***Davison Community Schools***
***ADVISORY CURRICULUM COUNCIL***
***Phase II, April 20, 2015***
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## *1st Grade Math*

**Course Essential Questions:**

- What is the importance of the relationship between tens and ones in our place value system?
- What are some ways that we can compare objects using their length?
- What are some real-world application where shapes are composed and decomposed to create other shapes?
- How do we solve addition and subtraction problems within 20?

| | | |
|---|---|---|
| MAJOR CLUSTERS | - areas of intensive focus, where students need fluent understanding and application of the core concepts. | *approximately 70%* |
| SUPPORTING CLUSTERS | - rethinking and linking; areas where some material is being covered, but in a way that applies core understandings. | *approximately 20%* |
| ADDITIONAL CLUSTERS | - expose students to other subjects, though at a distinct, level of depth and intensity. | *approximately 10%* |

Tier 3 Vocabulary Words are highlighted in yellow

## Phase II Curriculum

**Unit: Number Sense Routines**

**Essential Questions:**

- Why do we need to learn numbers?
- What is significant about the teen numbers (related to 10)?
- How is counting connected to quantity in a number?
- How can the level of strategy you use indicate how much you know about place value?

**Essential Understanding:**

- We have to learn to read and write numbers and count so that we understand how numbers are used.
- A unit of 10 is made of 10 ones.
- Two-digit numbers are composed of units of tens and some ones.
- Numbers can be represented in different ways to demonstrate tens and ones in a two digit number.

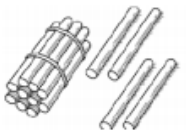
## Curriculum Standards- DOK noted where applicable with Standards

***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.

- *This standard also calls for students to read, write and represent a number of objects with a written numeral (number form or standard form). These representations can include cubes, place value (base 10) blocks, pictorial representations or other concrete materials. As students are developing accurate counting strategies they are also building an understanding of how the numbers in the counting sequence are related—each number is one more (or one less) than the number before (or after).*

***1.NBT.2a*** – 10 can be thought of as a bundle of ten ones – called a “10”

- *This standard asks students to unitize a group of ten ones as a whole unit: a ten. This is the foundation of the place value system.*



***1.NBT.2b*** – The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

- *This standard asks students to extend their work from Kindergarten when they composed and decomposed numbers from 11 to 19 into ten ones and some further ones. In Kindergarten, everything was thought of as individual units: —ones‖. In First Grade, students are asked to unitize those ten individual ones as a whole unit: —one ten‖. Students in first grade explore the idea that the teen numbers (11 to 19) can be expressed as one ten and some leftover ones. Ample experiences with **ten frames** will help develop this concept.*

MP-Make sense of problems and persevere in solving them
**MP: Reason abstractly and quantitatively**
MP-Construct viable arguments and critique the reasoning of others
**MP: Model with mathematics**
MP: Use appropriate tools strategically
MP: Attend to Precision
**MP: Look for and make use of structure**
**MP-Look for and express regularity in repeated reasoning**

## LEARNING TARGETS

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** tens, ones, bundle, left-overs, singles, groups, greater/less than, equal to<br><br>• numbers and numerals up to 120<br>• a bundle of 10 ones to be a “ten” (unitizing) | • Explain the value of each digit in a two digit number<br>• Identify a bundle of 10 ones as a “ten”<br>• Represent a 2 digit numeral using “tens” and “ones”<br>• Represent a 2 digit numeral ending in 0 (ranging from 10-90) using “tens” and 0 “ones”<br>• Count to 120 starting at any number less than 120<br>• Read and write any number from 0-120<br>• When given a set of objects (ranging from 0-120), represent the quantity with a written numeral<br>• make an object to show a number to 20.<br>• read and write numbers to 20<br>• represent numbers 11 to 19 as a 10 and ones.<br>• Bundle 10 ones into a group of ten<br>• Represent numbers 11-19 as a ten and ones<br>• Explain the numbers 11-19 are made of tens and ones |

## Unit: Data

| **Essential Questions:** | **Essential Understanding:** |
|---|---|
| • How can we organize and represent information?<br>• What kinds of tools can you use to tell time? | • There are different ways to put information into groups<br>• We can tell time using different kinds of clocks. |

