

**MATH CURRICULUM**  
**KINDERGARTEN**

**1. POSITION AND SORTING**

**Kindergarten**

	The student will...	Math Standard
A. Position and Location	1. use the words <i>inside</i> and <i>outside</i> to describe the position of objects. 2. use the words <i>over</i> , <i>under</i> , and <i>on</i> to describe the position of objects. 3. use the words <i>top</i> , <i>middle</i> , and <i>bottom</i> to describe position. 4. use the words <i>left</i> and <i>right</i> to describe position.	3.2.2
B. Sorting and Classifying	5. identify <i>same</i> and <i>different</i> by the attributes of color, shape, size, and kind. 6. sort objects by one attribute, such as color, shape, size, or kind. 7. sort the same set in different ways. 8. use more than one attribute to sort a set of objects. 9. solve problems by determining the sorting rule for groups of sorted objects.	2.1.1 2.1.2 2.1.3 3.1.1 3.2.1 3.2.2

**2. GRAPHING AND PATTERNS**

**Kindergarten**

	The student will...	Math Standard
A. Graphing	1. use one-to-one correspondence to compare two groups and determine whether one group has more, fewer, or as many as the other group. 2. make and read a real graph. 3. make and read a picture graph. 4. collect and organize data in a bar graph to answer a question.	1.1.1 5.1.1
B. Understanding and Extending Patterns	5. copy and extend sound and movement patterns. 6. copy and extend color patterns. 7. copy and extend shape patterns.	2.1.3
C. Comparing and Creating Patterns	8. compare patterns to find how they are alike or different. 9. solve problems by identifying patterns, determining the core that repeats, and showing the pattern in another way. 10. create and extend patterns.	2.1.3 2.4.1 5.2.1

**3. NUMBERS THROUGH 5**

**Kindergarten**

	The student will...	Math Standard
A. Understanding Numbers Through 5	1. use objects to represent and count the quantities 1, 2, and 3. 2. recognize and write the numerals that describe the quantities 1, 2, and 3. 3. use objects to represent and count the quantities 4 and 5. 4. recognize and write the numerals that describe the quantities 4 and 5. 5. recognize and write the numeral that describes the quantity 0.	1.1.1 1.2.1
B. Using Numbers Through 5	6. use one-to-one correspondence and counting to compare groups and determine which has more, which has fewer, or whether the groups are the same. 7. use objects to order numbers from 0 to 5 in sequence. 8. solve problems by making and reading a real graph and a picture graph. 9. use the words <i>first</i> through <i>fifth</i> to identify ordinal positions.	1.1.1 1.2.1 2.1.2 5.1.1

**4. NUMBERS THROUGH 10****Kindergarten**

	The student will...	Math Standard
A. Understanding Numbers 6 Through 10	<ol style="list-style-type: none"> <li>1. use objects to represent and count the quantities 6 and 7.</li> <li>2. use objects to represent and count the quantity 8.</li> <li>3. recognize and write the numerals that describe the quantities 6, 7, and 8.</li> <li>4. use objects to represent and count the quantities 9 and 10.</li> <li>5. recognize and write the numerals that describe the quantities 9 and 10.</li> </ol>	1.1.1 1.2.1
B. Using Numbers 6 Through 10	<ol style="list-style-type: none"> <li>6. compare two numbers using sets of objects and one-to-one correspondence to determine which number is greater and which is less.</li> <li>7. given a number from 1 through 10, tell whether it is more or less than 5 and whether it is less than 10.</li> <li>8. use a number line to order numbers from 0 through 10.</li> <li>9. use the words <i>sixth</i> through <i>tenth</i> to identify ordinal positions.</li> <li>10. solve problems by copying and extending growing patterns.</li> </ol>	1.1.1 1.2.1

**5. NUMBERS THROUGH 31****Kindergarten**

	The student will...	Math Standard
A. Numbers 11 Through 20	<ol style="list-style-type: none"> <li>1. use objects to represent and count the quantities 11 through 20.</li> <li>2. recognize and write the numerals that describe the quantities 11 and 12.</li> <li>3. recognize and write the numerals that describe the quantities 13, 14, and 15.</li> <li>4. recognize and write the numerals that describe the quantities 16 and 17.</li> <li>5. recognize and write the numerals that describe the quantities 18, 19, and 20.</li> <li>6. use objects and a number line to skip count by 2s and 5s.</li> </ol>	1.1.1 1.2.1
B. Numbers Through 31	<ol style="list-style-type: none"> <li>7. use objects and ten-frames to represent and count the quantities 21 through 31.</li> <li>8. recognize and write the numerals that describe the quantities 21 through 31.</li> <li>9. use benchmarks to estimate the quantities of groups.</li> </ol>	1.3.1
C. Numbers Through 31	<ol style="list-style-type: none"> <li>10. compare two numbers to decide which number is greater and which is less.</li> <li>11. find, identify, and record numbers through 31 on a calendar.</li> <li>12. solve problems by performing probability experiments and making tally marks in a table to record data.</li> </ol>	1.1.1 1.2.1 1.3.1

**6. MEASUREMENT****Kindergarten**

	The student will...	Math Standard
A. Length	<ol style="list-style-type: none"> <li>1. compare and order sets of objects by size.</li> <li>2. compare objects by length.</li> <li>3. order a set of objects by length from shortest to longest.</li> <li>4. measure the length of objects using nonstandard units.</li> <li>5. estimate the length and width of objects and verify by measuring in nonstandard units.</li> <li>6. solve problems involving the area of shapes.</li> </ol>	2.1.2 4.1.1 4.1.2 4.1.3 4.2.1
B. Capacity, Weight, and Temperature	<ol style="list-style-type: none"> <li>7. compare and order containers by their capacity.</li> <li>8. estimate and measure capacity using nonstandard units.</li> <li>9. compare and order objects by weight.</li> <li>10. estimate the weight of objects and measure their weight in nonstandard units.</li> <li>11. investigate temperature using comparative words and identify the thermometer as a tool for measuring temperature.</li> </ol>	2.1.2 4.1.1 4.1.2 4.1.3 4.2.1

**7. TIME AND MONEY****Kindergarten**

	The student will...	Math Standard
A. Calendar Time	<ol style="list-style-type: none"> <li>1. identify and order the days of the week.</li> <li>2. identify yesterday, today, and tomorrow.</li> <li>3. name the months and seasons of the year.</li> <li>4. identify the different parts of a calendar.</li> <li>5. decide the order in which a sequence of events occurs.</li> </ol>	4.1.1
B. Clock Time	<ol style="list-style-type: none"> <li>6. identify the time of day as day or night; morning, afternoon, or evening.</li> <li>7. tell time to the hour on an analog clock.</li> <li>8. tell time to the hour on a digital clock.</li> <li>9. identify the activity or event that takes more time or less time.</li> </ol>	4.1.1 4.1.4
C. Money	<ol style="list-style-type: none"> <li>10. recognize a penny and identify the value of a given set of pennies.</li> <li>11. identify a nickel and its value; find the value of a nickel and some pennies.</li> <li>12. identify a dime and its value; find the value of a given set of coins.</li> <li>13. solve problems using coins to act out purchasing situations and show prices in different ways.</li> <li>14. identify a quarter and its value; identify a dollar bill.</li> <li>15. compare the values of individual coins and combinations of coins through 10 cents.</li> </ol>	There are no kindergarten standards for counting or using money.

**8. GEOMETRY AND FRACTIONS****Kindergarten**

	The student will...	Math Standard
A. Solid Figures	<ol style="list-style-type: none"> <li>1. identify spheres, cubes, cones, and cylinders.</li> <li>2. identify solid figures that roll, stack, or slide on a flat surface.</li> <li>3. describe the shape of a flat surface of a solid figure.</li> </ol>	3.1.1 3.4.1
B. Plane Shapes	<ol style="list-style-type: none"> <li>4. identify and describe squares and other rectangles.</li> <li>5. identify and describe circles and triangles.</li> <li>6. identify a slide, a flip, and a turn.</li> <li>7. recognize that shapes can be combined to make different shapes.</li> </ol>	3.1.1 3.3.1 3.4.1 3.4.2
C. Fractions	<ol style="list-style-type: none"> <li>8. identify shapes that are symmetrical.</li> <li>9. identify equal parts of a whole.</li> <li>10. identify halves and fourths of a whole.</li> <li>11. solve problems involving equal shares.</li> </ol>	3.1.1 3.3.2

**9. READINESS FOR ADDITION AND SUBTRACTION****Kindergarten**

	The student will...	Math Standard
A. Part-Part-Whole	<ol style="list-style-type: none"> <li>1. use counters to show 4 and 5 in two parts.</li> <li>2. show 6 and 7 in two parts.</li> <li>3. show 8 and 9 in two parts and in different ways.</li> <li>4. use a ten-frame to show 10 in different ways.</li> <li>5. solve problems by making an organized list showing two parts of 5 to 10 items.</li> </ol>	1.1.1 1.2.1
B. Number Relationships	<ol style="list-style-type: none"> <li>6. find the number that is 1 more or 2 more than a given number.</li> <li>7. find the number that is 1 fewer than a given number.</li> </ol>	1.1.1 1.2.2 1.2.1

**10. UNDERSTANDING ADDITION****Kindergarten**

	The student will...	Math Standard
A. Joining Groups	1. act out number stories that involve joining two groups. 2. interpret illustrations that show joining groups and write the corresponding numbers. 3. solve problems by drawing pictures about joining two groups.	1.2.1 1.2.2
B. Addition Sentences	4. use the plus sign to represent joining groups when recording addition. 5. identify and use the equals sign; add and write the sum. 6. write and solve addition sentences to represent joining situations. 7. add pennies, write addition sentences, and use the cent sign.	1.2.2 2.2.1 2.3.1

**11. UNDERSTANDING SUBTRACTION****Kindergarten**

	The student will...	Math Standard
A. Subtraction Stories	1. act out number stories that involve separating two groups. 2. determine how many are left when some objects in a group are taken away. 3. compare two groups to find how many more or fewer.	1.1.1 1.2.2
B. Subtraction Sentences	4. use the minus sign to represent “take away” situations when recording subtraction. 5. use the equals sign; subtract and write the difference. 6. write and solve subtraction sentences to represent take-away situations. 7. subtract pennies, write subtraction sentences, and use the cent sign. 8. solve problems by choosing addition or subtraction.	1.2.2 2.2.1 2.3.1

**12. COUNTING AND NUMBER PATTERNS TO 100****Kindergarten**

	The student will...	Math Standard
A. Numbers to 100	1. count groups of 10, up to 10 tens, and write how many. 2. count and write numbers to 100 on the hundred chart. 3. count groups of 10 and count on to find how many.	No K standards for numbers above 20.
B. Skip Counting	4. use a hundred chart to count by 2s, 5s, and 10s. 5. count groups by 2s, 5s, and 10s to find the total number. 6. solve problems by identifying and extending number patterns based on counting by 2s, 5s, and 10s.	No K standards for numbers above 20.

