

# Clinton-Glen Gardner School District



## Curriculum Management System

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Mathematics

Grades 1

**\* For adoption by all regular education programs as specified and for adoption or adaptation by all Special Education Programs in accordance with Board of Education Policy #2200.**

Board Approved: August 23, 2017

## **CLINTON-GLEN GARDNER SCHOOL DISTRICT**

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## Acknowledgments

**21<sup>st</sup> Century Life and Careers Integration:** Jessica Latanzio Crespo  
Barbara Shaffer

**New Jersey Student Learning Standards:** Jacqueline Turner

# **Clinton-Glen Gardner School District**

## **Mission**

The Clinton-Glen Gardner School District, a community who values traditions, nurtures and cultivates each child to be a compassionate, curious, and creative thinker entrusted and empowered to build and lead the future.

## **Philosophy**

The economy in which graduates of our schools will seek employment is more competitive than ever and is rapidly changing in response to advances in technology. To compete in today's global, information-based economy, students must be able to solve real problems, reason effectively, and make logical connections. In this changing world those who have a good understanding of mathematics will have many opportunities and doors open to them throughout their lives. Today's workforce requires mathematical knowledge and skills in areas such as data analysis, problem-solving, pattern recognition, statistics and probability; therefore, our school's curriculum must prepare students for these expectations.

The Clinton-Glen Gardner School is committed to providing all students with the opportunity and the support necessary to learn significant mathematics with depth and understanding. To that end, students will engage in a wide variety of learning activities designed to develop their ability to reason and solve complex problems. Calculators, computers, manipulatives, technology, and the Internet will be used as tools to enhance learning and assist in problem solving. Group work, projects, literature, and interdisciplinary activities will make mathematics more meaningful and aid understanding. Classroom instruction will be designed to meet the learning needs of all children and will reflect a variety of learning styles.

The math curriculum fosters students who:

- Develop computational, conceptual, problem-solving and reasoning skills
- Demonstrate their understanding of mathematical concepts based on higher levels of mathematical thought
- Use technology and other tools as an integral part of solving mathematical problems

## New Jersey State Department of Education New Jersey Learning Standards

### **Intent and Spirit of the New Jersey Mathematics Learning Standards**

For more than a decade, research studies of mathematics education in high-performing countries have concluded that mathematics education in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on this promise, the mathematics standards are designed to address the problem of a curriculum that is "a mile wide and an inch deep."

The math standards provide **clarity and specificity** rather than broad general statements. The standards draw on the most important international models for **mathematical practice**, as well as research. They endeavor to follow the design envisioned by William Schmidt and Richard Houang (2002), by not only **stressing conceptual understanding** of key ideas, but also by continually returning to organizing principles (coherence) such as place value and the laws of arithmetic to structure those ideas.

In addition, the "sequence of topics and performances" that is outlined in a body of math standards must respect what is already known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students...absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." Therefore, the development of the standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time. The knowledge and skills students need to be prepared for mathematics in college, career, and life are woven throughout the mathematics standards.

### **A note about 21<sup>st</sup> Century Life and Careers Standards and Cumulative Progress Indicators.**

The New Jersey Core Curriculum Content Standards for 21<sup>st</sup> Century Life and Careers were revised in 2009. The Cumulative Progress Indicators (CPI's) referenced in this curriculum guide refer to these new standards. A complete copy of the new Core Curriculum Content Standards for 21<sup>st</sup> Century Life and Careers may be found at:

<http://www.state.nj.us/education/cccs/standards/9/>

## Mathematics: Standards for Mathematical Practice Interpreted for Kindergarten Through Second Grade

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with long standing importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately) and productive disposition (habitual inclination to see mathematics as sensible, useful and worthwhile, coupled with a belief in diligence and one’s own efficacy).

The Standards for Mathematical Practice are:

### 1. **MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM.**

As you look at or read a mathematical problem, think about what it means and what it is asking you to do. Also think about what would be a good way to start solving it. Ask yourself:

- What does the problem tell me?
  - What information is given?
  - What are the relationships among parts of the problem?
  - What is the goal of solving the problem?
  - Have I seen other problems similar to this one?
- What does the problem ask me to find out (solve)?
- How should I start solving the problem?
- Can pictures or a drawing help me to figure out how to solve the problem?
- Does how I’m answering the problem make sense with what the problem is asking?
- What are some other ways to solve the problem?
- Can I use another way to check if my answer is correct?
- Does my answer make sense?

