



# Dennis Township Math Curriculum

Summer 2002

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**We would like to thank the people below for their many hours of hard work to create this math curriculum. Their service has produced a math curriculum which provides our students with a strong foundation in basic math skills as well as the opportunity for empiric investigations so that they may understand the real-world application of math in the technology-driven world in which we live.**

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## **Mathematics Program Statement of Philosophy**

Current knowledge about how children learn and develop suggests that the learning of mathematics is an interactive, constructive process in which learners act as dynamic problem solvers. As learners become introduced to new concepts and/or new experiences they engage in a process of making and confirming predictions, asking questions, and integrating new knowledge into their existing base of understandings.

Children construct knowledge within many developmental domains at once. They enter school with a considerable range of mathematical experience, a partial understanding of many concepts and some important skills, including counting. A truly effective mathematics program will build upon this foundation and is problem centered and uses content that develops students' conceptual understanding of mathematics, appreciation for its applications, ability to communicate mathematically, and proficiency in computational skills.

### **Program Goals**

#### **Content**

1. Students will be excited by and value mathematics.
2. Students will become confident in their ability to do mathematics in all areas including: reasoning and probability, measurement, geometry, patterns, algebra, number sense and estimation.
3. Students will work together or individually to become mathematical problem solvers.
4. Students will use technology and other tools, including calculators, as an integral part of the mathematical process.
5. Students will communicate mathematically through written, oral, symbolic and visual forms of expression.

#### **Learning**

1. Students will demonstrate consumer and other financial skills.
2. Students will select appropriate tools and technology for specific activities.
3. Students will select and apply appropriate solutions to problem-solving and decision-making situations.
4. Students will apply problem solving skills to original and creative/design projects.

## **Instruction in Mathematics**

Our district has identified characteristics that represent effective mathematics education. They include:

1. Students who work cooperatively and individually to find solutions to real problems;
2. Technology and other tools that are used on a on-going basis;
3. Learning which is conceptually based, meaningful and connected to prior math learning as well as the real world;
4. Assessment that is an on-going part of instruction;
5. Opportunities for both oral and written communication as an integral part of the program.

Classroom instruction must foster these characteristics and prepare our students with the mathematical abilities necessary to succeed in both, the work world and their personal lives. Our children will be better served by higher expectations, by curriculum which goes far beyond basic skills and includes a variety of mathematical models, and by programs which devote a greater percentage of instructional time to problem-solving and active learning.

Manipulative materials and calculators should be used to help students bring meaning to abstract ideas. Manipulatives engage students in active learning as well as build on students' conceptual knowledge of math by moving from a concrete to representational to symbolic stage.

Cooperative learning should be incorporated into the mathematics class regularly. Research suggests that this strategy can dramatically improve mathematics skills and the attitude of students toward mathematics. Problem-solving skills are enhanced through group collaboration and mirror the skills necessary in the workplace for the next century.

## **Essential Questions**

The use of essential questions to frame the content of the course is based upon the work of Grant Wiggins, George Posner, and the concept of Essential Understandings developed by the National Center for History in the Schools. Essential questions are listed for each unit of study. These questions help to focus the content of the course while allowing for a considerable amount of flexibility in lesson design. It is hoped that these questions will lead students to ask further questions as part of an inquiry into the study of specific topics in language arts.