**13. PROBABILITY****Kindergarten**

	The student will...	Math Standard
A. Predicting Events	1. determine the likelihood that an even will happen. 2. make simple predictions.	5.3.1 5.3.2

**MATH CURRICULUM**  
**FIRST GRADE**

**1. PATTERNS AND READINESS FOR ADDITION AND SUBTRACTION**

**First Grade**

	The student will...	Math Standard
A. Making Numbers	1. show ways that the number 6 can be divided into two parts. 2. show ways that the number 7 can be divided into two parts. 3. show ways that the numbers 8 and 9 can be divided into two parts. 4. show ways that the number 10 can be divided into two parts. 5. solve problems by using objects to act them out.	1.1.1 2.3.1
B. Number Relationships	6. find the numbers that are 1 and 2 more than a given number. 7. find the numbers that are 1 and 2 fewer than a given number. 8. compare a given number to both 5 and 10. 9. order numbers through 12.	1.1.1
C. Patterns	10. identify the pattern unit in a repeating pattern. 11. translate shape patterns into letters. 12. solve problems by using data from a picture.	1.1.1 2.1.1 2.3.1

**2. UNDERSTANDING ADDITION AND SUBTRACTION**

**First Grade**

	The student will...	Math Standard
A. Understanding Addition	1. tell and act out joining stories to find how many in all. 2. find the sum of two addends. 3. write an addition sentence to find the sum in a joining situation. 4. write an addition sentence using zero. 5. write the sums for horizontal and vertical forms of addition. 6. solve problems by writing addition sentences.	1.1.1 1.2.1 2.2.1
B. Understanding Subtraction	7. tell and act out separating stories to find how many are left. 8. find the difference between two numbers. 9. write a subtraction sentence to find the difference in a separating situation. 10. write subtraction sentences using zero. 11. write the differences for horizontal and vertical forms of subtraction. 12. solve problems by choosing addition or subtraction.	1.1.1 1.2.1 1.2.6 1.3.3 2.2.1 2.2.3
C. Using Subtraction to Compare	13. compare two groups to find out how many more or how many fewer. 14. write subtraction sentences to compare and tell how many more or how many fewer.	1.1.1 2.2.1 1.2.1 2.3.2 1.3.3 2.4.1

**3. STRATEGIES FOR ADDITION FACTS TO 12**

**First Grade**

	The student will...	Math Standard
A. Counting On and Adding in Any Order	1. find sums by counting on 1, 2, or 3 using counters. 2. use the commutative property to find sums. 3. count on 1, 2, or 3 to add, starting with the greater number. 4. use a number line to count on 1, 2, or 3. 5. solve problems by identifying unnecessary information and writing number sentences.	1.3.1 1.3.3 2.2.1
B. Doubles and Doubles Plus 1	6. recognize doubles as a strategy for remembering sums. 7. use doubles facts to learn doubles-plus-1 facts. 8. recognize facts that have sums of 10. 9. solve problems by drawing pictures.	1.3.1 1.3.3 2.2.1

**4. STRATEGIES FOR SUBTRACTION FACTS TO 12****First Grade**

	The student will...	Math Standard
A. Counting Back	<ol style="list-style-type: none"> <li>1. use a number line to count back 1 or 2.</li> <li>2. find differences by counting back 1 or 2.</li> <li>3. find differences by using doubles facts.</li> <li>4. solve problems by writing subtraction sentences.</li> </ol>	1.1.1 1.2.4 1.3.1 2.2.1
B. Fact Families	<ol style="list-style-type: none"> <li>5. write related addition and subtraction facts.</li> <li>6. write the addition and subtraction sentences that make up a fact family.</li> <li>7. find differences by using known addition facts.</li> <li>8. solve problems by choosing addition or subtraction.</li> </ol>	1.2.1 2.2.1 1.2.4 1.2.6 1.3.1 1.3.3

**5. GEOMETRY AND FRACTIONS****First Grade**

	The student will...	Math Standard
A. Solid Figures	<ol style="list-style-type: none"> <li>1. identify and name standard geometric solids and recognize them in the environment.</li> <li>2. count the number of flat surfaces and vertices on geometric solids.</li> <li>3. match a geometric solid to an outline of one of its flat surfaces.</li> </ol>	3.1.1 3.4.2 3.4.3 3.4.4 3.4.5
B. Plane Shapes	<ol style="list-style-type: none"> <li>4. identify and name standard plane shapes and recognize them in the environment.</li> <li>5. sort plane shapes and identify their properties.</li> <li>6. identify and create figures that are the same size and the same shape.</li> <li>7. identify objects that show symmetry and draw lines of symmetry.</li> <li>8. perform slide, flip, or turn on an object and identify the resulting position.</li> <li>9. solve problems by making organized lists.</li> </ol>	2.1.1 3.1.1 3.3.1 3.4.1 3.3.2 3.3.3
C. Fractions	<ol style="list-style-type: none"> <li>10. determine whether a shape has been divided into equal or unequal parts and count the number of equal parts into which it has been divided.</li> <li>11. identify and show halves of a region.</li> <li>12. identify and show one third or one fourth of a region.</li> <li>13. identify and show one half, one third, or one fourth of a group of two, three, or four objects, respectively.</li> <li>14. identify and show non-unit fractions of a region or set.</li> <li>15. solve a problem using data from a chart.</li> </ol>	1.1.1 1.2.5 1.3.3 2.1.1 2.2.1

**6. TIME****First Grade**

	The student will...	Math Standard
A. Telling Time	<ol style="list-style-type: none"> <li>1. determine if an event takes more or less than a minute.</li> <li>2. identify the hour hand and the minute hand on a clock and tell time to the hour.</li> <li>3. tell and write time to the hour on an analog and on a digital clock.</li> <li>4. tell and write time to the half hour.</li> <li>5. solve problems by acting out given situations.</li> </ol>	4.1.1 4.1.2
B. Using Time	<ol style="list-style-type: none"> <li>6. determine whether an event takes place in the morning, afternoon, or night.</li> <li>7. compare and estimate the length of time it takes for each of three activities.</li> <li>8. solve problems by reading and using the information in a schedule.</li> <li>9. read and use a calendar to name the days of the week.</li> <li>10. identify and order the months of the year.</li> </ol>	1.3.3 3.1.1 4.1.1 4.1.2

**7. COUNTING TO 100****First Grade**

	The student will...	Math Standard
A. Counting with Groups of 10	<ol style="list-style-type: none"> <li>1. read and write the teen numbers as a group of 10 and some left over.</li> <li>2. count groups of 10, up to 10 tens, and write how many.</li> <li>3. count and write numbers to 100 on the hundred chart.</li> <li>4. count sets that are grouped in 10s and leftover ones.</li> <li>5. use a group of ten as a guide to estimate quantities up to 100.</li> <li>6. solve problems by using data from a graph.</li> </ol>	1.1.1 2.1.3 5.2.1
B. Number Patterns	<ol style="list-style-type: none"> <li>7. use a hundred chart to skip count by 2s, 5s, and 10s, and then find patterns.</li> <li>8. skip count to find the total number of items arranged in sets of 10s, 5s, and 2s.</li> <li>9. solve problems by finding patterns in a table of related number pairs.</li> <li>10. write the numbers just before, after, or between two given numbers.</li> <li>11. given a number less than 60, determine if it is odd or even.</li> <li>12. use ordinals through twentieth to identify position.</li> </ol>	1.1.1 1.3.3 2.1.1 2.1.2 2.1.3

**8. PLACE VALUE, DATA, AND GRAPHS****First Grade**

	The student will...	Math Standard
A. Tens and Ones	<ol style="list-style-type: none"> <li>1. count tens and write how many there are in all.</li> <li>2. given a quantity shown with tens and ones, tell how many tens and ones there are, and write the number.</li> <li>3. model a two-digit number and write its expanded form.</li> <li>4. exchange a ten for 10 ones or 10 ones for a ten and write the new representation in expanded form.</li> <li>5. solve problems by using cubes.</li> </ol>	1.1.1
B. Comparing and Ordering	<ol style="list-style-type: none"> <li>6. given a two-digit number, write the numbers that are 10 more/10 less and 1 more/1 less.</li> <li>7. given 2 two-digit numbers, determine if the first is greater than, less than, or equal to the second.</li> <li>8. estimate the positions of numbers on a number line marked only in multiples of 10.</li> <li>9. given 3 two-digit numbers, order them from least to greatest or from greatest to least.</li> <li>10. write a three-digit number for a given model of hundreds, tens, and ones.</li> </ol>	1.1.1 1.3.1 2.2.2
C. Data and Graphs	<ol style="list-style-type: none"> <li>11. sort objects by one attribute and tell the sorting rule.</li> <li>12. collect data and organize it into a picture graph.</li> <li>13. collect data and organize it into a bar graph.</li> <li>14. experiment and record data using tally marks.</li> <li>15. identify the distance from one point to another on a grid by describing how far it is to the left, right, up, or down.</li> <li>16. solve problems by using a map.</li> </ol>	1.1.1 2.1.1 2.2.1 3.2.1 5.1.1 5.2.1 5.3.1

**9. MONEY****First Grade**

	The student will...	Math Standard
A. Counting Money	<ol style="list-style-type: none"> <li>1. identify the value of a group of nickels and pennies through 25 cents.</li> <li>2. identify the value of a group of dimes and pennies through 99 cents.</li> <li>3. identify the value of a group of dimes and nickels through 95 cents.</li> <li>4. identify the value of a group of dimes, nickels, and pennies through 99 cents.</li> <li>5. solve problems by using data from a table.</li> </ol>	There are no 1 <sup>st</sup> grade standards for counting money.
B. Using Money	<ol style="list-style-type: none"> <li>6. identify a quarter and find groups of coins that have the same value as a quarter.</li> <li>7. count collections of coins including a quarter, dimes, nickels, and pennies.</li> <li>8. identify a dollar bill, a dollar coin, a half-dollar coin, and combinations of coins worth amounts up to \$1.00.</li> <li>9. solve problems by using the try, check, and revise strategy.</li> </ol>	There are no 1 <sup>st</sup> grade standards for using money.

**10. MEASUREMENT AND PROBABILITY****First Grade**

	The student will...	Math Standard
A. Length	1. estimate, measure, and compare the lengths of objects using nonstandard units. 2. solve problems by using logical reasoning. 3. estimate and measure the lengths of objects to the nearest inch using a ruler. 4. estimate and measure the length or height of objects to the nearest foot using a 12-inch ruler. 5. estimate and measure the length of objects in centimeters using a ruler. 6. find the distance around a shape using inches. 7. "look back and check" is a strategy that can help confirm the solution to a problem.	1.3.2 4.1.1 4.2.1 4.2.2
B. Capacity, Weight, and Temperature	8. estimate, measure, and compare the capacities of containers. 9. compare the capacities of cups, pints, and quarts. 10. compare the capacity of containers to one liter. 11. estimate, measure, and compare the weights of different objects. 12. compare the weights of objects to one pound. 13. select the appropriate unit for measuring, given the choice of grams or kilograms. 14. compare temperatures on a thermometer and match them to activities or objects. 15. identify appropriate tools for measuring length, weight, capacity, and temperature.	4.1.1 4.2.1
C. Probability	16. describe the likelihood of an event as certain or impossible. 17. describe the likelihood of an event as more likely or less likely.	5.4.1 5.4.2

**11. ADDITION AND SUBTRACTION FACTS TO 18****First Grade**

	The student will...	Math Standard
A. Addition Fact Strategies	1. recognize doubles as a strategy for remembering sums to 18. 2. use doubles facts to learn doubles-plus-1 facts and doubles-minus-1 facts. 3. use a pattern to add numbers 1 to 8 to the number 10. 4. find sums by making a 10 when adding to 8 or 9. 5. select and apply addition fact strategies. 6. use the associative property to find sums of three numbers. 7. solve problems by making tables.	1.1.1 2.2.1 1.2.1 2.2.2 1.2.3 2.3.1 1.3.1 5.1.1 1.3.2 1.3.3
B. Subtraction Fact Strategies	8. write related addition and subtraction facts with sums through 18. 9. write the addition and subtraction sentences that make up a fact family. 10. find differences by using known addition facts. 11. find differences using a ten-frame. 12. select and apply subtraction fact strategies. 13. solve multiple-step problems by using the answer to the first question to answer the second question.	1.1.1 2.2.1 1.2.1 2.3.2 1.2.2 1.2.3 1.2.4 1.2.6 1.3.1 1.3.3

**12. TWO-DIGIT ADDITION AND SUBTRACTION****First Grade**

	The student will...	Math Standard
A. Addition	<ol style="list-style-type: none"><li>1. add two multiples of 10 for sums to 100.</li><li>2. add tens to a two-digit number.</li><li>3. add 2 two-digit numbers without regrouping.</li><li>4. use models to add a one-digit quantity to a two-digit quantity with and without regrouping.</li><li>5. solve problems by deciding whether an estimate is enough or whether an exact answer is needed.</li></ol>	1.1.1 1.2.2 1.3.1 1.3.2 1.3.3 1.3.4
B. Subtraction	<ol style="list-style-type: none"><li>6. subtract a multiple of 10 from a multiple of 10, 100 or less.</li><li>7. subtract a multiple of 10 from a two-digit number.</li><li>8. subtract a two-digit number from a two-digit number without regrouping.</li><li>9. use models to subtract a one-digit quantity from a two-digit quantity with and without regrouping.</li><li>10. solve problems by making and interpreting bar graphs.</li></ol>	1.1.1 2.2.1 1.2.2 5.1.1 1.3.1 5.2.1 1.3.2 1.3.3