### 2. **REASON ABSTRACTLY AND QUANTITATIVELY.**

Understand the relationship of numbers and number problems and represent them using pictures, drawings or symbols. Talk about the parts of number problems using pictures, drawings or symbols as well as how the pictures, drawings or symbols represent and help explain the problem. Show how using different numbers or operations in the same problem changes it.

### 3. **CONSTRUCT VIABLE ARGUMENTS AND CRITIQUE THE REASONING OF OTHERS.**

Use objects, drawings, diagrams or actions to construct arguments about math problems with understanding and using appropriate vocabulary to explain the reasoning process. Build a local argument, communicate it with others, justify your

reasoning process and respond to the reasoning process someone else uses. Express agreement if both arguments are correct and explain why an argument is flawed if it is.

**4. MODEL WITH MATHEMATICS.**

Apply mathematical skills to everyday life, society, the workplace and other situations; identify important quantities in practical situations; write an equation to describe a situation; revise solutions; use tools such as diagrams, two-way tables, graphs, flowcharts and formulas to show relationships; analyze relationships to draw conclusions, interpret results in context and reflect on whether the results make sense.

**5. USE APPROPRIATE TOOLS STRATEGICALLY.**

Identify and make decisions regarding which tool, such as paper and pencil, models, rulers, spreadsheets, etc., to use to help solve mathematical problems as well as know when a tool is not the right one to use. Use technological and other tools to deepen understanding.

**6. ATTEND TO PRECISION.**

Communicate precisely when discussing math incorporating the following:

- Use clear definitions.
- Choose, use and explain symbols correctly, consistently and appropriately.
- Specify units of measure and labels correctly.
- Avoid careless errors.
- Follow formulas to explain thinking to others.

**7. LOOK FOR AND MAKE USE OF STRUCTURE.**

Look for and identify structure and patterns in mathematics (for example, three and seven more is the same amount as seven and three more, or sort shapes according to their number of sides) and see if the pattern or structure changes.

**8. LOOK FOR AND EXPRESS REGULARITY IN REPEATED REASONING.**

Look for repetition in calculations and numeric thinking, such as skip counting. Pay attention to the whole problem and the details and continuously evaluate the accuracy and reasonableness of both intermediate and final answers.

## **CONNECTING THE STANDARDS FOR MATHEMATICAL PRACTICE TO THE STANDARDS FOR MATHEMATICS CONTENT**

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematical instruction. The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging the mathematical practices. In this respect those content standards, which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit time, resources, innovative energies and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development and student achievement in mathematics.



# Grade 1 Mathematics

## Scope and Sequence

On-going 21<sup>st</sup> Century Themes and Skills: Problem Solving, Creativity, Collaboration, Innovation

<p><b>Topic: Counting and Cardinality</b></p> <p>I. Number Sense</p> <ul style="list-style-type: none"> <li>a. Count by 1s up to 120 from any given number</li> <li>b. Skip counting</li> <li>c. Identify and write numerals up to 120</li> <li>d. Represent a set of objects numerically</li> </ul>	<p><b>Topic: Operations and Algebraic Thinking</b></p> <p>II. Word Problems</p> <ul style="list-style-type: none"> <li>a. Involving numbers to 20</li> <li>b. Involving addition and subtraction</li> </ul> <p>III. Properties of Operations</p> <ul style="list-style-type: none"> <li>a. Fact families</li> <li>b. Commutative property</li> <li>c. Associative property</li> </ul> <p>IV. Addition and Subtraction</p> <ul style="list-style-type: none"> <li>a. Counting on or back</li> <li>b. Use of manipulatives</li> </ul>
<p><b>Topic: Number and Operations in Base Ten</b></p> <p>V. Money</p> <ul style="list-style-type: none"> <li>a. Value of coins</li> <li>b. Value of bills</li> <li>c. Value of homogeneous and heterogeneous sets of coins</li> <li>d. Connection to place value</li> </ul> <p>VI. Place Value</p> <ul style="list-style-type: none"> <li>a. Tens and Ones</li> <li>b. Comparing numbers <ul style="list-style-type: none"> <li>i. Greater than, less than, equal to</li> </ul> </li> <li>c. Addition of one and two-digit numbers</li> <li>d. Subtraction of multiples of ten</li> </ul>	<p><b>Topic: Measurement and Data</b></p> <p>VII. Measurement</p> <ul style="list-style-type: none"> <li>a. Length <ul style="list-style-type: none"> <li>i. Order by length</li> <li>ii. Compare lengths</li> <li>iii. Standard and non-standard units</li> </ul> </li> <li>b. Time to hour and half-hour</li> <li>c. Month, day, date</li> </ul> <p>VIII. Data</p> <ul style="list-style-type: none"> <li>a. Create graphs</li> <li>b. Interpret graphs</li> <li>c. Probability</li> </ul>
<p><b>Topic: Geometry</b></p> <p>IX. Geometry</p> <ul style="list-style-type: none"> <li>a. Two-dimensional shapes</li> <li>b. Three-dimensional shapes</li> <li>c. Create composite shapes</li> <li>d. Symmetry</li> <li>e. Fractions (with circles and rectangles)</li> </ul>	

