

Core Units

Course Title: Mathematics

Unit Title: Creating Routines/Number Sense

Length of Unit: 6-8 weeks

Grade Level: 1st grade

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<p style="text-align: center;">COMMON CORE STANDARDS COVERED</p> <p style="text-align: center;">Major topics included in this unit</p>	<p style="text-align: center;">UNIT BENCHMARKS (I CAN STATEMENTS)</p> <p style="text-align: center;">What do you want students to know, do, and be like?</p>	<p style="text-align: center;">Key Vocabulary</p>	<p style="text-align: center;">SUGGESTED ASSESSMENTS</p> <p style="text-align: center;">How will you know if benchmarks have been achieved?</p>	<p style="text-align: center;">POSSIBLE RESOURCES</p> <p style="text-align: center;">What possible instructional resources could be used?</p>
<p>Extend the counting sequence 1.NBT.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>Represent and interpret data 1.MD.4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category that in another.</p> <p>This unit, students will:</p> <ul style="list-style-type: none"> • Establish daily math routines to be carried out throughout the year. • Rote count forward to 120 by counting on from any number less than 120. • Locate 0-120 on a number line. • Use the strategies of counting on and counting back. 	<p>I can count to 120. I can count to 120 starting from any number. I can read any number up to 120. I can write any number up to 120. I can count a group of objects and write how many. I can organize data into three groups or less. I can ask and answer questions about data. I can compare two sets of objects using mathematical terms. (equal to, more than, or less than) I can counting to 120 by ones, five, and tens. I can count to 40 by twos. I can unitizing tens.</p>	<p>benchmark number line chart same compare table counting on tally mark data ten frame equal to less than more than chart compare counting on number patterns number relationships same table tally mark unitizing</p>	<p>Number talks – classroom conversations and discussions centered upon computation problems. -focus on developing number sense, fluency with small numbers, making tens</p> <p>Math journals – recording strategies, solutions, reflections and explanations.</p>	<p>Lesson Sequence -Everyday Mathematics 1.1 Daily Routines 1.2 Investigating the Number Line 1.3 Tools for Doing Mathematics 1.4 Number-Writing Practice 1.5 One More, One Less 1.6 Comparing Numbers 1.7 Recording Tally Counts 1.8 Investigating Equally Likely Outcomes 1.9 The Calendar 1.10 Working in Small Groups 1.11 Exploring Math Materials 1.12 Weather and Temperature Routines 1.13 Number Stories 2.1 Number Grids Project 3 - Pumpkin Math Project 5 - Apple Math Everyday Math Lessons: 1.7, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.11, 2.13, 3.6, 4.10, 5.1, 6.4, 6.9, 9.1, 9.3, 10.7</p> <p>Resources -Everyday Mathematics -Georgia Department of Education</p>

- Explore with the 120 chart to see patterns between numbers.
- Read, write and represent a number of objects with a written numeral.
- Understand how the numbers in the counting sequence are related.
- read, write and represent a number of objects with a written numeral
- build an understanding of how the numbers in the counting sequence are related
- work organizing, representing and interpreting data using charts and tables.
- pose questions with 3 possible responses and then work with the data that they collect.

Literature:

Revisit songs, rhymes, and games they promote counting and positional words.

Anno's Counting Book

-Mitsumasa Anno

City by Numbers

-Stephen T. Johnson

12 Ways To Get To 11

-Eve Merriam

The Warlord's Beads

-Pilegard, Virginia Walton

Let's Count

-Hoban, Tana

Just Enough Carrots

-Murphy, Stuart J.

Probably Pistachio

-Murphy, Stuart J.

Corduroy

-Freeman, Don

Animals on Board

-Murphy, Stuart J.

Ready, Set, Hop

-Murphy, Stuart J.