**MATH CURRICULUM**  
**SECOND GRADE**

**1. UNDERSTANDING ADDITION AND SUBTRACTION**

**Second Grade**

	The student will...	Math Standard
A. Understanding Addition	1. join two groups together to find how many in all. 2. join two groups together and write an addition sentence to tell how many in all. 3. solve a story problem by writing an addition sentence.	1.1.2 2.1.4 2.2.4 2.3.1
B. Understanding Subtraction	4. take away a number of objects from a group and count to find how many are left. 5. compare two groups to find out how many more or how many fewer. 6. write subtraction sentences to solve both separation and comparison problems. 7. solve problems by choosing addition or subtraction	1.1.2 2.1.4 2.3.1

**2. FACT STRATEGIES FOR ADDITION AND SUBTRACTION**

**Second Grade**

	The student will...	Math Standard
A. Addition Strategies	1. count on to add 1, 2, or 3 to another number. 2. recognize doubles as a strategy for remembering sums. 3. use doubles facts to learn doubles-plus-1 facts. 4. find the sum of three addends. 5. find sums by making a 10 when adding a 9. 6. find sums by making a 10 when adding a 7 or 8. 7. solve problems by writing number sentences.	2.2.4 2.3.1 2.3.3
B. Subtraction Strategies	8. use a number line to count back 1 or 2. 9. find differences by using doubles facts. 10. find differences by using known addition facts. 11. use data in pictures to help find missing numbers in number sentences.	1.2.3 2.2.2 1.3.4 2.2.3 2.1.3 2.3.1 2.1.4

**3. PLACE VALUE TO 100 AND MONEY**

**Second Grade**

	The student will...	Math Standard
A. Place Value to 100	1. count groups of ten, up to 10 tens, and write how many. 2. use groups of tens and ones to show a given two-digit number. 3. read and write number words for given numbers. 4. solve a problem by making an organized list. 5. compare numbers using the greater-than, less-than, and equal-to symbols.	1.1.1 1.1.2 2.2.2
B. Working with Numbers to 100	6. use a number line to determine the closest ten. 7. identify and write numbers that are one before, one after, or between given numbers. 8. recognize and extend skip-counting patterns. 9. identify numbers as odd or even. 10. use ordinals through <i>twentieth</i> to identify position. 11. solve a problem by using clues and data from a chart.	1.1.1 5.2.1 1.1.2 5.3.2 2.1.2 5.3.3 2.2.1
C. Money	12. identify the value of a group of dimes, nickels, and pennies through 99 cents. 13. count a collection of coins that includes half-dollars, quarters, dimes, nickels, and pennies. 14. count collections of coins that include half-dollars, quarters, dimes, nickels, and pennies. 15. compare the values of two sets of coins. 16. show the same amount of money using different sets of coins. 17. count on from the price of an object up to the greater amount paid in order to make change. 18. identify the value of a dollar bill and a dollar coin.	1.1.1 1.3.2 2.3.2 4.1.4

**4. MENTAL MATH: ADDITION AND SUBTRACTION****Second Grade**

	The student will...	Math Standard
A. Addition Using Mental Math	1. add a multiple of 10 to a two-digit number using models or mental math. 2. add a one-digit number to a two-digit number using models of mental math. 3. add a two-digit number to a two-digit number using models or mental math. 4. estimate the sum of 2 two-digit numbers.	1.1.1 1.3.3 1.3.4 2.2.2
B. Subtraction Using Mental Math	5. subtract a multiple of 10 from a two-digit number using models or mental math. 6. subtract a two-digit number from a two-digit number using models or mental math. 7. determine whether the difference between a multiple of 10 and another amount is more or less than a given multiple of 10.	1.1.1 1.3.4
C. Number Relationships	8. solve a problem by finding pairs of numbers, the sums of which are a given multiple of 10. 9. discover a numeric pattern made by repeatedly adding or subtracting the same number. 10. find the missing part of 100 when the given part is a multiple of 5 or 10. 11. "Look back and check," a strategy that can help confirm the solution to a problem.	1.1.1    2.1.1 1.2.1    2.1.2 1.2.2    2.1.4 1.2.3    2.3.1 1.3.1 1.3.4 1.3.5

**5. TWO-DIGIT ADDITION****Second Grade**

	The student will...	Math Standard
A. Adding Two-Digit Numbers	1. regroup 10 ones as 1 ten when adding. 2. add a one-digit number to a two-digit number, regroup, and record the process in the vertical format. 3. use the standard algorithm to add 2 two-digit numbers with and without regrouping. 4. use the standard algorithm symbolically to add two-digit numbers with and without regrouping.	1.3.1 1.3.4 2.2.1 2.2.2
B. Using Addition	5. add two money amounts (less than \$1.00) using paper and pencil. 6. add 3 two-digit numbers with paper and pencil. 7. solve problems involving addition by using data from a table. 8. estimate a sum as a multiple of 10 and compare the estimate to the exact sum. 9. recognize and use different ways to add two-digit numbers. 10. solve a problem by estimating, checking the estimate, and then revising the estimate until the final answer is reached.	1.3.1 1.3.4 1.3.5 2.1.4 2.3.1 2.3.3

**6. TWO-DIGIT SUBTRACTION****Second Grade**

	The student will...	Math Standard
A. Subtracting with Two-Digit Numbers	1. regroup 1 ten as 10 ones when subtracting. 2. subtract a one-digit number from a two-digit number with or without regrouping using the standard algorithm. 3. use the standard subtraction algorithm to subtract a two-digit number from another two-digit number. 4. use the standard subtraction algorithm symbolically to subtract a two-digit number from another two-digit number. 5. solve problems by writing number sentences.	1.1.1 1.3.1 1.3.4 2.1.4 2.2.2 2.3.1
B. Using Subtraction	6. subtract amounts of money less than \$1.00 with and without regrouping. 7. relate addition to subtraction by using one operation to check the other. 8. estimate a difference to the nearest ten and then use that estimate to check the reasonableness of an exact answer. 9. choose an appropriate method for subtracting. 10. solve two-digit addition and subtraction problems after identifying and eliminating extra information.	1.2.2 1.2.3 1.3.1 1.3.4 2.1.4

**7. GEOMETRY AND FRACTIONS****Second Grade**

	The student will...	Math Standard
A. Solid Figures	1. identify solid figures (cone, cube, cylinder, pyramid, rectangular prism, sphere) and count their flat surfaces, vertices, and edges. 2. match a geometric solid to an outline of one of its flat surfaces and match that flat surface to a plane shape. 3. solve problems by matching solid figures with their two-dimensional nets.	3.1.1 3.3.1 3.4.2
B. Plane Shapes	4. recognize and name trapezoids, parallelograms, and hexagons and identify the number of sides and angles in a polygon. 5. identify and create congruent figures. 6. perform a slide, flip, or turn on an object and identify the resulting orientation. 7. identify and create symmetrical shapes. 8. solve a problem by using logical reasoning.	3.1.1 3.3.2 3.4.1 3.4.3 3.4.5
C. Fractions	9. determine whether a shape has been divided into equal or unequal parts; identify halves, thirds, and fourths. 10. identify and show a unit fraction of a region. 11. identify and show any fraction of a region. 12. estimate the fraction for a given part of a region. 13. identify and show fractions of a set of objects.	1.1.2

**8. TIME, DATA, AND GRAPHS****Second Grade**

	The student will...	Math Standard
A. Telling Time	1. tell time to five-minute intervals. 2. tell time after the hour. 3. tell time before the hour. 4. estimate whether an activity takes minutes, hours, or days to complete. 5. determine the amount of time that passes between the start of an event and the end of an event, and determine the ending time when given the elapsed time. 6. determine whether events occur in the A.M. or P.M. hours. 7. complete, read, and use a calendar. 8. solve problems involving equivalent times.	4.1.5 4.1.7
B. Data	9. solve a problem by making a table. 10. collect and analyze data that have been gathered using a survey. 11. collect, record, and analyze data using a Venn diagram.	5.1.1 5.2.1 5.1.2 5.2.2 5.1.3
C. Graphs	12. collect and analyze data using a pictograph. 13. create and analyze bar graphs. 14. create and analyze line plots. 15. locate and name points on a coordinate grid. 16. solve problems using data from a pictograph and a bar graph.	2.3.3 5.2.1 5.1.1 5.2.2 5.1.2 5.1.3

**9. MEASUREMENT AND PROBABILITY****Second Grade**

	The student will...	Math Standard
A. Length and Capacity	1. measure the lengths and heights of objects using nonstandard units. 2. estimate and measure the lengths or heights of objects in inches or feet, using a ruler. 3. estimate and measure the lengths or heights of objects in inches, feet, or yards, using a ruler. 4. estimate and measure lengths in centimeters and meters, using a centimeter ruler or a meterstick. 5. solve problems involving perimeter by acting them out. 6. estimate, measure, and order objects by their capacities, using nonstandard units. 7. compare the capacities of cups, pints, and quarts. 8. estimate and measure capacity in liters. 9. count and compare the numbers of cubes needed to build or fill various rectangular prisms.	2.3.2 4.1.1 4.1.2 4.1.3 4.1.6 4.2.1 4.2.2 4.2.3
B. Weight and Temperature	10. estimate and measure the weights of different objects by comparing each of them to a nonstandard unit of weight. 11. compare and estimate the weights of objects in ounces and pounds. 12. compare and estimate the masses of objects in grams and kilograms. 13. show, read, and write temperatures shown on Fahrenheit and Celsius thermometers.	2.3.2 4.2.1
C. Probability	14. predict the outcomes of simple experiments. 15. record and analyze data collected from performing an experiment. 16. solve multiple-step problems involving addition and subtraction.	1.3.4 5.3.1 4.1.1 5.4.1 4.2.1 5.4.2 4.2.3

**10. NUMBERS TO 1,000****Second Grade**

	The student will...	Math Standard
A. Place Value	1. count by hundreds to 1,000. 2. count sets grouped in hundreds, tens, and ones. 3. read and write three-digit numbers using expanded form, standard form, and number words. 4. add and subtract multiples of 10 or 100 to and from a three-digit number without regrouping. 5. compare three-digit numbers using the symbols $<$ , $>$ and $=$ . 6. use counting on to find missing parts of 1,000.	1.1.1 1.1.2 1.3.4
B. Number Patterns	7. use data from a chart to solve problems. 8. identify numbers that are before, after, or between given numbers. 9. order three-digit numbers from greatest to least and from least to greatest. 10. continue number patterns using three-digit numbers and skip-count by different amounts.	1.1.1 1.1.2 1.3.1 1.3.4 2.3.3 5.2.1

**11. ADDITION AND SUBTRACTION OF THREE-DIGIT NUMBERS****Second Grade**

	The student will...	Math Standard
A. Addition	1. add three-digit numbers mentally, without regrouping. 2. decide whether the sum of 2 three-digit numbers is more or less than a given number. 3. use place-value models to add 2 three-digit numbers with regrouping. 4. use paper and pencil to add 2 three-digit numbers with one regrouping. 5. add 2 three-digit numbers in vertical form when they are given in horizontal form. 6. solve word problems by displaying information in a graph.	1.1.1 1.2.1 1.3.1 1.3.4 2.2.2 5.1.2 5.2.2
B. Subtraction	7. given a quantity and one of its parts, find the missing part by counting on or counting back. 8. use estimation to select two numbers that have a given difference. 9. use models to subtract three-digit numbers with regrouping. 10. use the standard algorithm to subtract three-digit numbers with regrouping. 11. subtract three-digit numbers written in horizontal form. 12. distinguish between story problems that need exact answers and problems that need only estimated answers.	1.2.1 1.2.2 1.3.1 1.3.4 4.1.5

**12. UNDERSTANDING MULTIPLICATION AND DIVISION****Second Grade**

	The student will...	Math Standard
A. Understanding Multiplication	1. make equal groups of objects and find the total number of objects in those groups. 2. write equivalent repeated-addition and multiplication number sentences. 3. build an array to model a multiplication situation. 4. multiply numbers in any order to get the same product. 5. multiply numbers written in vertical format. 6. solve a problem by drawing a picture.	1.2.4 1.3.5 2.1.1 2.2.1 3.2.5 3.4.4
B. Understanding Division	7. divide a set of objects into a given number of equal groups. 8. write a division sentence to represent a sharing situation. 9. choose a number sentence to represent a problem situation.	1.2.1 2.1.4 1.2.4 2.4.1 1.3.1