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| i. Halves<br>ii. Fourths<br>X. Patterns |  |
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The Standards for Mathematical Practice stated below are to be developed with students, used by students when teaching the mathematical content here within and integrated into each of the following units.

New Jersey Student Learning Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Extending the Counting Sequence</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 1:</b> The student will be able to develop a sense of what numbers are and how they work.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>1.1. Count to 120 starting at any number less than 120. (1.NBT.1)</p> <p>1.2. Count to 120 by 5s and 10s. (1.NBT.1)</p> <p>1.3. Count by 2s to a given number. (1.NBT.1)</p> <p>1.4. Read and write numerals up to 120. (1.NBT.1)</p> <p>1.5. Represent a number of objects up to 120 with a written numeral. (1.NBT.1)</p> <p>1.6. Apply critical thinking and problem-solving skills in</p>	<p><b>Essential Questions:</b> How can we understand and represent numbers up to 120? What is the most efficient way to count a group of objects?</p> <p><b>Conceptual Understandings:</b> Numbers in a sequence are related.  Written numbers represent a group of objects.  You can use various counting strategies to count objects.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test</p> <p>Count to 120 starting at any number less than 120.</p> <p>Count to 120 using 5's and 10's.</p> <p>Count tally marks (up to 50) by 5's and represent amount with a written numeral.</p> <p>Count by 2's to a given number.</p> <p>Read and write numerals up to 120.</p> <p>Represent a number of objects up to 120 with a written numeral.</p> <p><b>Additional Resources:</b></p>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Extending the Counting Sequence</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 1:</b> The student will be able to develop a sense of what numbers are and how they work.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	classroom and family settings. (9.1.4.A.5)  1.7. Practice collaborative skills in groups, and explain how these skills assist in completing tasks in different settings (at home, in school, and during play). (9.1.4.C.1)  1.8. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)  1.9. Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Extending the Counting Sequence</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 1:</b> The student will be able to develop a sense of what numbers are and how they work.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b> <b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Topic: Numerical Operations (Word Problems Involving Addition and Subtraction)</b>	
		<b>Goal 2:</b> The student will be able to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions,</b> <b>Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	2.1. Use addition and subtraction within 20 to solve word problems. (1.OA.1)  2.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. (1.OA.2)  2.3. Recognize a problem and brainstorm ways to solve the problem individually or collaboratively. (9.1.4.A.1)  2.4. Evaluate available resources that can assist in solving problems. (9.1.4.A.2)  2.5. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)  2.6. Participate in brainstorming sessions to seek information, ideas, and	<b>Essential Questions:</b> How do we solve addition and subtraction problems? How do we decide what operation to use when solving word problems?  <b>Conceptual Understandings:</b> In addition we combine quantities to find the sum; in subtraction we take away quantities to find the difference.  The use of pictures, numbers, words, and mathematical symbols helps to model and communicate thinking.	<b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Use objects, or create a drawing and equation to solve given word problems.  Use objects or create a drawing and addition equation to solve word problems adding 3 numbers whose sum is less than or equal to 20.