# Curriculum Map

## Math Curriculum Map

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
<b>Grade K</b>				
<b>September</b>	Patterns  Number Sense  Graphing Geometry	<ul style="list-style-type: none"> <li>• I</li> <li>• M</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Identify, describe, and sort objects by color, same size, and shape</li> <li>• Identify, recognize, count, read, write, order, and compare numbers 1-3</li> <li>• Solve problems using data from graphs and pictures</li> <li>• Identify, describe, sort, and classify plane figures (circle, square, rectangle, triangle, oval, diamond, trapezoid, parallelogram, ellipse, octagon, hexagon, rhombus)</li> <li>• Identify, describe, sort, and classify solid shapes (cube, sphere, cylinder, cone, ellipsoid, and ovoid)</li> <li>• Identify and describe spatial relationships among objects in space and their relative shapes and sizes using positional terms.</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>October</b>	Graphing Number Sense	<ul style="list-style-type: none"> <li>• I</li> <li>• M</li> <li>• M</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Create and interpret picture graphs</li> <li>• Identify, recognize, count, read, write, order, and compare numbers 0-6</li> <li>• Identify and write numerals in a sequence 0-6</li> <li>• Use visual estimation to identify more, less, fewer, greater, or same number of objects using physical or pictorial representations</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>November</b>	Measurement	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Measure and compare length and height using non standard units (longer, shorter, taller, and same) and standard units (inch, foot, yard)</li> <li>• Compare weight of objects identifying heavier, lighter, and same weight</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>December</b>	Number Sense  Technological tools	<ul style="list-style-type: none"> <li>• M</li> <li>• I</li> <li>• M</li> </ul>	<ul style="list-style-type: none"> <li>• Identify, recognize, count, read, write, order, and compare numbers 7-12</li> <li>• Locate and identify the command keys (on, clear, off, plus, minus, equals) and number keys on the calculator</li> <li>• Identify and recognize calculator digits</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
<b>January</b>	Geometry Number Sense Measurement	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• M</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Make a tessellation</li> <li>• Recognize and create symmetry on Geoboards with letters, shapes</li> <li>• Order numbers 0-12 using a number line</li> <li>• Recognize and compare object's length, height, weight, and capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>February</b>	Geometry Time Number Sense	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• I</li> <li>• M</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Compose and decompose tangrams</li> <li>• Problem solve using shapes</li> <li>• Tell time by the hour – analog and digital</li> <li>• Write and recognize numbers/numerals 0-12</li> <li>• Identify ordinal numbers 1<sup>st</sup> – 5<sup>th</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>March</b>	Money Fractions Graphs Addition Geometry	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the penny, nickel, and dime</li> <li>• Match coin to its value</li> <li>• Read and create and problem solve using bar/pictographs</li> <li>• Identify fractional parts – halves, thirds, fourths</li> <li>• Identify congruent and similar shapes</li> <li>• Add doubles to 6 using vertical and horizontal form</li> <li>• Use counters and use “+” and “=” signs</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>April</b>	Subtraction Number Sense	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• M</li> </ul>	<ul style="list-style-type: none"> <li>• Use counters to subtract from 6 in horizontal and vertical form</li> <li>• Use “-“ sign</li> <li>• Write and recognize numbers/numerals 13-22</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>May</b>	Number Sense Place Value Technological Tools	<ul style="list-style-type: none"> <li>• M</li> <li>• M</li> <li>• I</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Write and recognize number/numerals 23-31</li> <li>• Sequence numbers 0-31</li> <li>• Compare coin values up to 25 cents</li> <li>• Count by 10's to 100</li> <li>• Use calculator to add and subtract up to 10</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>
<b>June</b>	Number Sense Problem Solving	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Write and illustrate a number sentence to 20</li> <li>• Apply mathematical skills to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Completion of classroom activities</li> <li>• Written tests</li> </ul>

## Math Curriculum Map

	Content		Skills	Assessment
<b>Grade 1</b>				
<b>September</b>	Number Sense Patterns Addition Graphing	<ul style="list-style-type: none"> <li>• R</li> <li>• R</li> <li>• I</li> <li>• I</li> <li>• M</li> <li>• R</li> <li>• M</li> <li>• M</li> <li>• M</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Identify, count, and write numerals 0-12</li> <li>• Estimate and count groups of 1-12</li> <li>• Count by 5 and 10</li> <li>• Complete and translate patterns by colors, letters, numbers and shapes</li> <li>• Add numbers with sums through six</li> <li>• Order numbers using a number line 0-12</li> <li>• Identify ordinal number 1<sup>st</sup> – 10<sup>th</sup></li> <li>• Identify ordinal numbers given pictorial or concrete representations</li> <li>• Solve problems using data from graphs and pictures</li> <li>• Identify numbers by odd and even</li> <li>• <b>Read a thermometer Fahrenheit to nearest 10</b></li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Unit tests</li> </ul>
<b>October</b>	Addition Numerical Operations Technological Tools	<ul style="list-style-type: none"> <li>• M</li> <li>• I</li> <li>• M</li> <li>• M</li> <li>• M</li> <li>• R</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Add numbers to 10 by:     Counting on     Number line</li> <li>• Add numbers to 10 by:     Doubles     Doubles and 1 more     Sums of 10     Number Combinations     Using three addends</li> <li>• Write sums using data from a picture</li> <li>• Write sums using vertical and horizontal form</li> <li>• Locate and identify the command keys (on/off, clear, plus, minus, equals) and number keys on the calculator.</li> <li>• Identify and recognize calculator digits</li> <li>• Apply math vocabulary to solve word problems (in all, are left, fewer, altogether, more, less)</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Unit tests</li> </ul>