## Curriculum Standards- DOK noted where applicable with Standards

***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 than in another.

*This standard calls for students to work with categorical data by organizing, representing and interpreting data. Students should have experiences posing a question with 3 possible responses and then work with the data that they collect.*

| What is your favorite flavor of ice cream? | |
|---|---|
| Chocolate | 12 |
| Vanilla | 5 |
| Strawberry | 6 |

***1.MD.3*** – Tell and write time in hours and half- hours using analog and digital clocks.

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## LEARNING TARGETS

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** data, tally mark, more, most, less, least, same, different, category, question, collect, time, hour, half-hour, about, o'clock, past, "six-thirty"<br><br>• different methods to organize data<br>• different methods to represent data<br>• that analog and digital clocks are objects that measure time<br>• the distinguishable characteristics of the hour hand and minute hand | • tell how many more or how many less are in one category than in another<br>• ask and answer questions about data.<br>• organize data with up to three categories<br>• represent data with up to three categories<br>• interpret data representation by asking and answering questions about the data<br>• tell time to the half hour.<br>• answer questions about data.<br>• determine where the minute hand must be when the time is to the hour (o'clock)<br>• determine where the minute hand must be when the time is to the half-hour (thirty)<br>• tell and write time to the hour and half-hour correctly using analog clocks.<br>• tell and write time to the hour and half-hour correctly using digital clocks. |

## Unit: Understanding Addition Facts to 9

**Essential Questions:**

- How can you solve word problems?
- Why can you add numbers in any order?
- Why do we need to learn numbers?

**Essential Understanding:**

- We can solve word problems by adding with pictures, counters, or number sentences.
- You can change the order of the numbers when you are adding and you will get the same answer.
- We have to learn to read and write numbers and count so that we understand how numbers are used.

## Curriculum Standards- DOK noted where applicable with Standards

**1.OA.A.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.

- *This standard builds on the work in Kindergarten by having students use a variety of mathematical representations (e.g., objects, drawings, and equations) during their work. The unknown symbols should include boxes or pictures, and not letters. Teachers should be cognizant of the three types of problems. There are three types of addition and subtraction problems: Result Unknown, Change Unknown, and Start Unknown. Use informal language (and, minus/subtract, the same as) to describe joining situations (putting together) and separating situations (breaking apart). Use the addition symbol (+) to represent joining situations, the subtraction symbol (-) to represent separating situations, and the equal sign (=) to represent a relationship regarding quantity between one side of the equation and the other. A helpful strategy is for students to recognize sets of objects in common patterned arrangements (0-6) to tell how many without counting (subitizing).*

| | Result Unknown | Change Unknown | Start Unknown |
|---|---|---|---|
| **Add To** | $A$ bunnies sat on the grass. $B$ more bunnies hopped there. How many bunnies are on the grass now? $A + B = \square$ | $A$ bunnies were sitting on the grass. Some more bunnies hopped there. Then there were $C$ bunnies. How many bunnies hopped over to the first $A$ bunnies? $A + \square = C$ | Some bunnies were sitting on the grass. $B$ more bunnies hopped there. Then there were $C$ bunnies. How many bunnies were on the grass before? $\square + B = C$ |

***Darker shading indicates the four Kindergarten problem subtypes. Grade 1 and 2 students work with all subtypes and variants. Unshaded (white) problems are the four difficult subtypes or variants that students should work with in Grade 1 but need not master until Grade 2

**1.OA.B.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. (Associative property of addition.)

- *This standard calls for students to apply properties of operations as strategies to add and subtract. Students do not need to use formal terms for these properties. Students should Georgia Department of Education Common Core Georgia Performance Standards Framework First Grade Mathematics • Grade Level Overview MATHEMATICS GRADE 1 Grade Level Overview Georgia Department of Education Dr. John D. Barge, State School Superintendent July 2014 Page 9 of 50 All Rights Reserved use mathematical tools, such as cubes and counters, and representations such as the number line and a 100 chart to model these ideas.*

**1.OA.D.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 of the equations 8+? =11, 5=____-3, 6+6=____.

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## LEARNING TARGETS

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** the same amount/quantity as, add, adding to, sum, putting together, equal to, the same amount as, order, first, second, plus sign (+), equal (=)<br>● Addition strategies: counting all, counting on<br>● Addition tools: counters, snap cubes, number line, tens frame, drawing pictures, part-part whole<br>● to use a symbol for an unknown number in an addition problem | ● find the parts when given the whole.<br>● write an addition number sentence.<br>● solve word problems by joining<br>● use turnaround facts to add. |