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Numerical Operations (Word Problems Involving Addition and Subtraction)</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 2:</b> The student will be able to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>strategies that foster creative thinking. (9.1.4.B.1)</p> <p>2.7. Practice collaborative skills in groups, and explain how these skills assist in completing tasks in different settings (at home, in school, and during play). (9.1.4.C.1)</p> <p>2.8. Explain the meaning of productivity and accountability, and describe situations in which productivity and accountability are important in the home, school, and community. (9.1.4.F.1)</p> <p>2.9. Establish and follow performance goals to guide progress in assigned areas of responsibility and accountability during classroom projects and extra-curricular activities. (9.1.4.F.2)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Properties of Operations</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 3:</b> The student will be able to explain the relationship between addition and subtraction and use the commutative and associative properties of addition.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>3.1. Write a related fact family given three numerals. (1.OA.3)</p> <p>3.2. Identify related addition facts, such as turn-around facts (<math>2+3=5</math> and <math>3+2=5</math>). (1.OA.3)</p> <p>3.3. Regroup addends to solve addition problems. (1.OA.4)</p> <p>3.4. Identify related addition facts to a given subtraction fact (<math>10-8=?</math> is the same as <math>8+?=10</math>). (1.OA.4)</p> <p>3.5. Explain the relationship between addition and subtraction. (1.OA.3, 1.OA.4)</p> <p>3.6. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p>	<p><b>Essential Questions:</b> How can we use addition to solve subtraction problems and vice-versa? How are addition and subtraction related? How does working with fact families help me learn addition and subtraction?</p> <p><b>Conceptual Understandings:</b> Knowing the relationship between addition and subtraction facts can help us solve problems.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Given 3 numerals write a related fact family.</p> <p>Identify turn-around facts for addition equations.</p> <p>Show regrouping to solve addition problems using objects, or pictures, or written equations.</p> <p>Solve a subtraction fact using a related addition fact.</p>