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	Content		Skills	Assessment
November	Subtraction Numerical Operations	<ul style="list-style-type: none"> <li>• I</li> <li>• M</li> <li>• M</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Subtract numbers to 10 by:               <ul style="list-style-type: none"> <li>Counting back</li> <li>Number line</li> <li>Number Combinations</li> </ul> </li> <li>• Write differences using data from a picture</li> <li>• Write differences using vertical and horizontal form</li> <li>• Identify an operation to solve a problem</li> <li>• Identify fact families to 10</li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages in workbook</li> <li>• Teacher observation</li> <li>• Unit tests</li> </ul>
December	Geometry	<ul style="list-style-type: none"> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Classify, identify, copy and construct shapes by:               <ul style="list-style-type: none"> <li>✍ Plane – square, circle, rectangle, hexagon, trapezoid, triangle, octagon, oval</li> <li>✍ Solid – cube, sphere, ovoid, rectangular prism, cone, triangle pyramid, square pyramid, square prism, hexagonal prism, octagonal prism, cylinder</li> <li>✍ Symmetry – linear, bilateral, rotational</li> <li>✍ Faces, corner, and edges</li> <li>✍ Open and closed shapes</li> <li>✍ Inside, outside or on a figure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Practice pages</li> <li>• A lot of teacher observation</li> <li>• Unit tests</li> <li>• Teacher made tests</li> <li>• Slates</li> <li>• Manipulatives</li> </ul>
January	Geometry Number Sense	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• M</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Compose and decompose Tangrams</li> <li>• Translate shapes</li> <li>• Identify pure/semi-pure tessellations</li> <li>• Identify fractional parts by number, numeral and sets:               <ul style="list-style-type: none"> <li>✍ Equal/unequal</li> <li>✍ Halves</li> <li>✍ Thirds</li> <li>✍ Fourths</li> <li>✍ Sixths</li> <li>✍ Tenths</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Unit tests</li> <li>• Slates</li> <li>• Manipulatives</li> </ul>

	Content		Skills	Assessment
February	Measurement	<ul style="list-style-type: none"> <li>• M</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate and measure objects by direct and indirect comparisons and non-standard units</li> <li>• Estimate and measure objects by standard units               <ul style="list-style-type: none"> <li>• Standard units – length/height                   <ul style="list-style-type: none"> <li>/ Inch</li> <li>/ foot</li> <li>/ yard</li> <li>/ centimeter</li> <li>/ decimeter</li> <li>/ meter</li> </ul> </li> <li>• Standard units – volume                   <ul style="list-style-type: none"> <li>/ Cup</li> <li>/ pint</li> <li>/ quart</li> <li>/ gallon</li> <li>/ liter</li> </ul> </li> <li>• Standard units – weight                   <ul style="list-style-type: none"> <li>/ Pounds</li> <li>/ ounces</li> <li>/ grams</li> <li>/ kilograms</li> </ul> </li> </ul> </li> <li>Standard unit – temperature</li> <li>• Fahrenheit to the nearest 10</li> </ul>	<ul style="list-style-type: none"> <li>• Unit tests</li> <li>• Slates</li> <li>• Manipulatives</li> </ul>