## Unit: Understanding Subtraction from 9

| Essential Questions: | Essential Understanding: |
|---|---|
| • How can you solve word problems?<br>• What does an equal sign mean? | • We can solve word problems by using pictures, counters, or number sentences.<br>• Equal signs mean that the problem is the same on both sides. |

## Curriculum Standards- DOK noted where applicable with Standards

**1.OA.D.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 of the equations 8+? =11, 5=____-3, 6+6=____.

**1.OA.A.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.

| | | | |
|---|---|---|---|
| **Take From** | $C$ apples were on the table. I ate $B$ apples. How many apples are on the table now?<br>$C - B = \square$ | $C$ apples were on the table. I ate some apples. Then there were $A$ apples. How many apples did I eat?<br>$C - \square = A$ | Some apples were on the table. I ate $B$ apples. Then there were $A$ apples. How many apples were on the table before?<br>$\square - B = A$ |

***Darker shading indicates the four Kindergarten problem subtypes. Grade 1 and 2 students work with all subtypes and variants. Unshaded (white) problems are the four difficult subtypes or variants that students should work with in Grade 1 but need not master until Grade 2

**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.

- *Students should use cubes and counters, and representations such as the number line and the 100 chart, to model and solve problems involving the inverse relationship between addition and subtraction.*

**1.OA.7** – Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

- *This standard calls for students to work with the concept of equality by identifying whether equations are true or false. Therefore, students need to understand that the equal sign does not mean —answer comes next‖, but rather that the equal sign signifies a relationship between the left and right side of the equation.*

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## LEARNING TARGETS

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** taking from, taking apart, minus, subtract<br>● Subtraction strategies: counting all, counting back, decomposing, using addition to subtract<br>● Subtraction tools: counters, tens frame, snap cubes, number lines, drawing pictures, part-part whole mat<br>● to use a symbol for an unknown number in an subtraction problem<br>● that the quantity on each side of the equality symbol is the same | ● identify the unknown in a subtraction problem.<br>● write a subtraction number sentence.<br>● use subtraction to solve word problems using number sentences.<br>● use an + fact to help me solve a subtraction problem (related facts)<br>● tell if a subtraction sentence is true or false.<br>● use objects to solve subtraction word problem.<br>● explain the relationship between addition and subtraction<br>● compare the values on each side of an equal side |

| **Unit: 5 and 10 Relationships** | |
|---|---|
| **Essential Questions:**<br>● How can you solve word problems? | **Essential Understanding:**<br>● We can solve word problems by using pictures, counters, or number sentences. |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **1.OA.D.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 of the equations 8+? =11, 5=____-3, 6+6=____.<br><br>**1.OA.6 (required fluency)** 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).<br>● *This standard mentions the word fluency when students are adding and subtracting numbers within 10. Fluency means accuracy (correct answer), efficiency (within 4-5 seconds), and flexibility (using strategies such as making 5 or making 10). The standard also calls for students to use a variety of strategies when adding and subtracting numbers within 20. Students should have ample experiences modeling these*<br><br>**MP-Make sense of problems and persevere in solving them**<br>**MP: Reason abstractly and quantitatively**<br>MP-Construct viable arguments and critique the reasoning of others<br>MP: Model with mathematics<br>MP: Use appropriate tools strategically<br>**MP: Attend to Precision**<br>**MP: Look for and make use of structure**<br>MP-Look for and express regularity in repeated reasoning |
| **LEARNING TARGETS** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● strategies to add and subtract within 20 (counting on, making ten, decomposing numbers leading to ten) | ● recognize part-part-whole relationship of subtraction equations<br>● determine the unknown whole number in an addition/subtraction equation with three whole numbers<br>● use a table to find the parts of 10. |

## Unit: Addition and Subtraction to 12

**Essential Questions:**

- How can using addition and subtraction strategies help to add and subtract?
- How can we use our understanding of addition to subtract?

**Essential Understanding:**

- Knowing addition and subtraction strategies makes adding and subtracting more efficient.
- Understanding how addition and subtraction are related helps with both operations.