<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Properties of Operations</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 3:</b> The student will be able to explain the relationship between addition and subtraction and use the commutative and associative properties of addition.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>3.7. Participate in brainstorming sessions to seek information, ideas, and strategies that foster creative thinking. (9.1.4.B.1)</p> <p>3.8. Explain the meaning of productivity and accountability, and describe situations in which productivity and accountability are important in the home, school, and community. (9.1.4.F.1)</p> <p>3.9. Establish and follow performance goals to guide progress in assigned areas of responsibility and accountability during classroom projects and extra-curricular activities. (9.1.4.F.2)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Addition and Subtraction</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 4:</b> The student will be able to use a variety of strategies to solve addition and subtraction equations working toward fluency and automaticity.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>4.1. Count on or count back to solve given an addition or subtraction equation within 20. (1.OA.5, 1.OA.6)</p> <p>4.2. Use a number line, objects, pictures or other method to solve addition and subtraction equations within 20. (1.OA.6)</p> <p>4.3. Solve addition and subtraction problems within 20. (1.OA.6)</p> <p>4.4. Demonstrate fluency in solving addition and subtraction problems within 10. (1.OA.6)</p> <p>4.5. Explain and properly utilize the symbols (+, -, =) using in writing an equation. (1.OA.7)</p> <p>4.6. Identify if an addition or</p>	<p><b>Essential Questions:</b> How does counting help with solving addition and subtraction problems? What strategies can we use to solve addition and subtraction problems? How can we organize a set of objects or numbers to make it easier to solve addition and subtraction problems? How can we determine if a given equation is equivalent? How can we create equivalency in equations? How can we show our understanding of the equal sign?</p> <p><b>Conceptual Understandings:</b> There are many ways to represent a quantity.  There are many strategies to use when solving addition or subtraction problems.  Computational fluency with single digit operations of addition and subtraction helps in solving problems.  Using the strategy of addition, subtraction, or comparison, you can determine if two quantities are equivalent.  Knowing the total and one part of equation helps solve an unknown part of an equation.  Using a known combination of numbers helps to solve an unknown combination of numbers.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Solve addition and subtraction problems within 20.  Starting at a given number use number line, objects, or pictures to show where you end up if told to add or subtract from the given number.  Answer addition facts and subtraction facts within 10 with automatic responses to the equations and without the use of manipulatives (e.g. unifix cubes, fingers, etc.)  Identify if an equation is true or false.  Identify the missing number in a given addition or subtraction equation.  Compare two sides of an equation so they are equal. Understanding the equal side.</p> <p><b>Additional Resources:</b></p>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Addition and Subtraction</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 4:</b> The student will be able to use a variety of strategies to solve addition and subtraction equations working toward fluency and automaticity.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>subtraction equation is true or false. (1.OA.7)</p> <p>4.7. Identify the missing number in a given addition or subtraction equation. (1.OA.8)</p> <p>4.8. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p> <p>4.9. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)</p> <p>4.21 Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Work with Money</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b>	<b>Goal 5:</b> The student will be able to name and identify the value of coins and bills and explore place value using money as a tool.	
	<b>Mathematics</b>		
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>5.1. Identify the name and value of coins including pennies, nickels, dimes and quarters. (1.NBT.1, 1.NBT.4)</p> <p>5.2. Identify the value of coins including sets of pennies, nickels and dimes. (1.NBT.1, 1.NBT.4)</p> <p>5.3. Identify the value of mixed groups of pennies, nickels and dimes. (1.NBT.1, 1.NBT.4)</p> <p>5.4. Identify the value of a set of quarters up to 4. (1.NBT.1, 1.NBT.4)</p> <p>5.5. Identify the relationship between pennies, dimes and dollars to ones, tens and hundreds. (1.NBT.1, 1.NBT.4)</p> <p>5.6. Explore the use of dollar bill amounts of \$1, \$5 and \$10. (1.NBT.1, 1.NBT.4)</p>	<p><b>Essential Questions:</b> How do we think mathematically as we use money in our everyday life? How are dollars, dimes and pennies like hundreds, tens and ones?</p> <p><b>Conceptual Understandings:</b> There are different names and values of money.  Money can be counted.  The relationship between pennies, dimes, and dollars is the same as the relationship between ones, tens, and hundreds.</p>	<p><b>Assessment Models:</b> Identify the name and value of coins including pennies, nickels, dimes, and quarters.  Identify the value of coins including sets of pennies, nickels, and dimes.  Identify the value of mixed groups of pennies, nickels, and dimes.  Identify the value of a set of quarters up to 4.  Shows the relationship between pennies, dimes and dollars to ones, tens and hundreds (e.g. using base ten blocks or an equation to relate to the value of the coins).  Identify values for 1, 5, &amp; 10 dollar bills.</p>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Work with Money</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 5:</b> The student will be able to name and identify the value of coins and bills and explore place value using money as a tool.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>5.7. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p> <p>5.8. Practice collaborative skills in groups, and explain how these skills assist in completing tasks in different settings (at home, in school, and during play). (9.1.4.C.1)</p> <p>5.9. Explain the meaning of productivity and accountability, and describe situations in which productivity and accountability are important in the home, school, and community. (9.1.4.F.1)</p> <p>5.10. Establish and follow performance goals to guide progress in assigned areas of responsibility and accountability during classroom projects and extra-curricular activities. (9.1.4.F.2)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Place Value</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 6:</b> The student will be able to identify the tens and ones places in two-digit numbers while demonstrating a conceptual understanding of a number in its expanded form.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>6.1. Identify the two digits of a two-digit number. (1.NBT.2)</p> <p>6.2. Identify the tens place value and ones place value for all two-digit numbers including special case numbers (11-19) and counting by 10s. (1.NBT.2)</p> <p>6.3. Identify the tens place value as a bundle of ten ones which equals a "ten." (1.NBT.2)</p> <p>6.4. Compare two two-digit numbers based on the meaning of tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>&lt;</math> and <math>=</math>. (1.NBT.3)</p> <p>6.5. Add a two-digit and a one-digit number within 100, using models, drawings and addition strategies including regrouping. (Relate strategies to written method; be able to explain reasoning.)</p>	<p><b>Essential Questions:</b> How do we represent a two-digit number? How are two numbers related to one another and how can we represent this relationship? How can we organize a group of objects so they are easy to add or subtract? What strategies can we use to solve addition and subtraction equations involving two-digit numbers? How do we show our work when solving a problem?</p> <p><b>Conceptual Understandings:</b> The place value of two-digit numbers is made up of some group of tens and some number of ones (including zero).  A ten represents a bundle of ten ones.  The position of a digit in a number tells us about the quantity and allows us to compare numbers.  The use of pictures, numbers, words, and symbols helps to model and communicate our thinking.  It is more efficient to group tens and ones to add two two-digit numbers and sometimes it is necessary to compose tens.  Adding or subtracting ten to a number changes the value of the tens place by one.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Given a two-digit number name the tens place and the ones place for the given number.  Represent a two-digit number using objects and grouping them into tens and ones, including examples for numbers 11-19 and multiples of 10 to 100.  Identify the tens place value as a bundle of ten ones which equals a "ten".  Compare two two-digit numbers recording the results using the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>.  Within 100, add a two-digit + a one-digit number (including a problem that involves regrouping, such as <math>19+9</math>); demonstrate how to regroup them into tens and ones using concrete models such as manipulatives or drawing and strategies based on place value. Relate the strategy to a written method and explain the reasoning used.  Within 100, add a two-digit number and a multiple of 10. Relate the strategy to a written method and explain the reasoning used. For example: Students will choose the written equation that corresponds with their model.  Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count;</p>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Place Value</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 6:</b> The student will be able to identify the tens and ones places in two-digit numbers while demonstrating a conceptual understanding of a number in its expanded form.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	(1.NBT.4)  6.6. Add a two-digit number and a multiple of 10 within 100, using models, drawings and addition strategies including regrouping. (Relate strategies to written method; be able to explain reasoning.) (1.NBT.4)  6.7. Group objects or numbers into groups of tens and ones when adding or subtracting. (1.NBT.4)  6.8. Demonstrate the ability to compose a 10 to solve the addition of two-digit numbers. (1.NBT.4)  6.9. Mentally find 10 more or 10 less than a given two-digit number without having to count. (Explain the reasoning used.) (1.NBT.5)  6.10. Subtract multiples of 10 in		explain the reasoning used.  Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences). Relate the strategy to a written method and explain the reasoning used.