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	Content		Skills	Assessment
8	<p>March</p> <p>Time Money Measurement</p>	<ul style="list-style-type: none"> <li>• M</li> <li>• M</li> <li>• I</li> <li>• M</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Order months of the year and days of the week</li> <li>• Identify digital and analog time by: <ul style="list-style-type: none"> <li>/ Hour</li> <li>/ Half-hour</li> </ul> </li> <li>• Identify digital and analog time by: <ul style="list-style-type: none"> <li>/ 5 minutes</li> <li>/ Passage of ½ hours</li> <li>/ Estimate elapsed time</li> </ul> </li> <li>• Identify penny, nickel, dime, and quarter and their values</li> <li>• Count mixed coins to \$1.00</li> <li>• Solve money problems: <ul style="list-style-type: none"> <li>/ Different ways to make given amounts</li> <li>/ Select correct amount from “too many” coins</li> <li>/ Compare and estimate to \$1.00</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Unit tests</li> <li>• Slates</li> <li>• Manipulatives</li> </ul>

	Content		Skills	Assessment
April	Number Sense Place Value Addition Subtraction	<ul style="list-style-type: none"> <li>• M</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• M</li>   <li>• I</li>   <li>• M</li> <li>• M</li> <li>• I</li>   <li>• M</li> <li>• M</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Identify place value and columns for ones and tens</li> <li>• Order numbers through 99 (&gt;, &lt;, = to)</li> <li>• Make trades from ones column to tens column</li> <li>• Count by 2</li> <li>• Add numbers to 12 by: <ul style="list-style-type: none"> <li>/ Counting on</li> <li>/ Number line</li> </ul> </li> <li>• Add numbers to 12 by: <ul style="list-style-type: none"> <li>/ Doubles</li> <li>/ Doubles and 1 more</li> <li>/ Sums of 10</li> <li>/ Number Combinations</li> <li>/ Using three addends</li> </ul> </li> <li>• Write sums using data from a picture</li> <li>• Write sums using vertical and horizontal form</li> <li>• Subtract numbers to 12 by: <ul style="list-style-type: none"> <li>/ Counting back</li> <li>/ Number line</li> <li>/ Number Combinations</li> </ul> </li> <li>• Write differences using data from a picture</li> <li>• Write differences using vertical and horizontal form</li> <li>• Identify an operation to solve a problem</li> <li>• Identify fact families to 12</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter tests</li> <li>• Slates</li> <li>• Manipulatives</li> </ul>

	Content		Skills	Assessment
May	Number Sense Addition Subtraction	<ul style="list-style-type: none"> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Add numbers to 18 by:               <ul style="list-style-type: none"> <li>/ Counting on</li> <li>/ Doubles</li> <li>/ Number line</li> <li>/ Doubles and 1 more</li> <li>/ Sums of 10</li> <li>/ Number Combinations</li> <li>/ Using three addends</li> </ul> </li> <li>• Write sums using data from a picture</li> <li>• Write sums using vertical and horizontal form</li> <li>• Subtract numbers to 18 by:               <ul style="list-style-type: none"> <li>/ Counting back</li> <li>/ Number line</li> <li>/ Number Combinations</li> </ul> </li> <li>• Write differences using data from a picture</li> <li>• Write differences using vertical and horizontal form</li> <li>• Identify an operation to solve a problem</li> <li>• Identify fact families to 18</li> <li>• Add double digits with no trades</li> <li>• Subtract double digits with no trades</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter test</li> </ul>
June	Mathematical Skills	<ul style="list-style-type: none"> <li>• I</li> </ul>	<ul style="list-style-type: none"> <li>• Apply mathematical skills to build a model to scale</li> </ul>	<ul style="list-style-type: none"> <li>• Scale model school bus</li> <li>• Completed buses</li> </ul>



	Content	R=Review I=Introduce M=Mastery	Skills	Assessments
October	Number Sense Money Ordinals Patterns Place Value	R  M M  M M  M  I	<ul style="list-style-type: none"> <li>• Identify penny, nickel, dime, quarter and their values</li> <li>• Count mixed coins to \$1.00</li> <li>• Solve problems using coins to \$1.00: <ul style="list-style-type: none"> <li>✍ Different ways to make given amounts</li> <li>✍ Selecting correct amount from "too many" coins</li> <li>✍ Identify and create patterns using coins</li> </ul> </li> <li>• Compare and estimate amounts</li> <li>• Order numbers through 99 (greater than, less than, equal to)</li> <li>• Compare, order, and identify patterns in numbers by odd and even, skip counting (2's, 5's, 10's), and ordinals to the twentieth</li> <li>• Compare and order numbers by skip counting by 3's and 4's (I)</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 3</li> </ul>
November	Number Sense Ordinals Measurement Time	R  I    I I	<ul style="list-style-type: none"> <li>• Identify digital and analog time by: <ul style="list-style-type: none"> <li>✍ Hour</li> <li>✍ Half-hour</li> <li>✍ Elapsed time to the half-hour and hour</li> </ul> </li> <li>• Identify digital and analog time by: <ul style="list-style-type: none"> <li>✍ Quarter hour</li> <li>✍ Five minute</li> <li>✍ Minute</li> <li>✍ Elapsed time to the quarter-hour</li> <li>✍ Sequence of events</li> </ul> </li> <li>• Estimate elapsed time</li> <li>• Identify, compare and create balanced equations</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