## Curriculum Standards- DOK noted where applicable with Standards

**1.OA.A.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.

| | | | |
|---|---|---|---|
| **Take From** | $C$ apples were on the table. I ate $B$ apples. How many apples are on the table now? $C - B = \square$ | $C$ apples were on the table. I ate some apples. Then there were $A$ apples. How many apples did I eat? $C - \square = A$ | Some apples were on the table. I ate $B$ apples. Then there were $A$ apples. How many apples were on the table before? $\square - B = A$ |

***Darker shading indicates the four Kindergarten problem subtypes. Grade 1 and 2 students work with all subtypes and variants. Unshaded (white) problems are the four difficult subtypes or variants that students should work with in Grade 1 but need not master until Grade 2

**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.

- *Students should use cubes and counters, and representations such as the number line and the 100 chart, to model and solve problems involving the inverse relationship between addition and subtraction.*

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

- *This standard asks for students to make a connection between counting and adding and subtraction. Students use various counting strategies, including counting all, counting on, and counting back with numbers up to 20. This standard calls for students to move beyond counting all and become comfortable at counting on and counting back.*

Student 1: *Counting All*
5 + 2 = ___. The student counts five counters. The student adds two more. The student counts 1, 2, 3, 4, 5, 6, 7 to get the answer.

Student 2: *Counting On*
5 + 2 = ___. Student counts five counters. The student adds the first counter and says 6, then adds another counter and says 7. The student knows the answer is 7, since they counted on 2.

Example: 12 – 3 = ___

Student 1: *Counting All*
12 – 3 = ___. The student counts twelve counters. The student removes 3 of them. The student counts 1, 2, 3, 4, 5, 6, 7, 8, 9 to get the answer.

Student 2: *Counting Back*
12 – 3 = ___. The student counts twelve counters. The student removes a counter and says 11, removes another counter and says 10, and removes a third counter and says 9. The student knows the answer is 9, since they counted back 3.

**1.OA.6 (required fluency)** 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).

- *This standard mentions the word fluency when students are adding and subtracting numbers within 10. Fluency means accuracy*

*(correct answer), efficiency (within 4-5 seconds), and flexibility (using strategies such as making 5 or making 10). The standard also calls for students to use a variety of strategies when adding and subtracting numbers within 20. Students should have ample experiences modeling these*

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## LEARNING TARGETS

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● What a double is.<br>● What a near-double is.<br>● Counting backwards from a given number.<br>● Counting on from a given number.<br>● Related facts. | ● use a table to find the parts of 10.<br>● count on to add 1 and 2 to a number.<br>● use doubles to add.<br>● find the sum of a near double.<br>● make a ten to add.<br>● subtract 0, 1, 2 from a given number.<br>● use an + fact to help me solve a subtraction problem (related facts)<br>● draw a picture to solve word problems.<br>● explain how counting on and counting back relate to addition and subtraction |

**Unit: Geometry**

| **Essential Questions:** | **Essential Understanding:** |
|---|---|
| ● How are dividing a circle and telling time related?<br>● How are shapes used in the real world?<br>● How are shapes unique? | ● Shapes are all around our world and can be put together or taken apart to form other shapes.<br>● Objects can be sorted, described or built based on certain attributes. |

**Curriculum Standards- DOK noted where applicable with Standards**

***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.

- *This standard calls for students to determine which attributes of shapes are defining compared to those that are non-defining. Defining attributes are attributes that must always be present. Non-defining attributes are attributes that do not always have to be present. The shapes can include triangles, squares, rectangles, and trapezoids. Asks students to determine which attributes of shapes are defining compared to those that are non-defining. Defining attributes are attributes that help to define a particular shape (#angles, # sides, length of sides, etc.). Non-defining attributes are attributes that do not define a particular shape (color, position, location, etc.).*

***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.

- *This standard calls for students to compose (build) a two-dimensional or three dimensional shape from two shapes. This standard includes shape puzzles in which students use objects (e.g., pattern blocks) to fill a larger region. Students do not need to use the formal names such as —right rectangular prism.‖*