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Place Value</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 6:</b> The student will be able to identify the tens and ones places in two-digit numbers while demonstrating a conceptual understanding of a number in its expanded form.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using models, drawings and addition strategies including regrouping. (Relate strategies to written method; be able to explain reasoning.) (1.NBT.6)</p> <p>6.11. Practice collaborative skills in groups, and explain how these skills assist in completing tasks in different settings (at home, in school, and during play). (9.1.4.C.1)</p> <p>6.12. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)</p> <p>6.13. Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)</p>		



<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Measurement</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b>	<b>Goal 7:</b> The student will be able to utilize various forms of measurement to describe an object's/ situation's attributes and/or condition.	
	<b>Mathematics</b>		
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>7.1. Order three objects by length. (1.MD.1)</p> <p>7.2. Compare the lengths of two objects indirectly by using a third object. (1.MD.1)</p> <p>7.3. Measure an object with standard and non-standard units. (1.MD.2)</p> <p>7.4. Use a foot long ruler to measure an object less than a foot to the nearest inch. (1.MD.2)</p> <p>7.5. Tell and write time in hours and half-hours using analog and digital clocks. (1.MD.3)</p> <p>7.6. Identify the days of the week and months of the year. (K.MD.1)</p> <p>7.7. Identify the date for</p>	<p><b>Essential Questions:</b> How is measurement used in the real world? How can we use consistent units to measure accurately? Why do we need to use consistent units to measure?</p> <p><b>Conceptual Understandings:</b> Length measurement is applied to objects and distances.  Measurements of the same length are consistently the same when using the same unit to measure.  Measurement involves estimating to a desired fixed point and using terms such as "a little more than" and "a little less than."  We measure time in relation to hours and minutes and can record it in different ways.  There are different terms we use to describe time including months, days of the week, and date.</p>	<p><b>Assessment Models:</b> District Benchmark Identify two objects in relation to a third as bigger or smaller.  Given three objects place them in order by length.  Using a given nonstandard length unit measure an object longer than the length unit provided (end to end with no spaces).  Use a foot long ruler to measure an object less than a foot to the nearest inch.  Name the days of the week and identify how many days in a week.  Name the months of the year.  Tell the date for today, yesterday, and tomorrow.  Tell and write time in hours and half-hours using analog and digital clocks.</p> <p><b>Additional Resources:</b></p>