	Content	R=Review I=Introduce M=Mastery	Skills	Assessments
December	Number Sense Fractions Measurement Height/Length Mass/ Volume Temperature	M  I I I R M  M  M	<ul style="list-style-type: none"> <li>• Identify proper fractions <ul style="list-style-type: none"> <li>✍ Halves</li> <li>✍ Thirds</li> <li>✍ Fourths</li> <li>✍ Eighths</li> <li>✍ Tenths</li> </ul> </li> <li>• Identify fractional parts by number, numeral, and sets: <ul style="list-style-type: none"> <li>✍ Equal and unequal parts (I)</li> </ul> </li> <li>• Identify equivalent fractions</li> <li>• Compare size of fractional parts</li> <li>• Estimate and measure objects by direct and indirect comparisons and non-standard units</li> <li>• Estimate and measure objects by standard units</li> <li>• Standard units – length/height <ul style="list-style-type: none"> <li>✍ Inch</li> <li>✍ foot</li> <li>✍ yard</li> <li>✍ centimeter</li> <li>✍ decimeter</li> <li>✍ meter</li> </ul> </li> <li>• Estimate and measure objects by standard units</li> <li>• Standard units – volume <ul style="list-style-type: none"> <li>✍ Cup</li> <li>✍ pint</li> <li>✍ quart</li> <li>✍ gallon</li> <li>✍ liter</li> </ul> </li> <li>• Standard units – weight <ul style="list-style-type: none"> <li>✍ Pounds</li> <li>✍ ounces</li> <li>✍ grams</li> <li>✍ kilograms</li> </ul> </li> <li>• Read a thermometer in Fahrenheit/Celsius</li> </ul>	

	Content	R=Review I=Introduce M=Mastery	Skills	Assessments
January	Numerical Operations Problem Solving	M M  I  M M	<ul style="list-style-type: none"> <li>Estimate sums of two digit numbers</li> <li>Solve two digit addition problems with and without trades</li> <li>Solve addition problems with three double digit numbers with and without trades</li> <li>Solve word problems including those with too little or too much information</li> <li>Solve word problems using money amounts up to \$0.99</li> </ul>	<ul style="list-style-type: none"> <li>Daily work observation</li> <li>Chapter 5 book test</li> <li>Alternate Assessment Chapter 5 Form C</li> <li>Chapter 6 Book test</li> <li>Forms A &amp; B</li> </ul>
February	Numerical Operations	M  M  M	<ul style="list-style-type: none"> <li>Solve two digit subtraction problems with or without trades</li> <li>Solve two digit subtraction problems using zero</li> <li>Estimate differences of two digit numbers</li> </ul>	<ul style="list-style-type: none"> <li>Daily work/observation</li> <li>Quiz – book pg. 216 plus teacher-made problems</li> <li>Book test on Chapter 7 Form C</li> </ul>
March	Problem Solving Tools and Technology	M M  M M  M	<ul style="list-style-type: none"> <li>Solve problems using money amounts up to \$0.99</li> <li>Solve problems by choosing operations – addition and subtraction</li> <li>Solve multiple step problems using addition and subtraction</li> <li>Solve problems using tools and technology <ul style="list-style-type: none"> <li>Computer drill sites</li> <li>Calculator</li> </ul> </li> <li>Select appropriate computational method: i.e., mental math, pencil paper, calculator</li> </ul>	<ul style="list-style-type: none"> <li>Daily work/Observation</li> <li>Book Test Chapter 8 Form A</li> <li>Quiz – book page 308 plus teacher-made problems</li> <li>Book test Chapter 10 Form C</li> <li>Alternate Assessment Chapter 10</li> </ul>