**MATH CURRICULUM**  
**THIRD GRADE**

**1. PLACE VALUE AND MONEY**

**Third Grade**

	The student will...	Math Standard
A. Place Value	1. tell from context whether a given number is used to locate, name, measure, or count. 2. read and write numbers in the hundreds. 3. generate equivalent representation for a number by composing and decomposing numbers. 4. read and write numbers in the thousands. 5. read and write numbers in the hundred thousands. 6. tell in words what is known and what needs to be determined in given word problems.	1.1.1 1.1.2 1.1.3 1.2.7 2.3.1
B. Building Number Sense	7. compare whole numbers to 10,000. 8. order whole numbers to 10,000. 9. continue number patterns, and use place-value patterns to find sums and differences. 10. round numbers to the nearest ten or hundred. 11. give appropriate strategies and alternate strategies for solving word problems.	1.1.1 1.1.2 1.2.2 2.1.3 2.1.6 2.3.1
C. Money	12. find the value of money (\$5 and \$1 bills, half-dollars, quarters, dimes, nickels, pennies). 13. make change by counting on. 14. tell whether and why the work shown for given problems is correct or not.	1.1.1 2.1.7 1.1.3 2.3.1 1.2.7 5.3.1 1.3.4

**2. ADDITION AND SUBTRACTION NUMBER SENSE**

**Third Grade**

	The student will...	Math Standard
A. Basic Facts and Properties	1. use addition properties to find sums. 2. use the inverse relationship between addition and subtraction to write related sentences, solve problems with missing numbers, and verify solutions. 3. complete tables representing patterns, and give the rules for the patterns. 4. write number sentences for word problems, and use complete sentences to write answers to word problems.	2.1.1 2.3.1 2.1.2 2.3.3 2.1.6 2.4.1 2.1.7 2.2.1 2.2.2 2.2.3
B. Addition Number Sense	5. use mental math to add numbers by breaking them apart using place value. 6. add mentally by using compensation with multiples of ten. 7. estimate sums using rounding, front-end estimation, and compatible numbers. 8. decide whether an estimate is an overestimate or underestimate.	1.1.3 1.2.2 1.2.7 1.3.4 2.2.2
C. Subtraction Number Sense	9. use tens to subtract mentally. 10. use counting on to subtract mentally. 11. estimate differences using rounding, front-end estimation, and compatible numbers. 12. write brief explanations of how to solve certain problems, or of why a certain method or type of answer is needed.	1.1.1 2.1.6 1.1.3 2.2.1 1.2.2 5.3.1 1.2.7 1.3.4

**3. ADDING AND SUBTRACTING****Third Grade**

	The student will...	Math Standard
A. Adding	1. add two-digit numbers using paper-and-pencil methods. 2. add three-digit numbers using place-value blocks and models. 3. add three-digit numbers using paper-and-pencil methods. 4. add three or more two- and/or three-digit numbers using paper-and-pencil methods. 5. draw pictures that represent the information given in problems.	1.2.2 1.2.7 2.1.6 2.3.1 4.1.4
B. Subtracting	6. regroup a two- or three-digit number in preparation for subtraction. 7. subtract two-digit numbers using paper-and-pencil methods. 8. subtract three-digit numbers using place-value blocks, a picture, or paper-and-pencil methods. 9. subtract three-digit numbers using paper-and-pencil methods. 10. subtract three-digit numbers using paper-and-pencil methods.	1.1.1 1.1.2 1.2.2 1.2.7 2.3.1
C. Using Addition and Subtraction	11. add and subtract with exact or estimated results to solve problems in real-world contexts. 12. add and subtract money (to three digits). 13. for a variety of problems, state the computation method to be used and add or subtract using that method. 14. compare numbers and expressions using relational symbols, and supply numbers that make given inequalities true.	1.1.1 5.3.1 1.2.7 1.3.1 2.1.1 2.1.3 2.3.3 2.3.4

**4. TIME, DATA, AND GRAPHS****Third Grade**

	The student will...	Math Standard
A. Time	1. tell time to the nearest half hour and quarter hour using analog and digital clocks, identify times as A. M. or P. M., and estimate with various units of time. 2. identify times in minutes using an analog clock. 3. find elapsed times, and find beginning or ending times based on elapsed times. 4. identify the elements and relationships in a calendar.	1.3.4 4.1.3 4.1.4 4.2.2
B. Understanding Data and Graphs	5. use tally charts to record and organize data. 6. read and interpret a line plot, and find the mode and the range for the data in a line plot. 7. read and interpret a pictograph and a bar graph. 8. write comparison statements using data from graphs. 9. locate and graph ordered pairs on a coordinate grid. 10. read and interpret a line graph.	2.3.1 5.1.1 3.2.1 5.1.2 3.2.2 5.2.1 3.2.3 5.3.1
C. Making Graphs	11. make a pictograph from a table or tally chart. 12. make a bar graph to represent the data in a table. 13. make a line graph. 14. make and use a line graph, pictograph, bar graph, and line plot to solve problems.	1.1.1 5.1.1 1.2.7 5.1.2 2.3.1 5.2.1 4.1.3 5.3.1

## 5. MULTIPLICATION CONCEPTS AND FACTS

### Third Grade

	The student will...	Math Standard
A. Meanings of Multiplication	<ol style="list-style-type: none"> <li>1. write multiplication number sentences for given situations, using the X symbol.</li> <li>2. write multiplication sentences for arrays, and use arrays to find multiplication facts.</li> <li>3. write stories for multiplication facts.</li> <li>4. make tables and use them to solve word problems.</li> </ol>	1.2.1 2.2.2
		1.2.3 2.2.3
		1.2.4 2.3.1
		1.2.5 2.3.2
		1.3.3 2.3.3
		2.1.5 2.4.1
B. Fact Strategies: 0, 1, 2, 5, 9, and 10	<ol style="list-style-type: none"> <li>5. find products of one-digit numbers times 2.</li> <li>6. find products of one-digit numbers times 5.</li> <li>7. find products of numbers from 1 to 10 times 10.</li> <li>8. solve multiple-step word problems.</li> <li>9. give products with factors of 0 and 1.</li> <li>10. find products with 9 as a factor.</li> <li>11. give products with factors of 0, 1, 2, 5, 9, and 10.</li> </ol>	2.1.6 3.4.4
		2.1.7
		1.1.4 2.1.3
		1.2.1 2.1.6
		1.2.3 2.1.7
		1.2.4 2.2.1
		1.2.5 2.2.3
		1.2.7 2.3.1
		1.3.2 2.3.4
		1.3.3 5.3.1
1.3.4		

## 6. MORE MULTIPLICATION FACTS

### Third Grade

	The student will...	Math Standard
A. Fact Strategies: Use Known Facts	<ol style="list-style-type: none"> <li>1. use known facts to find products involving factors of 3.</li> <li>2. use known facts to find products involving factors of 4.</li> <li>3. use known facts to find products involving factors of 6 and 7.</li> <li>4. use known facts to find products involving factors of 8.</li> <li>5. memorize multiplication facts.</li> <li>6. give missing numbers or figures in a pattern.</li> </ol>	1.2.1 2.1.6
		1.2.3 2.1.7
		1.2.5 2.2.2
		1.2.7 2.2.3
		1.3.2 2.3.1
		1.3.3 2.4.1
B. Using Multiplication	<ol style="list-style-type: none"> <li>7. use multiplication and a comparison to find the size of a group.</li> <li>8. recognize patterns on a multiplication fact table.</li> <li>9. multiply three numbers.</li> <li>10. recognize and extend a pattern, give a rule that relates inputs and outputs, and, given a rule, determine the output when given the input and vice versa.</li> <li>11. use multiplication facts, along with addition and subtraction, to solve problems.</li> </ol>	2.1.5
		1.1.4 2.1.6
		1.2.1 2.1.7
		1.2.3 2.2.2
		1.2.5 2.3.1
		1.2.7 2.3.2
1.3.2 5.3.1		
1.3.3		
1.3.4		

## 7. DIVISION CONCEPTS AND FACTS

### Third Grade

	The student will...	Math Standard
A. Meanings of Division	<ol style="list-style-type: none"> <li>1. write division number sentences for situations involving sharing.</li> <li>2. use repeated subtraction to find answers.</li> <li>3. write and solve number stories involving division.</li> <li>4. when there seems to be many possible answers, the strategy <i>Try, Check, and Revise</i> can provide a starting point.</li> </ol>	1.2.1
		1.2.3
		1.2.5
		1.2.7
B. Fact Strategies	<ol style="list-style-type: none"> <li>5. give all the facts in a multiplication/division fact family.</li> <li>6. give quotients for division facts with divisors of 2 or 5.</li> <li>7. give quotients for division facts with divisors of 3 or 4.</li> <li>8. give quotients for division facts with divisors of 6 or 7.</li> <li>9. give quotients for division facts with divisors of 8 or 9.</li> </ol>	2.3.1
		1.2.1 1.2.7
		1.2.3 1.3.3
		1.2.5 2.2.1
		1.2.6
C. Using Division Facts	<ol style="list-style-type: none"> <li>10. use patterns and related multiplication and division facts to find answers to division facts with 0 and 1.</li> <li>11. find remainders for simple division problems.</li> <li>12. recognize which numbers are divisible by 10, 11, and 12.</li> <li>13. write number expressions for phrases.</li> </ol>	1.1.4 2.1.1
		1.2.1 2.1.3
		1.2.3 2.1.6
		1.2.5 2.3.2
		1.2.6 2.3.3
		1.2.7 2.3.4
1.3.3 4.1.3		

**8. GEOMETRY AND MEASUREMENT****Third Grade**

	The student will...	Math Standard
A. Solids	1. identify space figures, (solids) by name, identify their similarities and differences, and draw logical conclusions about geometric relationships. 2. classify space figures, and identify the faces, edges, and corners of certain space figures. 3. solve problems by showing actions with objects.	2.1.6 3.4.2 2.3.1 3.4.3 3.1.1 3.4.7 3.4.1
B. Shapes	4. identify points, lines, line segments, rays, parallel lines, and intersecting lines. 5. identify angles and classify an angle as a right angle, greater than a right angle, or smaller than a right angle. 6. identify and classify polygons. 7. identify triangles based on the length of their sides as equilateral, isosceles, or scalene, and based on the size of their angles as right, acute, or obtuse. 8. identify quadrilaterals, that are squares, rectangles, parallelograms, rhombi, and trapezoids. 9. identify congruent figures, and determine if a congruent figure has been transformed by slide, flip, or turn. 10. make and identify symmetrical figures, and draw a line of symmetry.	2.1.6 3.1.1 3.2.1 3.3.1 3.3.2 3.4.5 3.4.6 3.4.7 4.2.4
C. Perimeter, Area, and Volume	11. find the perimeter of polygons using nonstandard and standard units of length, and estimate the perimeter (circumference) of a circle using non-standard units. 12. estimate or find areas of figures in square units. 13. find the volume of solid figures constructed of cubes. 14. describe similarities in geometric figures.	1.2.3 3.4.3 1.2.7 3.4.7 3.1.1 4.1.5 3.3.2 4.2.1 3.4.1 4.2.3

**9. FRACTIONS AND MEASUREMENT****Third Grade**

	The student will...	Math Standard
A. Fraction Concepts	1. identify regions that have been divided into equal-sized parts, and divide regions into equal-sized parts. 2. identify and draw fractional parts of regions. 3. find equivalent fractions using models such as fraction strips. 4. compare and order fractions. 5. estimate fractional parts of regions. 6. identify and locate fractions on a number line.	1.1.5 1.1.6 1.1.7
B. Extending Fraction Concepts	7. identify fractional parts of sets or groups and divide sets to show fractional parts. 8. find the number of objects in a fractional part of a set where the numerator is 1. 9. add and subtract fractions with like denominators. 10. read and write mixed numbers, and use objects or pictures to show mixed numbers. 11. solve hard problems by breaking them apart or changing them into smaller parts.	1.1.6
C. Customary Linear Measurement	12. measure length using objects and using inches. 13. measure lengths to the nearest $\frac{1}{2}$ inch and to the nearest $\frac{1}{4}$ inch. 14. estimate and measure lengths in feet and inches, and change measures given in feet to inches. 15. change measures between inches, feet, and yards, choose the best unit of measure for a given object and compare measures. 16. solve problems involving too much information by using only the information needed, and decide when there is not enough information to solve a problem.	1.3.4 2.1.4 4.1.1 4.1.2 4.1.5 4.1.6 4.2.2 4.2.3 5.1.1