Suggested days of Instruction	Curriculum Management System	<b>Topic: Measurement</b>	
	<u>Subject/Grade Level:</u> <b>Grade 1</b> <b>Mathematics</b>	<u>Goal 7:</u> The student will be able to utilize various forms of measurement to describe an object's/ situation's attributes and/or condition.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>yesterday, today and tomorrow including the year. (K.MD.1)</p> <p>7.8. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p> <p>7.9. Participate in brainstorming sessions to seek information, ideas, and strategies that foster creative thinking. (9.1.4.B.1)</p> <p>7.10. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)</p> <p>7.11. Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Data</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 8:</b> The student will be able to construct, read and interpret information on a graph, chart or diagram.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>8.1. Organize and represent data (graphs, charts, diagrams) with up to three categories. (1.MD.4)</p> <p>8.2. Ask and answer questions about a data set (How many in each category? How many more/less in one category than in another?). (1.MD.4)</p> <p>8.3. Identify the likely outcome for a given chance of probability.</p> <p>8.4. Generate, collect and record data gathered from chance devices such as spinners and dice. (1.MD.4)</p> <p>8.5. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p> <p>8.6. Participate in brainstorming</p>	<p><b>Essential Questions:</b> In what ways do we organize information? Why is it important to organize and interpret information? Is there a likely outcome for given chances of probability?</p> <p><b>Conceptual Understandings:</b> Data can be organized and collected in many different ways.  Organizing data can help us make comparisons and identify values such as the most and the least.  Likely outcomes for chances of probability can be predicted.</p>	<p><b>Assessment Models:</b> Create a bar graph, tally chart, or pictograph with three categories.  Given a bar graph, tally chart or pictograph identify which category has the most and how much in each category.  Given a bar graph, tally chart or pictograph identify how many more or less in one category than in another.  Shown a spinner with two colors where one is more area than the other, predict which color the spinner is more likely to land on.  Record on a bar graph or tally chart results of data generated from chance devices such as a spinner or dice.</p>

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Data</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 8:</b> The student will be able to construct, read and interpret information on a graph, chart or diagram.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>sessions to seek information, ideas, and strategies that foster creative thinking. (9.1.4.B.1)</p> <p>8.7. Practice collaborative skills in groups, and explain how these skills assist in completing tasks in different settings (at home, in school, and during play). (9.1.4.C.1)</p> <p>8.8. Use effective oral and written communication in face-to-face and online interactions and when presenting to an audience. (9.1.4.D.1)</p> <p>8.9. Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)</p>		

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Geometry</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b>	<b>Goal 9:</b> The student will be able to analyze, describe, classify, create and compose shapes. The student will be able to explore the concept of fractions (halves and fourths) in relation to circles and rectangles.	
	<b>Mathematics</b>		
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>9.1. Identify attributes for given shapes. (1.G.1)</p> <p>9.2. Identify defining attributes of given shapes and determine the non-defining attributes. (1.G.1)</p> <p>9.3. Represent shapes to correspond with attributes. (1.G.1)</p> <p>9.4. Use one or more two-dimensional shapes to create a composite shape. (1.G.2)</p> <p>9.5. Identify shapes with symmetry. (1.G.1)</p> <p>9.6. Draw the line of symmetry for given shapes (only need to name one line of symmetry even if more are present in the shape). (1.G.1)</p>	<p><b>Essential Questions:</b> Where are shapes located in our environment? How can we use observation of shapes to describe and compare them? How can we represent two-dimensional and three-dimensional shapes in different ways? How can we use shapes to make other shapes (including using smaller shapes to represent a larger shape)? What are the similarities and differences among shapes?</p> <p>How are geometric shapes related to one another? What is a whole? How is a shape divided into equal shares? How do we describe the equal shares? What happens to the shares when we divide the shapes in different ways?</p> <p><b>Conceptual Understandings:</b> Two-dimensional shapes can be sorted by a variety of attributes.  There are relationships among shapes.  Two-dimensional shapes can be identified and described.  Two-dimensional shapes can be composed of or decomposed of other shapes.  Shapes go together and can be taken apart to make other shapes.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Identify shapes based on defining attributes including sides and corners for 2-D shapes and vertices and curved surfaces and flat faces for 3-D shapes.  Distinguish between defining attributes and non-defining attributes for given shapes.  Draw or build a shape based on defining attributes.  Shown a visual model of a composite shape use two-dimensional/three-dimensional shapes to represent it.  Manipulate the composite shapes into a new shape.  Divide circles and rectangles into two and four equal shares.  Identify if a shape is symmetrical.  Given a symmetrical shape draw a line of symmetry on the shape.  Given a shape, identify how many lines of symmetry there are for the shape.  Describe the shares as <i>halves</i>, <i>fourths</i> and <i>quarters</i> while using the phrases <i>half of</i>, <i>fourth of</i> and <i>quarter of</i>.</p>