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**LEARNING TARGETS**

| **Knowledge/Content** | **Skills/Processes** |
|---|---|

| I Know … | I Can … |
| --- | --- |
| **Academic Vocabulary:**<br>2-dimensional, 3-dimensional, Triangle, Circle, Square, Rectangle, Hexagon, Trapezoid, Rhombus, Cube, Rectangular prism, Sphere, Cone, Cylinder, Flat shapes (plane shapes), Solid figures<br><br>● Part-whole relationship of shapes.<br>● Properties of shapes. | ● build and draw shapes that possess defining attributes.<br>● identify attributes that make a 2-D shape.<br>● build a new shape using 2-D shapes.<br>● use attributes to draw shapes.<br>● identify 3D shapes.<br>● identify attributes of 3D shapes.<br>● build a new 3-D shape using 3-D shapes<br>● I can identify attributes that make or do not make a shape. |

| **Unit: Fractions** | |
|---|---|
| **Essential Questions:**<br>● How can partitioning circles be helpful when telling time? | **Essential Understanding:**<br>● Analog clocks are partitioned in different ways including in halves (half-hours) and quarters (quarter hour)<br>● When partitioning circles and rectangles, it is important that each share be of equal size when representing fractions. |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **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.<br><br>**1.MD.3** Tell and write time in hours and half-hours using analog and digital clocks.<br><br>**MP-Make sense of problems and persevere in solving them**<br>MP: Reason abstractly and quantitatively<br>**MP-Construct viable arguments and critique the reasoning of others**<br>**MP: Model with mathematics**<br>MP: Use appropriate tools strategically<br>**MP: Attend to Precision**<br>MP: Look for and make use of structure<br>**MP-Look for and express regularity in repeated reasoning** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** partition, halves, fourths, quarters (fraction), analog clock, and digital<br><br>● that dividing a circle or rectangle into more equal pieces creates smaller shares<br>● that analog and digital clocks are objects that measure time<br>● the distinguishable characteristics of the hour hand and minute hand | ● partition circles and squares into two and four equal shares<br>● identify when shares are equal<br>● describe equal shares using vocabulary: halves, fourths, and quarters, half of, fourth of, and quarter of<br>● describe the whole as two of two or four of four equal shares<br>● identify halves and fourths.<br>● draw a picture to show a fraction.<br>● tell time to the half hour.<br>● answer questions about data.<br>● distinguish between the two<br>● determine where the minute hand must be when the time is to the hour (o'clock)<br>● determine where the minute hand must be when the time is to the half-hour (thirty)<br>● tell and write time to the hour and half-hour correctly using analog clocks. |

| | |
|---|---|
| | • tell and write time to the hour and half-hour correctly using digital clocks. |

| **Unit: Addition Facts to 20** | |
|---|---|
| **Essential Questions:**<br>● How can you solve word problems?<br>● What does it mean to be fluent? | **Essential Understanding:**<br>● We can solve word problems by using pictures, counters, or number sentences.<br>● Fluent not only means fast and accurate, but also having flexibility (knowing multiple strategies) |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **1.OA.6 (required fluency) 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).<br><br>**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.<br><br>MP - Make sense of problems and persevere in solving them<br>MP - Model with mathematics<br>MP - Reason Abstractly and Quantitatively<br>MP - Attend to precision<br>MP - Look for and express regularity in repeated reasoning<br><br>**MP-Make sense of problems and persevere in solving them**<br>**MP: Reason abstractly and quantitatively**<br>MP-Construct viable arguments and critique the reasoning of others<br>**MP: Model with mathematics**<br>MP: Use appropriate tools strategically<br>**MP: Attend to Precision**<br>MP: Look for and make use of structure<br>**MP-Look for and express regularity in repeated reasoning** |
| **LEARNING TARGETS** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** sum, less than, and equal to, counting on, and making ten | ● add fluently within 20<br>● add three whole numbers whose sum is within 20 |

| | |
|---|---|
| ● strategies for addition: counting on, doubles, near doubles, making ten, using addition and subtraction relationships, finding friendly numbers.<br>● multiple tools for adding numbers: like number tapes, rekenreks, number bonds, tape diagrams, ten-frames, drawings, equations,... | ● solve word problems that call for addition of three whole numbers whose sum is within 20 |

**Unit: Subtraction Facts to 20**

| **Essential Questions:** | **Essential Understanding:** |
|---|---|
| ● How can you solve word problems?<br>● What does it mean to be fluent? | ● We can solve word problems by using pictures, counters, or number sentences.<br>● Fluent not only means fast and accurate, but also having flexibility (knowing multiple strategies) |

**Curriculum Standards- DOK noted where applicable with Standards**

**1.OA.6 (required fluency)** 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.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.