**10. DECIMALS AND MEASUREMENT****Third Grade**

	The student will...	Math Standard
A. Decimals	<ol style="list-style-type: none"> <li>1. write fractions and decimals in tenths.</li> <li>2. write fractions and decimals in hundredths.</li> <li>3. compare and order decimals to hundredths.</li> <li>4. add and subtract decimals in tenths and hundredths.</li> <li>5. make an organized list to represent information given in a problem.</li> </ol>	
B. Metric Linear Measurement	<ol style="list-style-type: none"> <li>6. estimate and measure lengths in centimeters and decimeters.</li> <li>7. estimate and measure lengths in meters, choose the best unit of metric measurement, and use patterns to change between units.</li> <li>8. write to explain a pattern.</li> </ol>	1.2.3 1.2.7 4.1.2

**11. MULTIPLYING AND DIVIDING GREATER NUMBERS****Third Grade**

	The student will...	Math Standard
A. Multiplication and Division Number Sense	<ol style="list-style-type: none"> <li>1. use mental math to multiply by multiples of 10, 100, and 1,000.</li> <li>2. estimate products by rounding.</li> <li>3. use mental math to divide multiples of 10 and 100.</li> <li>4. estimate quotients using basic division facts.</li> </ol>	
B. Multiplying by One-Digit Numbers	<ol style="list-style-type: none"> <li>5. use an array or draw a picture to multiply 1-digit and 2-digit numbers.</li> <li>6. use partial products to multiply a 1-digit and a 2-digit number.</li> <li>7. use the traditional algorithm to multiply a 1-digit and a 2-digit number.</li> <li>8. use the traditional algorithm to multiply a 1-digit and a 3-digit number.</li> <li>9. multiply an amount of money given to dollars and cents by a 1-digit number.</li> <li>10. decide what method to use to multiply and then multiply.</li> <li>11. use the information given in the problem and reasoning to draw conclusions.</li> </ol>	
C. Dividing by One-Digit Numbers	<ol style="list-style-type: none"> <li>12. model a division situation using place-value blocks.</li> <li>13. break apart numbers to find a quotient.</li> <li>14. divide 2-digit numbers by 1-digit numbers using paper and pencil.</li> <li>15. decide how to use the quotient and remainder to answer the question in a division problem.</li> </ol>	

**12. MEASUREMENT AND PROBABILITY****Third Grade**

	The student will...	Math Standard
A. Capacity, Weight, and Temperature	<ol style="list-style-type: none"> <li>1. measure in cups, pints, quarts, and gallons, change between units, and choose the better estimate for a given amount.</li> <li>2. measure in milliliters and liters, change between units, and choose the better estimate for a given amount.</li> <li>3. solve problems that require finding the original times, measurements, or quantities that led to a result that is given.</li> <li>4. estimate and measure weights in pounds, change between pounds and ounces, and choose the better estimate for a given weight.</li> <li>5. estimate and measure to find how heavy an object is in metric units, choose the better estimate, and change grams to kilograms and vice versa.</li> <li>6. read temperatures above and below zero on Fahrenheit and Celsius thermometers, and determine appropriate temperatures for given activities.</li> </ol>	1.3.4 4.1.1 4.1.2 4.1.5 4.2.2 4.2.3 5.1.1
B. Probability	<ol style="list-style-type: none"> <li>7. decide if an event is certain, impossible, or possible. If an event is possible, decide if it is likely or unlikely.</li> <li>8. give the change of each outcome for a spinner, and determine if spinner games are fair or unfair.</li> <li>9. use a fraction to express the probability of an event.</li> <li>10. write to explain a prediction.</li> </ol>	5.1.1 5.4.1 5.1.3 5.4.2 5.2.1 5.4.3 5.3.1

**MATH CURRICULUM**  
**FOURTH GRADE**

**1. PLACE VALUE AND MONEY**

**Fourth Grade**

	The student will...	Math Standard
A. Place Value	1. use place value ideas to write multiples of 100 and 1,000 in different ways. 2. read and write numbers through 999,999,999. 3. use place value ideas to write multiples of 100, 1,000 and 10,000 in different ways. 4. tell in words what is known and what needs to be determined in given word problems.	1.1.1 1.2.2 1.3.2 2.1.2
B. Building Number Sense	5. compare and order numbers through 999,999,999. 6. round whole numbers through millions. 7. estimate totals made up of large numbers. 8. give appropriate strategies and alternate strategies for solving word problems.	1.1.1 1.2.2 1.3.3 5.4.2
C. Money and Decimals	9. give money amounts in dollars, dimes, and pennies, and in ones, tenths, and hundredths. 10. find the value of a given assortment of bills and coins, and tell how to make a given money amount with the fewest bills and/or coins. 11. make change by counting on. 12. read, write, and shade grids to show tenths and hundredths expressed as decimals. 13. tell whether and why the work shown for given problems is correct or not.	

**2. ADDING AND SUBTRACTING WHOLE NUMBERS AND MONEY**

**Fourth Grade**

	The student will...	Math Standard
A. Addition and Subtraction Number Sense	1. compute sums of numbers mentally. 2. compute differences of numbers mentally. 3. use rounding and front-end estimation to estimate sums and differences. 4. indicate whether an estimate is an overestimate or underestimate.	1.2.1 1.2.2 1.2.3 1.2.4 1.3.3 2.2.2
B. Adding and Subtracting	5. add and subtract whole numbers and money amounts (to five digits). 6. find the sums of three or more whole numbers or money amounts. 7. use the standard algorithm to find differences using whole number amounts and money amounts. 8. for a variety of problems, state the computation method to be used and add or subtract using that method.	1.2.1 1.2.2 1.2.3
C. Algebra	9. give missing numbers or figures in a pattern. 10. write number expressions for phrases. 11. choose and evaluate the number expression that matches a word phrase. 12. evaluate variable expressions that involve a single operation of addition or subtraction. 13. find the solution to an equation informally by substituting values for the variable.	1.2.2 2.1.1 2.1.2 2.1.4 2.2.1 2.2.4 2.4.2 3.3.1

**3. MULTIPLICATION AND DIVISION CONCEPTS AND FACTS****Fourth Grade**

	The student will...	Math Standard
A. Multiplication Concepts and Facts	1. recognize equal groups, repeated addition, arrays, and multiplicative comparisons as multiplication. 2. use patterns to find products with factors of 0, 1, 2, 5, and 9. 3. use the Distributive Property to find products by breaking unknown facts into known facts. 4. find products of factors 10, 11, and 12. 5. make tables and use them to solve word problems.	1.1.4 2.1.1 1.2.2 2.1.2 1.2.4 2.2.2 1.2.5 2.3.2 1.3.1 2.4.3 3.4.2
B. Division Concepts and Facts	6. use sharing and repeated subtraction to solve word problems with division. 7. complete multiplication and division fact families, and write fact families for given numbers. 8. divide using a related multiplication fact. 9. give quotients of 0 when the number divided is 0, give a quotient of 1 when a number is divided by itself, and give the number divided as the quotient when dividing by 1. 10. write stories using given multiplication and division facts. 11. solve multiple-step word problems.	1.2.2 1.3.1
C. Algebra	12. write and evaluate variable expressions that involve a single operation of multiplication or division. 13. find the rule for a pattern presented in a table, and use the rule to add inputs and outputs to the table. 14. find the solution to an equation by testing a set of values for the variable.	1.1.1 2.2.2 1.1.2 2.2.4 1.2.2 2.3.2 2.1.1 2.4.2 2.1.2 2.4.3 2.1.4 4.2.5 2.2.1

**4. TIME, DATA, AND GRAPHS****Fourth Grade**

	The student will...	Math Standard
A. Time	1. tell time to the nearest 1 minute and 5 minutes using analog and digital clocks, and identify times as A.M. or P.M. 2. convert among different units of time, and compare measurements of time. 3. find elapsed time, starting time, or ending time, given two of these. 4. write comparison statements using data from tables and graphs. 5. find dates on a calendar that are certain numbers of weeks before and after given dates.	4.1.6 4.2.3 4.2.5 5.2.1 5.2.3
B. Reading and Making Graphs	6. read, interpret, and make pictographs. 7. read, interpret, and make line plots. 8. read, interpret, and make bar graphs. 9. locate and graph ordered pairs on a coordinate grid. 10. interpret and make line graphs. 11. use data in tables and tally charts to make line graphs, bar graphs, and pictographs to solve problems.	2.3.1 3.2.2 2.3.2 3.2.3 2.4.1 5.1.1 2.4.2 5.1.2 2.4.4 5.2.3 3.2.1 5.3.1 5.3.2
C. Interpreting Data	12. find the median, mode, and range for a given set of data. 13. interpret survey results and make predictions based on those results. 14. recognize misleading graphs and identify the misleading characteristics.	1.2.2 5.2.1 4.2.3 5.2.2 4.2.5 5.2.3 5.1.1 5.3.1 5.1.2 5.3.2

**5. MULTIPLYING BY ONE-DIGIT NUMBERS****Fourth Grade**

	The student will...	Math Standard
A. Multiplication Number Sense	1. Multiply any number by 10, 100, or 1,000. 2. use rounding and compatible numbers to estimate products. 3. mentally multiply two-digit numbers by one-digit numbers using the distributive property. 4. make arrays with place-value blocks to find products.	1.2.5 2.1.2 1.3.1 2.2.2 1.3.2 3.4.2 1.3.3
B. Multiplying	5. use the standard algorithm to multiply two-digit numbers by one-digit numbers. 6. use the standard algorithm to multiply three-digit numbers by one-digit numbers. 7. solve problems using the Try, Check, and Revise strategy. 8. for a variety of problems, state the computation method to be used and multiply using that method.	1.2.1 1.2.2 1.2.5 1.3.2 1.3.3
C. Applying Multiplication	9. calculate products involving amounts of money. 10. use the commutative and associative properties to simplify and then complete multiplications with three factors. 11. identify the appropriate operation needed to solve a problem.	1.2.2 1.2.4 2.2.2 4.1.6

**6. MULTIPLYING BY TWO-DIGIT NUMBERS****Fourth Grade**

	The student will...	Math Standard
A. Multiplication Number Sense	1. multiply mentally any two-digit number by a multiple of 10, 100, or 1,000. 2. use rounding and place value to estimate products of larger numbers. 3. use arrays to find products involving two-digit factors. 4. make an organized list to represent information given in a problem.	1.2.2 1.3.1 1.3.2 1.3.3 2.1.2 3.4.2 5.4.2
B. Multiplying	5. use the partial products and the standard algorithm for multiplying with two-digit factors. 6. use the standard algorithm to multiply two-digit numbers by three- or four-digit numbers. 7. decide on an appropriate computational method to use to find a product. 8. compute and estimate products involving money amounts. 9. write to explain a pattern.	1.2.1 2.1.1 1.2.2 2.1.2 1.3.1 2.2.4 1.3.2 2.3.2 1.3.3 2.4.2 2.4.3 5.2.3

**7. DIVIDING****Fourth Grade**

	The student will...	Math Standard
A. Division Number Sense	1. Divide multiples of 10, 100, and 1,000 by a one-digit number. 2. estimate quotients. 3. use models to find quotients and remainders. 4. use models and the standard algorithm to divide 2-digit numbers by 1-digit numbers.	1.2.1 2.1.2 1.2.2 2.3.1 1.3.1 1.3.3
B. Dividing by One-Digit Divisors	5. use a standard algorithm to divide a 2-digit number by a 1-digit number. 6. decide how to use the quotient and remainder to answer the question in a division problem. 7. use the standard algorithm to divide 3-digit numbers by 1-digit numbers. 8. divide with zeros in the quotient. 9. compute and estimate quotients involving money amounts. 10. write number sentences for word problems and use complete sentences to write answers to word problems.	1.2.1 1.2.2
C. Extending Division	11. determine mentally if a number is divisible by 2, 3, 5, 9, or 10. 12. find the average (mean) of a set of numbers. 13. divide multiples of 10, 100, and 1,000 by multiples of 10. 14. estimate quotients with two-digit divisors, and use models to find quotients.	1.1.1 1.2.2 1.3.1 2.1.2