Suggested days of Instruction	Curriculum Management System	Topic: Geometry	
	Subject/Grade Level: Grade 1 Mathematics	<u>Goal 9:</u> The student will be able to analyze, describe, classify, create and compose shapes. The student will be able to explore the concept of fractions (halves and fourths) in relation to circles and rectangles.	
	Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's) The student will be able to:	Essential Questions, Conceptual Understandings	Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model
	<p>9.7. Divide circles and rectangles into two and four equal shares. (1.G.3)</p> <p>9.8. Use the words <i>halves</i>, <i>fourths</i> and <i>quarters</i> and the phrases <i>half of</i>, <i>fourth of</i> and <i>quarter of</i> to describe the equal shares of a whole. (1.G.3)</p> <p>9.9. Describe the whole in terms of two or four of the shares. (1.G.3)</p> <p>9.10. Identify that decomposing whole shapes into more equal shares creates smaller shares. (1.G.3)</p> <p>9.11. Apply critical thinking and problem-solving skills in classroom and family settings. (9.1.4.A.5)</p> <p>9.12. Participate in brainstorming sessions to seek information, ideas, and</p>	<p>There is a relationship among two-dimensional and three-dimensional shapes.</p> <p>A whole can be partitioned into an equal number of parts, and there are terms we can use to describe these parts.</p> <p>The more a whole is divided into equal parts, the smaller the size of the parts.</p> <p>Some shapes have symmetry.</p>	<p>Describe the whole as two of or four of the shares.</p> <p>Explain why splitting a whole into halves or fourths gives you more or less of a share.</p>

Suggested days of Instruction	Curriculum Management System	Topic: Geometry	
	<u>Subject/Grade Level:</u> <b>Grade 1</b>	<u>Goal 9:</u> The student will be able to analyze, describe, classify, create and compose shapes. The student will be able to explore the concept of fractions (halves and fourths) in relation to circles and rectangles.	
	<b>Mathematics</b>		
Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)	Essential Questions, Conceptual Understandings	Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model	
The student will be able to:			
<p>strategies that foster creative thinking. (9.1.4.B.1)</p> <p>9.13. Use effective oral and written communication in face-to-face and online interactions and when presenting to an audience. (9.1.4.D.1)</p> <p>9.14. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)</p> <p>9.15. Establish and follow performance goals to guide progress in assigned areas of responsibility and accountability during classroom projects and extra-curricular activities. (9.1.4.F.2)</p>			

<b>Suggested days of Instruction</b>	<b>Curriculum Management System</b>	<b>Topic: Patterns</b>	
	<b>Subject/Grade Level:</b> <b>Grade 1</b> <b>Mathematics</b>	<b>Goal 10:</b> The student will be able to identify, extend and create patterns involving objects, pictures and numbers.	
	<b>Objectives / Cluster Concepts / Cumulative Progress Indicators (CPI's)</b> <b>The student will be able to:</b>	<b>Essential Questions, Conceptual Understandings</b>	<b>Instructional Tools / Materials / Technology / Resources / Learning Activities / Interdisciplinary Activities / Assessment Model</b>
	<p>10.1. Identify and extend patterns involving objects or pictures. (1.G.1)</p> <p>10.2. Create a pattern using objects or pictures. (1.G.1)</p> <p>10.3. Identify and extend patterns involving numbers that increase or decrease by a fixed whole number. (1.NBT.1)</p> <p>10.4. Participate in brainstorming sessions to seek information, ideas, and strategies that foster creative thinking. (9.1.4.B.1)</p> <p>10.5. Express needs, wants, and feelings appropriately in various situations. (9.1.4.D.2)</p> <p>10.6. Explain the importance of understanding and following rules in family, classroom, and community settings. (9.1.4.F.3)</p>	<p><b>Essential Questions:</b> Where do we see patterns in our lives? How does identifying a pattern help us make predictions about what will come next?</p> <p><b>Conceptual Understandings:</b> Patterns are formed using some kind of regularity in a sequence.  Number sequences can be associated with repeating patterns.  Whole number patterns increase or decrease as a result of repeatedly adding or subtracting a fixed number.</p>	<p><b>Assessment Models:</b> District Benchmark/Go Math Chapter Test Identify examples of patterns.  Extend patterns for objects or pictures.  Create a pattern using objects or pictures.  Identify and extend patterns for numbers.</p>