**MP-Make sense of problems and persevere in solving them**
**MP: Reason abstractly and quantitatively**
MP-Construct viable arguments and critique the reasoning of others
**MP: Model with mathematics**
MP: Use appropriate tools strategically
**MP: Attend to Precision**
MP: Look for and make use of structure
**MP-Look for and express regularity in repeated reasoning**

**LEARNING TARGETS**

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| **Vocabulary:** sum, less than, and equal to, counting on, and making ten<br><br>● strategies for subtraction: counting on, making ten, fact families, counting backward, addition and subtraction relationships.<br>● multiple tools for subtracting numbers: number tapes, rekenreks, number bonds, tape diagrams, ten-frames, drawings, | ● subtract fluently within 20<br>● add three whole numbers whose sum is within 20<br>● solve word problems that call for addition of three whole numbers whose sum is within 20 |

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| equations,... | |

| **Unit: Patterns** | |
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| **Essential Questions:**<br>● What is the relationship between the tens and ones place? | **Essential Understanding:**<br>● A bundle of 10 ones is called a “ten”<br>● The tens place value represents the number of bundles of 10 ones that a quantity has. |

**Curriculum Standards- DOK noted where applicable with Standards**

**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.

**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:

a. 10 can be thought of as a bundle of ten ones — called a “ten.”
b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
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).

MP-Make sense of problems and persevere in solving them
**MP: Reason abstractly and quantitatively**
MP-Construct viable arguments and critique the reasoning of others
**MP: Model with mathematics**
MP: Use appropriate tools strategically
MP: Attend to Precision
**MP: Look for and make use of structure**
**MP-Look for and express regularity in repeated reasoning**

**LEARNING TARGETS**

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● number names and numerals up to 120<br>● what each digit of a two-digit number represents<br>● what it means to **unitize** | ● represent a number of objects up to 120 with a written numeral<br>● count to 120, counting on from any number up to 120<br>● read and write numerals up to 120<br>● define a bundle of 10 ones as a “ten”<br>● represent numbers 11-19 as composed of a ten and the correct number of ones<br>● represent the numbers 20, 30, …, and 90 as composed of the correct number of tens |

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| **Unit: Place-Value: tens and ones** | |
|---|---|
| **Essential Questions:**<br>● What is the relationship between the tens and ones place? | **Essential Understanding:**<br>● A bundle of 10 ones is called a “ten”<br>● The tens place value represents the number of bundles of 10 ones that a quantity has. |

**Curriculum Standards- DOK noted where applicable with Standards**

**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.

**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:

a. 10 can be thought of as a bundle of ten ones — called a “ten.”
d. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
e. 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).

**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 <.

MP-Make sense of problems and persevere in solving them
**MP: Reason abstractly and quantitatively**
MP-Construct viable arguments and critique the reasoning of others
**MP: Model with mathematics**
MP: Use appropriate tools strategically
MP: Attend to Precision
**MP: Look for and make use of structure**
**MP-Look for and express regularity in repeated reasoning**

**LEARNING TARGETS**

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● number names and numerals up to 120<br>● what each digit of a two-digit number represents<br>● what it means to **unitize** | ● represent a number of objects up to 120 with a written numeral<br>● read and write numerals up to 120<br>● define a bundle of 10 ones as a “ten”<br>● represent numbers 11-19 as composed of a ten and the correct number of ones<br>● identify the value of each digit represented in a two-digit number |

| **Unit: Comparing Numbers** | |
|---|---|
| **Essential Questions:**<br>● What are some ways that we can mentally find 10 more or 10 less than a number?<br>● How do you compare two-digit numbers? | **Essential Understanding:**<br>● There are a number of strategies to find 10 more or 10 less than a number without counting (hundreds chart, skip counting)<br>● Numbers can be compared by examining the amount of tens and ones in each of the numbers. |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **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 <.<br><br>**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.<br><br>MP-Make sense of problems and persevere in solving them<br>**MP: Reason abstractly and quantitatively**<br>**MP-Construct viable arguments and critique the reasoning of others**<br>MP: Model with mathematics<br>MP: Use appropriate tools strategically<br>MP: Attend to Precision<br>**MP: Look for and make use of structure**<br>MP-Look for and express regularity in repeated reasoning |
| **LEARNING TARGETS** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● what each symbol represents >,<, and = | ● compare two two-digit numbers based on meanings of the tens and ones digits<br>● use >,=, and < symbols to record the result of comparisons<br>● identify the value of each digit in a two-digit number |

