: none"> Understand what a ratio is and what it represents Write a ratio to show comparison 			
June	<p>MST3.04.RE5.05 MST3.04.NO6.10 MST3.04.NO6.11 MST3.04.NO6.12 MST3.04.NO6.24 MST3.04.NO6.25 MST3.04.AL7.02</p>	Decimals	<p>How are fractions and decimals related?</p> <p>How do we read decimals?</p> <p>What are equivalent decimals?</p> <p>How can we order decimals from smallest to largest?</p> <p>How do we add and subtract decimals?</p> <p>What does percent mean?</p>	<p>Fraction/decimal relationship (introduce/apply)</p> <ul style="list-style-type: none"> Understand that decimals are another way to write certain fractions Write fractions as decimals <p>Reading and writing decimals to the hundredths place (apply/develop)</p> <p>Decimal place value relationships (introduce)</p> <ul style="list-style-type: none"> Change decimals in tenths to equivalent decimals in hundredths (0.5 = 0.50) Recognize and write equivalent decimals in tenths and hundredths <p>Comparing and ordering decimals (introduce/apply)</p> <ul style="list-style-type: none"> Compare decimals in 	<p>Quizzes</p> <p>Test</p> <p>Teacher observation</p> <p>Visual project</p> <hr/> <p>4th Quarter Class Checklist</p> <p>End of Year Assessment</p> <p>1 Sample Mathematical Writing</p>	<p>http://nlvm.usu.edu/en/nav/frames_asid_160_g_2_t_1.html?open=activities&from=grade_g_2.html - decimals, fractions, percentages</p> <p>http://www.321know.com/g4-sub_2deci.htm - subtract decimals</p>	

varying values

- Write decimals in order from smallest to largest
- State rules for adding and subtracting decimals to tenths and hundredths

Percent (introduce/apply)

- Understand that percent means part of 100
- Write percentages to show a part of 100