## 8. GEOMETRY AND MEASUREMENT

### Fourth Grade

	The student will...	Math Standard
A. Solids and Plane Figures	<ol style="list-style-type: none"> <li>1. recognize that a plane figure has two dimensions, length and width, and a solid figure has three dimensions, length, width, and height.</li> <li>2. identify and classify polygons.</li> <li>3. identify important geometric terms relating to lines, parts of a line, and angles.</li> <li>4. classify triangles and quadrilaterals.</li> <li>5. identify geometric terms relating to circles.</li> </ol>	2.1.2 3.1.1 3.1.2 3.4.1 4.2.6
B. Geometry and Transformations	<ol style="list-style-type: none"> <li>6. identify congruent figures, and determine the slide (translation), flip (reflection), or turn (rotation) image of a figure.</li> <li>7. identify and make symmetrical figures, and draw a line or lines of symmetry.</li> <li>8. identify and construct similar figures.</li> <li>9. describe similarities and differences in geometric figures.</li> </ol>	2.1.2 4.2.4 3.1.1 5.3.1 3.1.2 3.1.3 3.2.1 3.3.2
C. Perimeter, Area, and Volume	<ol style="list-style-type: none"> <li>10. find the perimeter of a polygon by adding the lengths of the sides of by using a formula.</li> <li>11. find the area of rectangles and irregular rectangular shapes by counting square units or by using a formula.</li> <li>12. recognize that some problems can be solved by showing the action with objects.</li> <li>13. find the volume of rectangular prisms and irregular rectangular solids by counting cubic units or by using a formula.</li> </ol>	1.2.2 3.4.2 1.3.3 3.4.3 2.1.4 4.1.1 2.2.5 4.1.4 2.3.3 4.1.5 3.1.1 4.2.1 3.1.2 4.2.2 4.2.3

## 9. FRACTION CONCEPTS

### Fourth Grade

	The student will...	Math Standard
A. Understanding Fractions	<ol style="list-style-type: none"> <li>1. identify and draw fractional parts of a region.</li> <li>2. identify fractional parts of sets or groups and divide sets to show fractional parts.</li> <li>3. locate and name fractions on a number line.</li> <li>4. estimate fractional parts of regions and sets and estimate fractions for points on the number line.</li> <li>5. draw pictures to represent the information given in problems.</li> </ol>	1.1.2 1.3.4 3.4.2
B. Fraction Relationships	<ol style="list-style-type: none"> <li>6. identify fractions that are equivalent and find fractions equivalent to a given fraction using models and/or a computational procedure.</li> <li>7. express fractions in simplest form.</li> <li>8. determine which of two fractions is greater (or less).</li> <li>9. compare fractions using <math>&gt;</math>, <math>&lt;</math>, and <math>=</math>, and order fractions.</li> </ol>	1.1.2 3.4.2
C. Extending Fraction Concepts	<ol style="list-style-type: none"> <li>10. read, write, and show mixed numbers, express mixed numbers as improper fractions, and improper fractions as mixed numbers.</li> <li>11. compare mixed numbers.</li> <li>12. read a circle graph to find information needed to solve problems.</li> <li>13. write to explain an estimate.</li> </ol>	1.1.2 1.2.2 1.3.4 3.4.2 4.1.6 4.2.1

**10. FRACTION OPERATIONS AND CUSTOMARY MEASUREMENT****Fourth Grade**

	The student will...	Math Standard
A. Adding Fractions	1. estimate sums of fractions. 2. add fractions with like denominators, using models and paper and pencil. 3. add fractions with unlike denominators using models and paper and pencil.	1.1.3 1.3.4
B. Subtracting Fractions.	4. subtract fractions with like denominators using models and paper and pencil. 5. subtract fractions with unlike denominators using models and paper and pencil. 6. use the information given in the problem to make conclusions.	1.1.3
C. Customary Measurement	7. estimate and measure length to the nearest inch, and choose the most appropriate customary unit of length for a given object or distance. 8. measure and draw lengths to the nearest half, quarter, or eighth of an inch. 9. choose the most appropriate customary unit of capacity for a given container, and estimate and measure capacity using customary units. 10. choose the most appropriate customary unit of weight for a given object, and estimate and measure weight using customary units. 11. change units of length, capacity, and weight to equivalent units and compare measures. 12. give an exact answer or an estimate, depending on what the problem asks.	1.1.2 1.2.2 1.3.3 4.1.2 4.1.6 4.2.3 5.1.2

**11. DECIMALS AND METRIC MEASUREMENT****Fourth Grade**

	The student will...	Math Standard
A. Understanding Decimals	1. relate decimals to common fraction benchmarks, and write decimals in 10ths and 100ths. 2. write decimals in tenths and hundredths. 3. write, compare, and order decimals to hundredths. 4. round decimals to the nearest whole number and tenth.	1.1.2 1.1.3 1.3.4
B. Adding and Subtracting Decimals	5. estimate sums and differences involving decimals. 6. add and subtract decimals in tenths, hundredths, and combinations of whole numbers, tenths, and hundredths. 7. add, subtract, and estimate with decimals in tenths, hundredths, and combinations of whole numbers, tenths, and hundredths. 8. solve hard problems by breaking them apart or changing them into smaller parts.	1.2.2 1.2.3 1.3.4
C. Metric Measurement	9. estimate and measure length in metric units, and choose the most appropriate metric unit of length for an object or distance. 10. estimate and measure capacity in milliliters and liters, and choose the most appropriate metric unit for the capacity of a container. 11. estimate and measure mass in grams and kilograms, and choose the most appropriate metric unit of mass for an object. 12. change units of length, capacity, and mass to equivalent units and compare measures 13. write to explain a prediction. 14. read temperatures above and below zero on Fahrenheit and Celsius thermometers, and determine appropriate temperatures for given activities.	1.1.1 1.1.3 1.3.4 2.3.2 3.4.1 3.4.2 4.1.2 4.1.3 4.1.6 4.2.3 5.2.3 5.3.1 5.3.2

**12. GRAPHING AND PROBABILITY****Fourth Grade**

	The student will...	Math Standard
A. Graphing	<ol style="list-style-type: none"><li>1. solve an inequality by graphing the inequality on a number line.</li><li>2. write equations for word sentences.</li><li>3. graph equations in the first quadrant and find ordered pairs on the graph of an equation.</li><li>4. solve problems involving too much information by using only the information needed, and decide when there is not enough information to solve a problem.</li></ol>	2.1.1 2.3.2 2.1.3 2.4.1 2.1.4 2.4.2 2.2.1 2.4.3 2.2.3 3.2.2 2.2.4
B. Probability	<ol style="list-style-type: none"><li>5. describe a probability as likely, unlikely, impossible, or certain.</li><li>6. list all possible results for a situation.</li><li>7. use a fraction to express the probability of an event.</li><li>8. make predictions.</li><li>9. solve problems that require finding the original times, measurements, or quantities that led to a result that is given.</li></ol>	1.2.2 2.3.1 2.4.1 2.4.2 2.4.3 3.2.2 5.4.1

**MATH CURRICULUM**  
**FIFTH GRADE**

**1. PLACE VALUE, ADDING, AND SUBTRACTING**

**Fifth Grade**

	The student will...	Math Standard
A. Place Value: Whole Numbers and Decimals	1. write the standard, word, and expanded forms of whole numbers to billions, and identify the value of digits in whole numbers. 2. compare and order numbers through millions. 3. write decimals in standard, word, and expanded form through thousandths, identify the value of digits in decimal numbers, and name equivalent decimals. 4. compare and order decimals through thousandths. 5. use place-value ideas to write multiples of 100, 10,000 and 10,000 in different ways. 6. tell in words what is known and what needs to be determined in given word problems.	1.1.1 1.1.3 1.2.9 1.3.1 2.1.2 2.2.3 2.3.2 2.4.2
B. Building Number Sense	7. compute sums and differences mentally using the Commutative, Associative and Identity Properties of Addition, compatible numbers, and compensation. 8. round whole numbers through millions and decimals through thousandths. 9. use rounding, front-end estimation and front-end estimation with adjusting to estimate sums and differences of whole numbers and decimals. 10. give appropriate strategies and alternate strategies for solving word problems.	1.1.2 1.2.4 1.3.4 2.3.2
C. Adding and Subtracting	11. compute sums and differences of two whole numbers greater than 10,000. 12. compute sums of decimals involving tenths, hundredths, and thousandths. 13. compute differences of decimals involving tenths, hundredths, and thousandths. 14. tell whether and why the work shown for given problems is correct or not.	1.2.2 1.3.1 1.3.2 5.3.8

## 2. MULTIPLYING WHOLE NUMBERS AND DECIMALS

Fifth Grade

	The student will...	Math Standard
A. Multiplying Whole Numbers	<ol style="list-style-type: none"> <li>mentally compute products of whole numbers using patterns and multiplication properties.</li> <li>use rounding and compatible numbers to estimate products of whole numbers, and identify estimates as overestimates or underestimates.</li> <li>mentally multiply numbers of up to three places by numbers of up to two places.</li> <li>use the standard algorithm to multiply numbers by one- and two-digit numbers.</li> <li>for a variety of problems, state the computation method to be used and multiply using that method.</li> <li>use organized lists to solve word problems, and write answers in complete sentences.</li> </ol>	1.2.5 1.3.1 1.3.4 2.4.2 5.3.8
B. Multiplying Whole Numbers and Decimals	<ol style="list-style-type: none"> <li>mentally multiply any decimal by a power of ten.</li> <li>use rounding and compatible numbers to estimate products of decimal numbers, and identify estimates as overestimates or underestimates.</li> <li>use partial products and the standard algorithm to multiply whole numbers by decimals.</li> <li>use grid models to find products of decimals.</li> <li>use partial products and the standard algorithm to multiply decimals by decimals.</li> </ol>	1.2.5 1.3.4 2.3.2 2.3.3 2.4.2
C. Algebra	<ol style="list-style-type: none"> <li>use variables to write algebraic expressions.</li> <li>write number expressions for phrases.</li> <li>identify patterns and find a rule for the pattern.</li> <li>solve equations using mental mathematics and by guessing and testing values for the variable.</li> </ol>	1.3.1 2.2.1 2.1.2 2.2.2 2.1.3 2.1.4

## 3. DIVIDING WITH ONE-DIGIT DIVISORS

Fifth Grade

	The student will...	Math Standard
A. Division Number Sense	<ol style="list-style-type: none"> <li>draw a picture or use objects to show a division situation and find quotients.</li> <li>find the quotient of a division problem whose dividend is a multiple of 10, where the division involves a basic fact.</li> <li>use rounding, compatible numbers, and multiplication to estimate quotients of whole numbers and money.</li> <li>give missing numbers or figures in a pattern.</li> </ol>	1.2.5 2.1.2 1.3.1 2.1.3 1.3.4 2.3.1 1.3.5 2.4.1
B. Dividing	<ol style="list-style-type: none"> <li>find quotients using the model of sharing money.</li> <li>divide three-digit whole numbers by one-digit divisors.</li> <li>divide with zeros in the quotient.</li> <li>find the quotients of four-digit whole numbers divided by one-digit divisors.</li> <li>find quotients of money amounts divided by one-digit divisors.</li> <li>determine if numbers are divisible by 2, 3, 4, 5, 6, 9, and 10.</li> <li>identify numbers as prime or composite.</li> <li>interpret remainders by giving total amounts needed to include remainders and amounts left over.</li> </ol>	1.1.6 1.2.1 1.2.4 1.2.7 1.3.1 2.3.1
C. Algebra	<ol style="list-style-type: none"> <li>evaluate expressions with three or more numbers and two or more operations.</li> <li>on a coordinate grid, plot points for ordered pairs and identify the ordered pairs for plotted points.</li> <li>create a table of values for a rule and a graph based on the table, and use the table or graph to give the output for an input.</li> </ol>	1.1.2 1.3.1 1.3.6 2.1.1 2.3.2