The Blast Off Kid

-Driscoll, Laura

The Kings Commissioners

-Friedman, Aileen

Chrysanthemum

-Henkes, Kevin

Mathematics Core Units

Course Title: Mathematics

Unit Title: Geometry

Length of Unit: 4-5 weeks

Grade Level: 1st grade

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<p style="text-align: center;">COMMON CORE STANDARDS COVERED Major topics included in this unit</p>	<p style="text-align: center;">UNIT BENCHMARKS (I CAN STATEMENTS) What do you want students to know, do, and be like?</p>	<p style="text-align: center;">Key Vocabulary</p>	<p style="text-align: center;">SUGGESTED ASSESSMENTS How will you know if benchmarks have been achieved?</p>	<p style="text-align: center;">POSSIBLE RESOURCES What possible instructional resources could be used?</p>
<p>Reason with shapes and their attributes.</p> <ul style="list-style-type: none"> 1.G.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. 1.G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. Students do not need to learn formal names such as "right rectangular prism." 	<ul style="list-style-type: none"> I can explain the difference between attributes that define a shape and attributes that describe a shape. I can build and draw shapes with certain attributes. I can build two-dimensional and three-dimensional figures from other figures. I can divide circles and rectangles into two or four equal parts. I can name the smaller parts. 	attribute base circle cone corner cube cylinder defining attributes face hexagon non-defining attributes polygon pyramid prism rectangle rhombus side sphere square surface symmetrical symmetry trapezoid triangle closed figure quarter angle whole vertex 2-D 3-D	Venn Diagram -comparing shapes Class discussion Activities which produce an artifact -compose 2-D shapes to create new composite Shapes. -fraction/symmetry Math journals	Everyday Mathematics 7.1 Attribute Rules 7.2 Exploring Attributes & Designs 7.3 Pattern-Block and Template Shapes 7.4 Making Polygons 7.5 Spheres, Cylinders, and Rectangular Prisms 7.6 Pyramids, Cones, and Cubes 7.7 Symmetry Project 1-Geometric Gift Wrap & Greeting Cards Project 10-Shape City Resources -Everyday Mathematics -Georgia Department of Education Literature: Picture Pie: A Circle Drawing Book Emberley, Ed The Father Who Had 10 Children Guettier, Benedicte Cubes, Cones, Cylinders, & Spheres Hoban, Tana Fraction Action Leedy, Loreen Eating Fractions McMillan, Bruce How Hungry Are You?

- **1.G.3.** Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

In this unit, students will:

- study and compose two- and three-dimensional figures
- identify basic figures within two- and three-dimensional figures
- compare, contrast, and/or classify geometric shapes using position, shape, size, number of sides, and number of angles
- investigate and predict the results of putting together and taking apart two- and three dimensional shapes
- create mental images of geometric shapes
- relate, identify, partition, and label fractions (halves, fourths) as equal parts of whole objects

congruent

Napoli, Donna Jo and Tchen, Richard
 Round is a Mooncake: A Book of Shapes
 Thong, Roseanne

Mathematics Core Units

Course Title: Mathematics

Unit Title: Measurement

Length of Unit: 4-5 weeks

Grade Level: 1st grade

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COMMON CORE STANDARDS COVERED Major topics included in this unit	UNIT BENCHMARKS (I CAN STATEMENTS) What do you want students to know, do, and be like?	Key Vocabulary	SUGGESTED ASSESSMENTS How will you know if benchmarks have been achieved?	POSSIBLE RESOURCES What possible instructional resources could be used?
<p>CCSS: Mathematics, CCSS: Grade 1 Measure lengths indirectly and by iterating length units</p> <ul style="list-style-type: none"> 1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. 1.MD.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. <p>Tell and write time</p> <ul style="list-style-type: none"> 1.MD.3. Tell and write time in hours and half-hours using analog and digital clocks. <p>Represent and interpret data</p> <ul style="list-style-type: none"> 1.MD.4. Organize, represent, and interpret data with up to 	<p>I can see when an object is longer or shorter than another object.</p> <p>I can arrange three objects by length from shortest to longest.</p> <p>I can compare the lengths of objects.</p> <p>I can tell how to use a shorter object to measure the length of a longer object.</p> <p>I can record the length of an object as the number of shorter objects it took to span the longer object.</p> <p>I can tell and write time to the hour and half hour.</p> <p>I can tell and write time using analog and digital clocks.</p> <p>I can organize data into three groups or less.</p> <p>I can ask and answer questions about data.</p>	<p>analog compare data digital estimate graph hands(clock) hour length minute</p>	<p>Number talks – classroom conversations and discussions centered upon computation problems.</p> <p>Math journals – recording strategies, solutions, reflections and explanations</p>	<p>-Everyday Mathematics (EM) -GDE 2.5 Analog Clocks 2.6 Telling Time to the Hour 2.7 Explorations: Exploring Lengths 3.7 Telling Time to the Half-Hour 3.13 Data Day 4.2 Nonstandard Linear Measures 4.3 Personal "Foot" and Standard Foot 4.4 The Inch 4.5 The 6-Inch Ruler 4.6 Measuring with a Tape Measure 4.7 Explorations: Exploring Data 6.6 The Centimeter 6.10 Digital Clocks Project 2 – Amaryllis Plant Project 4 – All About Time</p> <p>Sorting, Comparing and Ordering How Long is Your Name? How Many Hands? How Big Is a Foot? Groundhog's Garden What Shape Are You? It's Time: Part I It's Time: Part II It's Time: Part III Time for Bed Measurement Olympics</p>

three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

In this unit, students will:

- develop an understanding of linear measurement
- measure lengths as iterating length units
- tell and write time to the hour and half hour
- represent and interpret data

Resources

- Everyday Mathematics (McGraw-Hill)
- Georgia Department of Education

Literature:

- Jack and the Beanstalk
No specific version
- Lulu's Lemonade
deRubertis, Barbara
- How Big is a Foot?
Myller, Rolf
- It's About Time, Max!
Richards, Kitty
- Ladybug on the Move
Fowler, Richard
- The Fattest, Tallest, Biggest Snowman Ever
Ling, Bettina
- Inch By Inch
Lionni, Leo
- The Long and Short of It
Nathan, Cheryl, and Lisa McCourt
- Ten Beads Tall
Twinn, Michael
- Arthur's Teacher Trouble
Brown, Marc
- The Grouchy Ladybug
Carle, Eric
- Telling Time with Big Mama Cat
Harper, Dan
- The Clock Struck One
Harris, Trudy
- Midnight Fright
Heling, Kathryn

Mathematics Core Units

Course Title: Mathematics

Unit Title: Base10

Length of Unit: 4-5 weeks

Grade Level: 1st grade

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COMMON CORE STANDARDS COVERED Major topics included in this unit	UNIT BENCHMARKS (I CAN STATEMENTS) What do you want students to know, do, and be like?	Key Vocabulary	SUGGESTED ASSESSMENTS How will you know if benchmarks have been achieved?	POSSIBLE RESOURCES What possible instructional resources could be used?
<p>Understand place value</p> <p>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p>a. 10 can be thought of as a bundle of ten ones – called a “ten.”</p> <p>b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p>c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p>Use place value understanding and properties of operations to add and subtract</p> <p>1.NBT.4 Add within 100, including adding a two-digit number and a one-</p>	<p>I can explain that two-digit numbers contain tens and ones.</p> <p>I know that 10 is ten ones, or a ten.</p> <p>I know that the numbers 11-19 have a ten and some ones.</p> <p>I can tell how many tens and ones are in the multiples of ten.</p> <p>I can compare two 2-digit numbers.</p> <p>I can add a 2-digit number to a 1-digit or 2-digit number (multiple of 10) within 100.</p> <p>I can explain how to find 10 more or 10 less than a two-digit number.</p> <p>I can explain how to subtract multiples of 10 from other multiples of 10 up to 90.</p> <p>I can organize data into three groups or less.</p> <p>I can ask and answer questions about data.</p>	<p>addition</p> <ul style="list-style-type: none"> • benchmark • chart • compare • compose • counting on • data • decompose • equal to • less than • more than • number line • place value –tens and ones • representation • subtraction • table • tally mark • ten frame 	<p>Number talks – classroom conversations and discussions centered upon computation problems.</p> <p>Math journals – recording strategies, solutions, reflections and explanations</p>	<p>-Everyday Mathematics</p> <p>Lessons: 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 5.8, 5.9, 6.6, 8.1, 8.2, 8.3, 8.4, 8.5, 10.3, 10.4, 10.7</p> <p>Literature A Place for Zero Can you Count to 100? Millions and Millions Sir Cumference and the King’s Tens One Grain of Rice Two of Everything Anthony Ant</p>

digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Represent and interpret data

1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of participants.

In this unit, students will:

- use a group of ten ones as a whole
- compose and decompose numbers from 11 to 19 into ten ones
- think of whole numbers between 10 and 100 in terms of tens and ones
- numbers (e.g., 10, 20, 30, 40) are groups of tens
- compare two numbers by tens and ones in each number using words, models and symbols greater than (>), less than (<) and equal to (=)
- create models, drawings and place value strategies to add and subtract within 100
- add ten more and ten less than any number less than 100
- use models, drawings and place value strategies to subtract multiples of 10

Mathematics Core Units

Course Title: Mathematics Unit Title: Operations and Algebraic Thinking Length of Unit: 4-5 weeks