	Content	R=Review I=Introduce M=Mastery	Skills	Assessments
April	Spatial Sense (Geometry)	M       M M M	<ul style="list-style-type: none"> <li>Classify, identify, copy and construct shapes by:               <ul style="list-style-type: none"> <li><b>Plane shapes</b> – square, circle, rectangle, hexagon, trapezoid, triangle, octagon, oval</li> <li><b>Solid shapes</b> – cube, sphere, ovoid, rectangular prism, cone, triangle pyramid, square pyramid, square prism, hexagonal prism, octagonal prism, cylinder</li> <li><b>Congruent/similar shapes</b></li> </ul> </li> <li>Symmetry – linear, bilateral, rotational</li> <li>Face, edge, vertex, corner</li> <li>Open and closed shapes</li> <li>Inside, outside or on a figure</li> <li>Recognize, describe, extend and create designs and patterns</li> <li>Find perimeter and area of a shape</li> <li>Solve problems using coordinates on a grid (geoboard)</li> </ul>	<ul style="list-style-type: none"> <li>Daily work/Observation</li> <li>Cumulative Review Test in Book</li> <li>Chapter 7 – 11</li> <li>Book Chapter 11 Test</li> <li>Form A &amp; B &amp; C</li> <li>Alternate Assessment Chapter 11</li> </ul>
May	Number Sense Place Value to 999 Money to \$4.99 Patterns, Relationships, and Functions	M  M M	<ul style="list-style-type: none"> <li>Identify place value for hundreds, tens, and ones</li> <li>Count dollars and mixed coins to \$4.99</li> <li>Compare money amounts to \$4.99</li> </ul>	<ul style="list-style-type: none"> <li>Daily work/Observation</li> <li>Quiz – book page 374 plus teacher-made problems</li> <li>Book test on Chapter 12</li> <li>Form C</li> <li>Money – half dollar, making change, introduce dollars and cents - ¢, \$ - symbols</li> <li>Count money to \$4.99</li> </ul>
June	Numerical Operations Three digit addition Three digit subtraction Multiplication Division Problem-solving	I  I  I  I  I I	<ul style="list-style-type: none"> <li>Solve three digit addition and subtraction problems with and without trades</li> <li>Solve word problems using two and three digit numbers</li> <li>Solve word problems by choosing an operation: addition/subtraction</li> <li>Solve word problems including those with too little or too much information</li> <li>Compare addition to multiplication</li> <li>Divide objects equally to introduce division</li> </ul>	<ul style="list-style-type: none"> <li>Book quiz on pg. 104</li> <li>Book Test Chapter 13</li> <li>Form A</li> </ul>