**4. DIVIDING WITH TWO-DIGIT DIVISORS****Fifth Grade**

	The student will...	Math Standard
A. Number Sense	1. find the quotients of division problems whose dividends and divisors are multiples of 10, where the division involves a basic fact. 2. estimate quotients with whole numbers, decimals, and money divided by 2-digit whole numbers. 3. solve problems using the Try, Check, and Revise strategy.	1.2.1 2.1.2 1.2.7 2.2.2 1.3.1 2.4.1 1.3.3 2.4.2 3.4.1
B. Dividing Whole Numbers	4. use the standard algorithm to divide three-digit whole numbers by two-digit divisors. 5. use the standard algorithm to find the quotient of four-digit whole numbers divided by two-digit divisors. 6. for a variety of problems, state the computation method to be used and divide using that method. 7. divide numbers whose quotients include zeros. 8. solve multiple-step word problems.	1.2.7 1.3.2 1.3.3
C. Dividing Decimals	9. divide decimal numbers by 10, 100, and 1,000. 10. use the standard algorithm to find quotients of money amounts divided by two-digit divisors. 11. use the standard algorithm to find the quotient of two- and three-digit decimal numbers divided by two-digit divisors.	1.3.1

**5. DATA, GRAPHS, AND PROBABILITY****Fifth Grade**

	The student will...	Math Standard
A. Reading and Making Graphs	1. identify a statement as fact or opinion; interpret a line plot and a frequency table; write a survey question. 2. make double bar graphs to represent data. 3. make line graphs to represent data, and read and interpret given line graphs. 4. complete, make, and interpret stem-and-leaf plots. 5. make a line plot and a double bar graph to solve problems.	5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.1.6 5.2.3
B. Interpreting Data	6. find the mean, median, mode, and range of a set of data, and choose the measure that best represents a given set of data. 7. complete circle graphs based on data given, and interpret given circle graphs. 8. choose the most appropriate type of graph to represent a given set of data. 9. interpret line and double bar graphs; describe trends in data represented by line and double bar graphs.	5.1.1 5.3.3 5.1.2 5.3.4 5.1.3 5.3.5 5.1.4 5.3.6 5.1.5 5.3.7 5.2.1 5.2.2
C. Probability	10. identify events and favorable outcomes, and determine if an outcome is equally likely, impossible, less likely, more likely, or certain. 11. find all possible outcomes of an event by making a tree diagram or by multiplying. 12. use fractions to represent the probabilities of events, and use probability to decide if a game is fair or unfair.	1.1.2 5.4.1 5.1.5 5.4.2 5.2.1 5.4.3 5.3.3 5.4.5 5.3.8 5.4.6

**6. GEOMETRY****Fifth Grade**

	The student will...	Math Standard
A. Lines, Angles, and Circles	1. identify important geometric terms relating to lines, parts of a line, angles, and planes. 2. measure and draw angles, and classify angles according to their measures. 3. identify relationships between parts of a circle such as center, radius, diameter, chord, and central angle.	3.2.1 3.4.2
B. Polygons	4. identify and classify polygons. 5. identify and classify triangles. 6. identify and classify quadrilaterals. 7. recognize that some problems can be solved by breaking them apart or changing them into smaller parts. 8. describe similarities and differences in geometric figures.	1.3.1 3.4.1 2.4.1 5.3.8 3.1.1 3.1.2
C. Symmetry and Transformations	9. identify congruent figures and similar figures. 10. determine whether a pair of congruent figures are related by a slide (translation), flip (reflection), or turn (rotation). 11. identify and make symmetrical figures and draw a line or lines of symmetry.	1.3.1 3.1.1 3.3.1

**7. FRACTION CONCEPTS****Fifth Grade**

	The student will...	Math Standard
A. Understanding Fractions	1. identify and show fractional parts of regions and sets and locations on a number line. 2. division can be used to divide objects into equal parts where the parts are fractions of a whole. 3. express fractions greater than 1 as mixed numbers or improper fractions. 4. estimate fractional parts of regions. 5. identify and locate fractions and mixed numbers on a number line. 6. solve problems involving too much information by using only the information needed, and decide when there is not enough information to solve a problem.	1.1.1 1.1.2 1.1.5 1.2.6 1.3.1
B. Fraction Relationships	7. identify and write equivalent fractions. 8. identify fractions that are equivalent and find fractions equivalent to a given fraction using models and/or a computational procedure. 9. determine common factors and the greatest common factor of numbers. 10. identify fractions that are in simplest form and find the simplest form of a fraction. 11. determine which of two fractions is greater or less and write a comparison. 12. compare and order fractions and mixed numbers. 13. represent decimals (tenths and hundredths) as fractions and simple fractions as decimals. 14. label a point on a number line using a fraction and a decimal, and write a fraction and decimal for a point on a number line. 15. use the information given in the problem to make conclusions.	1.1.1 1.1.5 1.2.4 1.2.6 1.2.9 1.3.1 2.2.3 3.3.1 5.2.1

**8. FRACTION OPERATIONS****Fifth Grade**

	The student will...	Math Standard
A. Adding and Subtracting Fractions	1. add and subtract fractions with like denominators. 2. find a common denominator for two fractions using fraction strips. 3. find a common denominator for two fractions. 4. add and subtract fractions with unlike denominators.	1.2.3 1.2.4 1.2.8
B. Adding and Subtracting Mixed Numbers	5. add and subtract mixed numbers with and without renaming. 6. estimate sums and differences of mixed numbers. 7. estimate sums and add mixed numbers. 8. estimate differences and subtract mixed numbers. 9. solve problems that require finding the original times, measurements, or quantities that led to a result that is given.	1.2.3 1.2.8
C. Multiplying and Dividing Fractions	10. use models or mental math to find fractions of whole numbers. 11. use compatible numbers and mental math to estimate the product of a whole number and a fraction. 12. use models or paper and pencil to multiply fractions. 13. multiply mixed numbers. 14. use models or mental math to divide fractions. 15. solve a problem by choosing an operation.	There are no NM standards in 5 <sup>th</sup> grade for multiplying or dividing fractions.

**9. MEASUREMENT****Fifth Grade**

	The student will...	Math Standard
A. Linear Measurement and Perimeter	1. change between one customary unit of length and another, and add and subtract customary units of length. 2. measure and draw lengths to the nearest inch, quarter inch, and eighth inch. 3. choose the most appropriate metric unit of length, and measure lengths to the nearest centimeter and millimeter. 4. change among measurements in metric units of length. 5. find the perimeter of a polygon. 6. find the circumference of a circle by using models and by using a formula.	3.4.1 3.4.2 4.1.2 4.1.3 4.1.4 4.2.3
B. Area	7. find the area of irregular shapes by counting square units. 8. find the area of a rectangle or square by using a formula. 9. find the area of a parallelogram by using a formula, and find the length when the area and other side length are known. 10. find the area of a triangle by using a formula, and find a missing length when the area and other dimension are known. 11. draw pictures that represent the information given in problems.	3.4.1 4.1.1 4.2.2
C. Time and Temperature	12. change from one unit of time to another. 13. given any two of these times, elapsed time, starting time, or ending time, find the third. 14. read temperatures in degrees Fahrenheit and in degrees Celsius on a thermometer with both scales, and give changes in temperature indicating the amount of increase or decrease. 15. write to explain how a broken ruler can be used to measure.	1.1.1 4.1.1 1.3.1 4.1.3 1.3.2 4.1.4 3.4.1 4.2.1

**10. MEASURING SOLIDS****Fifth Grade**

	The student will...	Math Standard
A. Solids	1. describe the number of faces, edges, and vertices for a polyhedron and use features to identify polyhedra and other solids. 2. identify solids from their nets, and draw front, top and side views of solids. 3. use a formula to find the surface area of rectangular prisms. 4. use objects to solve a problem that involves finding a pattern.	2.3.2 3.1.1 3.1.3
B. Volume and Capacity	5. use cubes and a formula to find the volume of rectangular prisms. 6. change among the customary units of capacity and add and subtract customary units of capacity. 7. estimate and measure capacity using metric measures, and change millimeters to liters and vice versa.	4.1.2 4.1.3 4.1.4 4.2.1 4.2.2
C. Weight and Mass	8. change between customary units of weight, and add and subtract customary units of weight. 9. estimate and measure mass using metric measures, and change between these measures. 10. give an exact answer or an estimate depending on what the problem asks.	1.1.1 1.3.7 4.1.1 4.1.3 4.1.4 5.2.1

**11. RATIO, PROPORTION, AND PERCENT****Fifth Grade**

	The student will...	Math Standard
A. Ratio and Proportion	1. read and write ratios for various kinds of comparisons, and tell which situation represents a ratio that is a fraction (part-whole) and which represents a ratio that is not a fraction. 2. use a table to generate equal ratios, write equal ratios, and tell if two ratios form a proportion. 3. generate a table of equal ratios and graph the ordered pairs. 4. read and write rates, and change a rate to a unit rate.	2.1.1 2.1.2
B. Using Ratios	5. make tables and use them to solve word problems. 6. create scale drawings. 7. write to explain a prediction.	2.3.2 5.3.1 5.4.4
C. Percent	8. write a percent for a given situation on a 100-grid, and create a 100-grid that shows various percents. 9. give several fraction-percent benchmarks, and estimate a percent of a whole number using benchmark percents. 10. give several fraction-percent benchmarks, and estimate a percent of a whole number using benchmark percents.	1.1.4

**12. ALGEBRA: INTEGERS, EQUATIONS, AND GRAPHING****Fifth Grade**

	The student will...	Math Standard
A. Equations	1. identify and solve equations, and identify variables and the role of variables in equations. 2. solve equations involving addition and subtraction. 3. solve equations involving multiplication and division. 4. write equations for word problems.	1.3.5
B. Integers	5. read, write, compare, and order integers. 6. add integers using a number line. 7. subtract integers using a number line. 8. write to explain a pattern.	2.1.2 2.2.3 2.3.2
C. Equations and Graphs	9. identify and graph points on a coordinate plane. 10. make a table of x- and y-values for an equation and then graph the equation.	

**MATH CURRICULUM**  
**SIXTH GRADE**

**1. NUMBERS, EXPRESSIONS, AND EQUATIONS**

**Sixth Grade**

	The student will...	Math Standard
A. Place Value, Exponents, and Estimation	1. read and write numbers to trillions in standard, expanded, and word form, and give the values of specified digits. 2. write powers as products and evaluate, write expressions in exponential form, and write numbers in expanded form using exponents. 3. compare and order numbers with the same digits in different places or with many of the same digits. 4. round whole numbers through ten-millions. 5. identify rounding, clustering, front-end estimation, and front-end estimation with adjusting as the method to be used, and apply it to estimate the sum or difference of whole numbers. 6. estimate products and quotients with numbers up to ten-thousands. 7. tell in words what is known and what needs to be determined in given word problems.	1.1.1 1.1.2 1.1.3 1.3.1
B. Building Number Sense	8. evaluate expressions with three or more numbers, one with an exponent, and with two or more operations. 9. give missing addends and factors in equations, and state the property used. 10. give the missing number in expressions rewritten using the Distributive Property, and use that property to compute mentally. 11. mentally evaluate expressions with up to four numbers. 12. give appropriate strategies and alternate strategies for solving word problems.	1.2.1 1.3.1 1.3.2 1.3.6 5.3.3
C. Expressions and Equations	13. write numerical expressions with variables to represent relations expressed verbally. 14. explain why expressions are or are not equivalent, and give values for variables that make equations true. 15. solve one-step equations with one variable. 16. tell whether and why the work shown for given problems is correct or not.	1.1.1    2.1.3 1.1.3    2.2.2 1.2.1    2.2.3 1.3.1    2.2.4 1.3.2    2.3.2 2.4.1

**2. DECIMALS****Sixth Grade**

	The student will...	Math Standard
A. Decimal Concepts	1. give the place value of a given digit in a decimal number, and write decimals in expanded and short-word form. 2. compare and order decimals through hundred-thousandths. 3. round decimals to hundred-thousandths to the specified place, including to the nearest whole number. 4. estimate sums, differences, products, and quotients with decimals to thousandths.	1.1.1 1.1.3 1.3.1
B. Decimal Computation	5. find sums and differences with decimals with a variety of whole-number and decimal places. 6. find products of whole numbers and decimals to thousandths. 7. find quotients where the dividend and/or the quotient is a decimal. 8. solve word problems involving division, and express the answer with remainders or as decimals as appropriate. 9. find quotients of two decimals.	1.2.1 1.2.5 1.3.7
C. Application with Decimals	10. multiply and divide whole numbers and decimals by positive and negative powers of 10. 11. express numbers ranging from ten-millionths to hundred millions using scientific notation. 12. solve equations where the numbers given include decimals. 13. write equations for word problems, and use complete sentences to write the answers to the problems using these equations.	1.2.1 2.3.1 2.3.2 2.4.1