**Unit: Addition with tens and ones**

| **Essential Questions:** | **Essential Understanding:** |
|---|---|
| ● How do you add a two-digit number to a one-digit number?<br>● How do you add a two-digit number to a multiple of 10? | ● When adding two-digit number(s) you add tens to tens and ones to ones<br>● Sometimes when adding ones to ones you have to compose a ten |

**Curriculum Standards- DOK noted where applicable with Standards**

**1.NBT.4** Add within 100, including adding a two-digit number and a one-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

*** Students should not be exposed to the standard algorithm of carrying or borrowing in first grade.

**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.

MP-Make sense of problems and persevere in solving them
MP: Reason abstractly and quantitatively
**MP-Construct viable arguments and critique the reasoning of others**
MP: Model with mathematics
MP: Use appropriate tools strategically
MP: Attend to Precision
**MP: Look for and make use of structure**
MP-Look for and express regularity in repeated reasoning

**LEARNING TARGETS**

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● how to mentally find 10 more or 10 less than a given two-digit number<br>● appropriate strategies for solving an addition problem within 100 (using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction) | ● apply knowledge of place value to mentally add 10 to a given two digit number<br>● identify the value of each digit of a number within 100<br>● explain how to mentally find 10 more than a given two-digit number<br>● decompose any number within one hundred into ten(s) and one(s)<br>● choose an appropriate strategy for solving an addition problem within 100 |

| | |
|---|---|
| | ● use composition and decomposition of tens when necessary to add within 100<br>● relate the chosen strategy to a written method (equation)<br>● explain the reasoning used to relate a chosen strategy to a written method |

| **Unit: Subtraction with tens and ones** | |
|---|---|
| **Essential Questions:**<br>● How do you subtract multiples of 10 from a multiple of 10? | **Essential Understanding:**<br>● When subtracting multiples of ten, decrease the number in the tens place successively by one. |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **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.<br><br>**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.<br><br>MP-Make sense of problems and persevere in solving them<br>MP: Reason abstractly and quantitatively<br>**MP-Construct viable arguments and critique the reasoning of others**<br>**MP: Model with mathematics**<br>MP: Use appropriate tools strategically<br>MP: Attend to Precision<br>**MP: Look for and make use of structure**<br>MP-Look for and express regularity in repeated reasoning |
| **LEARNING TARGETS** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● how to mentally find 10 less than a given two-digit number<br>● strategies for solving subtraction problems with multiples of 10 (concrete models or drawings, place value strategies, properties of operations, and/or the relationship between subtraction and addition) | ● identify the value of each digit of a number within 100<br>● explain how to mentally find 10 less than a given two-digit number<br>● subtract multiples of 10 in the range of 10-90 from multiples of 10 in the range of 10-90 (positive or zero differences)<br>● choose appropriate strategies for solving subtraction problems with multiples of 10<br>● relate the chosen strategy to a written method (equation)<br>● explain the reasoning used to relate the chosen strategy to a written method |

| **Unit: Length** | |
|---|---|
| **Essential Questions:**<br>● What is indirect measurement and how can it be used to compare objects?<br>● How can we measure lengths? | **Essential Understanding:**<br>● By comparing the lengths of two objects to a third we can order them based on their lengths<br>● Length can be measured using standard and non-standard units of measurement; such as paper clips or pencils |

| **Curriculum Standards- DOK noted where applicable with Standards** |
|---|
| **1.MD.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object.<br><br>**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.<br><br>**** Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*<br><br>MP-Make sense of problems and persevere in solving them<br>MP: Reason abstractly and quantitatively<br>MP-Construct viable arguments and critique the reasoning of others<br>**MP: Model with mathematics**<br>**MP: Use appropriate tools strategically**<br>**MP: Attend to Precision**<br>MP: Look for and make use of structure<br>MP-Look for and express regularity in repeated reasoning |
| **LEARNING TARGETS** |

| **Knowledge/Content**<br>**I Know …** | **Skills/Processes**<br>**I Can …** |
|---|---|
| ● what length means<br>● to use the same size non-standard objects as repeating units<br>● that the length can be measured with various units | ● identify the length of an object<br>● directly compare the length of three objects<br>● order three objects by length<br>● compare the lengths of two objects indirectly by using a third object<br>● compare a smaller unit of measurement to a larger object<br>● determine the length of a measured object to be the number of smaller iterated or repeated objects that equal its length |