## Math Curriculum Map

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
<b>Grade 3</b>				
<b>September</b>	<ul style="list-style-type: none"> <li>Addition and subtraction</li> <li>Number Sense</li> <li>Multiplication</li> </ul>	R M M M  I  M  M	<ul style="list-style-type: none"> <li>Identify sums/differences to 18</li> <li>Find unknown sums and differences</li> <li>Identify Fact families to 18</li> <li>Solve addition/subtraction problems using data</li> <li>Compare Whole numbers: cardinal/ordinal</li> <li>Know Multiplication facts for 2s and 3s</li> <li>Use mental math for addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>Unit test</li> <li>Workbook pages</li> <li>Speed quizzes</li> <li>Worksheets</li> </ul>
<b>October</b>	<ul style="list-style-type: none"> <li>Place Value</li> <li>Two-digit numbers – addition and subtraction</li> <li>Time</li> <li>Money</li> <li>Multiplication</li> <li>Problem Solving</li> </ul>	M  I  R I R M  M I I M    I	<ul style="list-style-type: none"> <li>Identify and write place value to 100's</li> <li>Identify place value from 1000 – 100,000</li> <li>Count money to \$1</li> <li>Make change up to \$10</li> <li>Tell time to the hour and ½ hour</li> <li>Tell time to the ¼ hour</li> <li>Calculate elapsed time to the ¼ hour</li> <li>Measure time using the calendar</li> <li>Know multiplication facts for 4s and 5s</li> <li>Solve two/three-digit addition/subtraction problems without regrouping</li> <li>Solve word problems using addition, subtraction, multiplication, time, and money operations</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
November	<ul style="list-style-type: none"> <li>• Three-digit and four-digit addition and subtraction with regrouping</li> <li>• Estimation</li> <li>• Measurement</li> </ul>	I I, M I, M I	<ul style="list-style-type: none"> <li>• Estimate by rounding to the nearest 10's and 100's</li> <li>• Solve 3 and 4 digit addition and subtraction problems with regrouping</li> <li>• Measure to the nearest <math>\frac{1}{2}</math> inch</li> <li>• Know multiplication facts for 6</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
December	<ul style="list-style-type: none"> <li>• 3-4 digit subtraction with regrouping</li> <li>• Multiplication</li> <li>• Graphing</li> </ul>	I I I	<ul style="list-style-type: none"> <li>• Solve 3 and 4 digit subtraction problems with multiple regrouping</li> <li>• Know multiplication facts for 7s</li> <li>• Collecting and organizing data using line, picto, bar, and basic pie graphs</li> </ul>	<ul style="list-style-type: none"> <li>• Test</li> <li>• Quiz</li> <li>• Worksheets</li> <li>• Daily review quizzes</li> </ul>
January	<ul style="list-style-type: none"> <li>• Multiplication/Division</li> </ul>	I I I I	<ul style="list-style-type: none"> <li>• Know multiplication facts for 8s, 9s, and 10s</li> <li>• Identify multiplication/division fact families up to 10</li> <li>• Solve 2 x 1 digit and 3 x 1 digit problems</li> <li>• Find averages of numbers</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
February	<ul style="list-style-type: none"> <li>• Division</li> </ul>	I I	<ul style="list-style-type: none"> <li>• Know and use the terms: dividend, divisor, quotient</li> <li>• Solve long division problems using 1- digit divisors and up to 3- digit dividends with and without remainders</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
March	<ul style="list-style-type: none"> <li>• Division</li> <li>• Fractions</li> </ul>	I  I I I I I I	<ul style="list-style-type: none"> <li>• Solve long division problems using 1- digit divisors and up to 3- digit dividends with and without remainders</li> <li>• Identify and compare fractions—<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math></li> <li>• Add and subtract fractions with common denominators</li> <li>• Find greatest common factor</li> <li>• Find common denominators</li> <li>• Find equivalent fractions</li> <li>• Identify mixed numbers</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
April	<ul style="list-style-type: none"> <li>• Decimals</li> <li>• Temperature</li> </ul>	I  R  I	<ul style="list-style-type: none"> <li>• Add, subtract, and compare decimals to the hundredths</li> <li>• Identify and read customary and metric units of measure (Fahrenheit and Celsius)</li> <li>• Interpret customary and metric units of measure (Fahrenheit and Celsius)</li> </ul>	

	Content	R=Review I=Introduce M=Mastery	Skills	Assessment
May	<ul style="list-style-type: none"> <li>• Measurement</li> <li>• Geometry</li> </ul>	I, M R R R R R R R  R M M M M  I R R R R R I  I	<ul style="list-style-type: none"> <li>• Identify units of length</li> <li>• To ¼ inch</li> <li>• Foot</li> <li>• Yard</li> <li>• Mile</li> <li>• Centimeter</li> <li>• Decimeter</li> <li>• Meter</li> <li>• Kilometer</li> <li>•</li> <li>• Identify units of measure for Weight</li> <li>• Pounds</li> <li>• Ounces</li> <li>• Tons</li> <li>• Grams</li> <li>• Kilograms</li> <li>• Identify units of measure for capacity using the metric system and customary system</li> <li>• Fluid ounce</li> <li>• Cup</li> <li>• Pint</li> <li>• Quart</li> <li>• Gallon</li> <li>• Liter</li> <li>• Milliliter</li> <li>• Identify lines, line segments, rays, angles</li> <li>• Parallel, perpendicular</li> <li>• Obtuse, acute, and right</li> <li>• Identify 2-3 dimensional shapes</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