**3. NUMBER THEORY AND FRACTION CONCEPTS****Sixth Grade**

	The student will...	Math Standard
A. Number Theory	1. use divisibility rules to determine if one number is divisible by another. 2. identify numbers as prime or composite, and give the prime factorization for numbers. 3. find common factors and the greatest common factor of numbers. 4. find common multiples and the least common multiple of numbers. 5. make tables and use them to solve word problems.	1.1.4 1.2.2 2.2.2 2.3.2
B. Fraction Concepts	6. use fractions to describe fractional parts of regions and sets, and to represent division. 7. write equivalent fractions and express fractions in lowest terms. 8. write improper fractions as mixed numbers and mixed numbers as improper fractions. 9. estimate fractions using fraction benchmarks. 10. identify and write equivalent fractions and decimals. 11. compare and order fractions and decimals on the number line. 12. solve multiple-step word problems.	1.1.1 1.1.2 1.1.3 1.1.5 1.2.5 1.3.1 1.3.4 1.3.5

**4. ADDING AND SUBTRACTING FRACTIONS****Sixth Grade**

	The student will...	Math Standard
A. Adding and Subtracting Fractions	1. add and subtract fractions with the denominators, and simplify the answer if possible. 2. find common denominators for fractions with unlike denominators, and find their sums and differences in simplest form. 3. give missing numbers or figures in a pattern.	1.2.5 1.2.6 2.1.5 2.3.1
B. Adding and Subtracting Mixed Numbers	4. estimate sums and differences of fractions and mixed numbers using a number line, benchmark fractions, and rounding to the nearest whole number. 5. find sums of mixed numbers with and without renaming. 6. find differences of mixed numbers with and without renaming. 7. for a variety of problems, state the computation method to be used and add or subtract using that method. 8. obtain exact or estimated results to solve problems in real-world contexts.	1.1.2 1.1.5 1.2.5 1.3.1 1.3.3 2.3.2

**5. MULTIPLYING AND DIVIDING FRACTIONS****Sixth Grade**

	The student will...	Math Standard
A. Multiplying Fractions	1. multiply a fraction times a whole number. 2. give the product of two fractions. 3. estimate the product or quotient of two fractions. 4. multiply mixed numbers.	1.2.1 1.2.5 1.3.1 1.3.7
B. Dividing Fractions	5. solve word problems by making organized lists. 6. divide fractions. 7. find the quotients of divisions with mixed numbers.	1.2.1 1.3.7 5.3.3
C. Algebra: Using Fractions	8. write word phrases as, and evaluate, algebraic expressions with fractions. 9. solve one-step equations in one variable with fractions. 10. explain solutions to word problems.	1.1.2 2.2.2 1.2.5 2.3.1 1.3.1 2.3.2 2.1.3 2.4.1

**6. RATIO, RATES, AND PROPORTION****Sixth Grade**

	The student will...	Math Standard
A. Ratio and Rates	1. express comparisons as ratios in three ways. 2. create equal ratios. 3. find the unit rate for a given rate, and use rates to identify the better buy or the lower rate. 4. find, and write in sentences, solutions to word problems involving rates.	1.1.2 1.3.6 2.3.1 2.3.2
B. Proportions	5. identify ratios that form proportions. 6. solve proportions whose terms are whole numbers or money. 7. use cross products to solve proportions. 8. solve word problems and explain how the solution was obtained.	1.2.4 2.2.1 2.1.1 2.4.2 2.1.4 2.4.3
C. Similarity and Scale Drawings	9. use formulas to solve problems involving rates. 10. solve word problems based on scale drawings.	1.2.4 2.2.1 1.3.6 2.3.1 2.1.1 2.4.2 2.4.3

**7. PERCENT****Sixth Grade**

	The student will...	Math Standard
A. Meaning of Percent	1. write percents. 2. change among fractions, decimals, and percents. 3. write to explain why something is or is not possible.	1.3.5 2.1.4 2.3.1
B. Finding Percent	4. use mental math to find the percent of a number. 5. estimate percents of numbers using compatible numbers. 6. find a percent of a number. 7. recognize that some complex problems can be solved by breaking them apart or changing them into smaller parts.	1.2.3 2.1.1 1.2.4 2.1.4 1.3.1 2.2.1 1.3.5 2.4.2
C. Meaning of Percent	8. find the sales tax and find the sale price after a discount. 9. determine the percent of increase or decrease in an amount. 10. use the simple interest formula to determine the amount of interest and the total amount of money.	1.2.4 2.4.2 1.2.5 2.1.1 2.2.1

**8. ALGEBRA: INTEGERS AND RATIONAL NUMBERS****Sixth Grade**

	The student will...	Math Standard
A. Understanding Integers and Rational Numbers	1. read, write, and use positive and negative integers. 2. compare and order integers. 3. identify, write, compare, and order rational numbers. 4. solve a problem by choosing an operation.	1.1.1 2.1.1 1.1.5 2.2.1 1.2.4 2.3.1 1.2.5 2.3.2 1.3.6 2.4.2
B. Operations with Integers	5. add integers using a number line and using the rules for adding integers. 6. subtract integers. 7. multiply integers. 8. divide integers. 9. solve equations involving positive and negative integers. 10. solve problems that require finding the original times, measurements, or quantities that led to a result that is given.	1.2.1 1.2.5 2.1.5
C. Coordinate Graphing	11. identify and graph points on a coordinate scale. 12. use rules and functions to find missing values in patterns and tables and write a rule and equation to tell how to find one value of a function when another is known. 13. make a T-table for an equation and then graph the equation.	1.1.1 2.1.5 1.1.2 2.2.5 1.2.5 2.3.2 2.1.2 3.2.1 5.1.4

**9. GEOMETRY****Sixth Grade**

	The student will...	Math Standard
A. Lines and Angles	1. identify important geometric terms relating to lines, parts of a line, angles, and planes. 2. measure and draw angles, and classify angles according to their measures. 3. identify and find the measures of congruent, vertical, adjacent, complementary, and supplementary angles. 4. construct perpendicular and angle bisectors and congruent angles. 5. draw pictures that represent the information given in problems.	2.3.1 3.1.1 3.1.2 3.1.6 3.2.2 3.4.1 4.2.3
B. Polygons and Circles	6. identify and classify polygons. 7. identify, classify, and find missing angle measures in triangles. 8. identify, classify, and find missing angle measures in quadrilaterals. 9. identify relationships between parts of a circle such as center, radius, diameter, chord, sector, semicircle and central angle, and construct circles.	3.1.1 3.1.3 3.1.4 3.1.5 3.1.7
C. Transformations	10. identify congruent figures and similar figures, and find missing measures in similar and congruent figures. 11. determine whether a pair of congruent figures are related by a slide (translation), flip (reflection), a glide reflection, or turn (rotation), and determine the direction and number of degrees in a rotation. 12. compare how geometric figures are alike and how they are different. 13. identify and make symmetrical figures and draw a line or lines of symmetry. 14. create tessellations and recognize figures that tessellate.	1.2.4 3.4.1 1.2.5 2.1.1 2.1.3 2.2.1 2.2.2 2.2.3 2.4.2 3.3.1

**10. MEASUREMENT****Sixth Grade**

	The student will...	Math Standard
A. Systems of Measurement	<ol style="list-style-type: none"><li>1. change between customary units of length, weight, and capacity.</li><li>2. change between metric units of length, mass, and capacity.</li><li>3. measure length to the nearest inch, half inch, quarter inch, eighth inch, sixteenth inch, centimeter, and millimeter, identify the more precise unit of measure.</li><li>4. convert between customary and metric measurements of length, capacity, and weight/mass.</li><li>5. find elapsed time, starting time, or ending time, given two of these.</li><li>6. use logical reasoning along with time-zone map and time-zone clocks to compute elapsed time.</li></ol>	2.4.4 4.1.1 4.1.2 4.1.4 4.2.1 4.2.4 5.3.3
B. Perimeter, Circumference, and Area	<ol style="list-style-type: none"><li>7. select and use appropriate units, tools, and/or formula to measure and solve problems involving perimeter of regular and irregular polygons.</li><li>8. find the area of a rectangle or a square by counting square units or by using a formula.</li><li>9. for a given perimeter, find the rectangle with the greatest area, and given an area, find the rectangle with the least perimeter.</li><li>10. develop and use the formulas for the area of parallelograms and triangles.</li><li>11. measure the circumference of circles, find a pattern for circumference divided by diameter, and use a formula to find the circumference or diameter, given the other dimension.</li><li>12. find the area of a circle.</li></ol>	2.4.4 2.4.5 3.1.7 4.1.3 4.2.1 4.2.2
C. Surface Area and Volume	<ol style="list-style-type: none"><li>13. solve problems involving too much information by using only the information needed, and decide when there is not enough information to solve a problem.</li><li>14. classify polyhedra, identify the vertices, edges, and faces, identify a polyhedron from its net, and draw top, side, and front views of polyhedra.</li><li>15. find the surface area of a rectangular prism, a triangular prism, a cylinder, and a square pyramid by adding areas of faces or by using a formula.</li><li>16. find the volume of a prism or a cylinder by using a formula.</li></ol>	3.1.1

**11. DATA, GRAPHS, AND PROBABILITY****Sixth Grade**

	The student will...	Math Standard
A. Interpreting Data	1. identify the population studied in a survey, and tell whether the data are from a sample or the entire population. 2. find the mean, median, mode, and range of a set of data, and choose the measure that best represents a given set of data. 3. make a frequency table and a line plot to display a set of data, describe how sets of data are distributed, and identify any outlier and the effect on the mean. 4. make a stem-and-leaf plot and analyze data displayed in a stem-and-leaf plot.	5.1.1 5.1.9 5.1.3 5.1.11 5.1.5 5.2.3 5.1.6 5.2.4 5.1.7 5.2.5 5.1.8 5.2.6 5.2.7
B. Reading and Making Graphs	5. read and create double-bar graphs. 6. create double-line graphs, and identify trends in the data displayed. 7. read and make circle graphs, and use information in circle graphs to solve problems. 8. make the most appropriate graph to represent a set of data. 9. explain why a given graph is misleading.	2.3.2 5.2.2 5.1.1 5.2.8 5.1.4 5.3.1 5.1.5 5.1.10 5.1.11
C. Probability	10. find all possibilities of an event by drawing a tree diagram, making a list, or multiplying. 11. find the number of arrangements of a set of objects when order matters and when order does not matter. 12. express the probability of an event as a fraction, decimal, or percent. 13. understand the difference between theoretical and experimental probability, and use probability to predict results. 14. add probabilities to find the probability of mutually exclusive events. 15. give the probability of two events as a fraction and as a percent. 16. describe which graph or diagram better solves the problem.	1.2.1 5.4.1 5.1.2 5.4.2 5.1.5 5.4.3 5.1.11 5.4.4 5.2.1 5.4.5 5.3.2 5.4.6 5.3.3 5.4.7 5.3.4

**12. ALGEBRA: INEQUALITIES, EQUATIONS, AND GRAPHS****Sixth Grade**

	The student will...	Math Standard
A. Inequalities	1. use the number line to graph inequalities, and write inequalities for graphs of inequalities. 2. solve addition and subtraction inequalities. 3. understand that when there seem to be many possible answers, the strategy Try, Check, and Revise can provide a starting point.	1.2.4 2.2.3 1.2.5 2.3.2 2.1.1 4.1.1 2.2.1 4.2.1
B. Two-Step Equations	4. translate phrases into algebraic expressions. 5. solve two-step equations. 6. write equations to describe patterns. 7. graph equations and use graphs to solve equations. 8. convert between Fahrenheit and Celsius temperatures using formulas.	1.2.5 2.1.3 2.1.5 2.2.2 2.2.3