2014-2015

2\textsuperscript{nd} Grade Unit of Study

Critical Area 1 (Chapter 1&2): Number Sense & Place Value

Domain/s: Operations & Algebraic Thinking, -Number & Operation in Base Ten

<table>
<thead>
<tr>
<th>Suggested number of days</th>
<th>Days:29</th>
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<tbody>
<tr>
<td><strong>Meaning</strong></td>
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**Understanding (U)**

Students will understand that...

- Each digit has a value
- Some numbers are odd and some are even
- Numbers can be written in Standard, expanded, and word form.
- Patterns in numbers can be used to show different values

**Essential Question (Q)**

Students will keep considering...

- What is Base Ten Notation?
- How do you use place value to find the values of numbers?
- How do you describe numbers in different ways?
- What are three ways to write a number?
- How do you compare numbers?

**Acquisition**

Students will know (Knowledge)

- How to work with equal groups of objects to gain foundations for multiplication (2.O.A.3)
- That three digit numbers represents 100s, 10s, and 1s (2.NBT.1)
- That a hundred can be bundled in groups of ten. (2.NBT.1)
- That 3-digit numbers represent amounts of hundreds, tens, ones [ex 706 will equal 7 hundreds, 0 tens, 6 ones] (2.NBT.1)
- How to read and write numbers to 1,000 (2.NBT.3)
- How to count within 1,000 (2.NBT.2)
- How to read and write numbers to 1,000 (2.NBT.3)
- How to compare 3-digit numbers (2.NBT.4)
- How to mentally add and subtract 10 or 100 to a given number. (2.NBT.8)

Students will be skilled and be able to (Demonstrate)

- read and write numbers to 1,000
- skip count by 5s, 10s, and 100s
- write an equation
- understand and apply academic vocabulary
- identify number patterns
- identify math symbols
- identify the value of a specific digit
- write numbers in different ways
- compare numbers
Critical Area 2 (Chapter 3-6): Addition and Subtraction

Domain/s: Operations & Algebraic Thinking, -Number & Operation in Base Ten

<table>
<thead>
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<th>Suggested number of days</th>
<th>Days: 62</th>
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**Understandings (U)**  
Students will understand that:

- finding/using number patterns will help to quickly find sums and differences.
- There are several strategies to find sums and differences.
- Knowing the value of each digit is important when adding and subtracting numbers.

**Essential Question(Q)**  
Students will keep considering:

- How do you use patterns to find sums and differences for basic facts?
- What strategies can you use to find the sums and differences for basic facts?
- How to use place value to add and subtract numbers?
- What are some different ways to add numbers?

**Acquisition**  

**Students will know (Knowledge)**

- How to work add and subtract within 20 (2.OA.2)
- How to represent and solve problems involving addition and subtraction (2.OA.1)
- How to work with equal groups of objects to gain foundations for multiplication (2.OA.4)
- How to use place value and properties of operations to add and subtract (2.NBT.6)
- How to explain why using place value and properties of operations to add and subtract works (2.NBT.9)
- How to fluently add and subtract within 100 using place value and properties of operations (2.NBT.5)
- How to add and subtract within 1,000, using concrete models or drawings and strategies based on place value, operations (2.NBT.7)
- How to use estimation strategies to make reasonable estimates in problem solving

**Students will be skilled and be able to (Demonstrate)**

- Recognize and use doubles as a strategies
- Recite their basic addition and subtraction facts with automaticity.
- Model addition and subtraction with regrouping.
- Represent addition with number sentences using a symbol for the unknown number.
- Solve problems using various strategies
- Use place value to correctly line up addition and subtraction problems.
- Demonstrate the relationship between addition and subtraction.
- Make reasonable estimates when problem solving.
Critical Area 3 (Chapter 7-10): Measurement and Data

Domain/s: Measurement and Data

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<th>Days: 50</th>
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<tbody>
<tr>
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**Understandings (U)**

Students will understand that...

- Each coin and bill has a different value.
- Number patterns will aide them in quickly finding the sum of money.
- There are various combination that can be created to represent a money amount.
- How to order coins to help find the total value of a group of coins.
- There are symbols that represent the value of money.
- Time is broken up into different units of time. [minute, hours, days, weeks, etc..]
- There are two different types of clocks.
- Number patterns will aide them in telling time.
- Different units of time are related
- AM and PM are used to describe different times of the day. (noon vs midnight)
- Time can be divided in different increments.
- There are different units of measurement to use for estimating lengths.
- They can use concrete models or a number line to measure length
- There are different graphs used to display and analyze data.
- People collect, graph, and interpret data.

**Essential Question (Q)**

Students will keep considering...

- How do you use the value of coins and bills to find the total value of a group of money?
- How do you tell time on a digital and analog clock?
- What methods and tools do you use to estimate length?
- How do you use the data form the graphs to solve problems?

**Acquisition**

**Students will know (Knowledge)**

- How to work with time and money to solve word problems involving dollars and coins using symbols appropriately. (2.MD.8)
- How to tell and write time from an analog and digital clock to the nearest five minutes. (2.MD.7)
- How to measure the length of an object by selecting and using appropriate tools. (2.MD.1)

**Students will be skilled and be able to (Demonstrate)**

- Identify the value of individual coins and bills
- skip by 5s and 10s
- recognize numeric patterns to aide in counting money and telling time
- telling time
- counting money
- comparing the value of money, time, and units of measurement
- read a ruler and graphs
- create different graphs from a set of data
object using units of different lengths. [ex inches vs centimeters and foot vs yard] (2.MD.2)

- How to estimate lengths using units of inches, feet, centimeters, and meters. (2.MD.3)
- How to relate addition and subtraction to length within 100 to solve word problems involving lengths that are given in the same unit. (2.MD.5)
- How to relate addition and subtraction to length representing whole numbers as lengths from a number line. (2.MD.6)
- How to measure to determine how much longer one object is than another. (2.MD.4)
- How to measure several objects and display the data collected in a graph [line plot, picture graph, bar graph] (2.MD.9)
- How to draw a picture graph and a bar graph to represent a data set with up to four categories. (2.MD.10)

• interpret graphs
**Critical Area 4 (Chapter 11): Geometry and Fractions**

**Domain/s:** Geometry

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**Understanding (U)**

Students will understand that..

- different shapes have names
- some shapes are two-dimensional and some are three-dimensional
- Shapes can be identified and described according to their attributes. [sides, vertices, angles, etc..]
- When you partition whole shapes they must be equal parts.
- You can partition them in different ways such as halves, thirds, and fourths

**Essential Question (Q)**

Students will keep considering...

- What are the differences between two-dimensional and three-dimensional shapes?
- What are the names of some two-dimensional and three-dimensional shapes?
- How can you show equal parts of shapes

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**Students will know (Knowledge)**

- How to recognize and draw shapes having specified attributes (2.G.1)
- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. (2.G.2)
- Partition circles and rectangles into equal shares and count to find the total number of them. (2G.3)

**Students will be skilled and be able to (Demonstrate)**

- Identify two-dimensional and three-dimensional shapes
- They can describe a shapes attributes
- They can create halves, thirds, and fourths from whole shapes

**Standard for Mathematical Practice (SMP)**

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