Grade Level: 1st grade

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COMMON CORE STANDARDS COVERED Major topics included in this unit	UNIT BENCHMARKS (I CAN STATEMENTS) What do you want students to know, do, and be like?	Key Vocabulary	SUGGESTED ASSESSMENTS How will you know if benchmarks have been achieved?	POSSIBLE RESOURCES What possible instructional resources could be used?
<p>1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>1.OA.3. Apply properties of operations as strategies to add and subtract. Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$.</p>	<p>I can solve addition and subtraction word problems within 20.</p> <p>I can solve word problems by adding three numbers whose sum is less than or equal to 20.</p> <p>I can use strategies to make it easier to add and subtract.</p> <p>I can use addition facts to solve subtraction problems.</p> <p>I can count on to add.</p> <p>I can count back to subtract.</p> <p>I can fluently add and subtract within 10.</p> <p>I can use mental strategies to add and subtract within 20.</p> <p>I can figure out if an equation is true or false.</p> <p>I can figure out a missing number in an addition or subtraction equation.</p> <p>Students will:</p> <ul style="list-style-type: none"> • Explore, understand, and apply the commutative and associative properties as strategies for solving addition problems. • Share, discuss, and compare strategies as a class. • Connect counting on to 	<ul style="list-style-type: none"> • addition and subtraction within 5, 10, 20, and 100. • additive identity property of 0 • associative property of addition • commutative property • computation strategy • counting on • number line diagram • strategies for addition 	<p>Number talks – classroom conversations and discussions centered upon computation problems.</p> <p>Math journals – recording strategies, solutions, reflections and explanations</p>	<p>Resources</p> <p>-Everyday Mathematics (McGraw-Hill)</p> <p>-Georgia Department of Education</p> <p>Literature:</p> <p>If You Were a Plus Sign</p> <p>If You Were a Minus Sign</p> <p>-Shaskan</p> <p>Sea Sums</p> <p>-Hulme</p> <p>Turtle Splash</p> <p>What’s the Difference</p> <p>Ten for Me</p> <p>Animals on Board</p> <p>-Stuart J. Murphy</p> <p>Everyday Mathematics (EM)</p> <p>-GDE</p> <p>2.11, 3.6, 3.8, 3.9, 4.11, 4.12, 5.3, 5.8, 5.10, 5.11, 5.12, 5.13, 6.2, 6.3, 6.4, 6.5, 6.6, 6.8, 8.2, 8.5, 8.7, 8.8, 8.9, 9.1, 9.7, 10.2</p>

(Associative property of addition.)

1.OA.4. Understand subtraction as an unknown-addend problem. For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.

1.OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.

The equal sign describes a special relationship between two quantities. In the case of a true equation, the quantities are the same.

1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number

solving subtraction problems. For the problem " $15 - 7 = ?$ " they think about the number they have to count on from 7 to get to 15.

- Work with sums and differences less than or equal to 20 using the numbers 0 to 20.

- Identify and then apply a pattern or structure in mathematics. For example, pose a string of addition and subtraction problems involving the same three numbers chosen from the numbers 0 to 20, such as $4 + 13 = 17$ and $13 + 4 = 17$.

- Analyze number patterns and create conjectures or guesses.

- Choose other combinations of three numbers and explore to see if the patterns work for all numbers 0 to 20.

- Understand that addition and subtraction are related and that subtraction can be used to solve problems where the addend is unknown.

- Use the strategies of counting on and counting back to understand number relationships.

- Organize and record results using tallies and tables.

- Determine the initial and the change unknown.

Mathematics Core Units

Course Title: Mathematics

Unit Title: Operations and Algebraic Thinking

Length of Unit: a year

Grade Level: 1st grade

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COMMON CORE STANDARDS COVERED Major topics included in this unit	UNIT BENCHMARKS (I CAN STATEMENTS) What do you want students to know, do, and be like?	Key Vocabulary	SUGGESTED ASSESSMENTS How will you know if benchmarks have been achieved?	POSSIBLE RESOURCES What possible instructional resources could be used?
<p>CCSS: Mathematics, CCSS: Grade 1 Add and subtract within 20</p> <p>1.OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier</p> <p>Work with addition and subtraction equations</p> <p>1.OA.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 +$</p>	<p>I can count to add or subtract.</p> <p>I can fluently add and subtract within 10.</p> <p>I can use mental strategies to add and subtract within 20.</p> <p>I can figure out if an equation is true or false.</p> <p>I can figure out a missing number in an addition or subtraction equation.</p>	<p>addition subtraction equal to counting on counting back counting up</p>	<p>Rocket Math Leveled Assessments Rocket Math 2 min test Math journals Number talks Small group/partner activities Quick check/Exit slips</p>	<p>Resources</p> <ul style="list-style-type: none"> -Everyday Mathematics (EM) -Rocket Math -Otter Creek Institute -TeacherPayTeacher (activities) <p>2.8 Pennies 2.9 Nickels 2.10 Counting Pennies and Nickels 2.11 Number Models 2.12 Subtraction Number Models 2.13 Number Stories 3.5 Counting on the Number Line 3.6 +/- on the Number Line 3.11 Dimes 3.12 Counting with Dimes, Nickels, & Pennies 3.14 Domino Addition 5.9 Dice Sums 5.10 Facts Using Doubles 6.3 Fact Families 6.4 Fact Triangles Project 8 – A Flea Market</p> <p>Literature:</p> <ul style="list-style-type: none"> Anno’s Counting House -Anno, Mitsumasa Two Ways to Count to Ten -Dee, Ruby Twenty is Too Many -Duke, Kate

$$5, 4 + 1 = 5 + 2.$$

The equal sign describes a special relationship between two quantities. In the case of a true equation, the quantities are the same.

1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = \square - 3$, $6 + 6 = \Delta$.

Let's Count
-Hoban, Tana