**ESSENTIAL QUESTIONS**

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<th>DOMAINS AND CLUSTERS</th>
<th>GRADE 1 SKILL</th>
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<td>Solve addition and subtraction word problems within 20 1.OA.1</td>
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<td>Read addition and subtraction word problems to select the operation needed for solving 1.OA.1</td>
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<td>Write an addition or subtraction equation to match a word problem 1.OA.1</td>
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<td>Explain the meaning of the symbols in an addition and subtraction equation 1.OA.1</td>
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<td>Read an equation (number sentence), using the term ‘plus’ for (+) and ‘equals’ for (=)</td>
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<td>Create word problem (number stories) that match a given number sentence 1.OA.1</td>
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<td>Solve a word problem for an unknown in all positions of addition and subtraction equations (by writing an equation with a symbol for the unknown) 1.OA.1</td>
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<td>Solve addition word problems with three addends, for sums up to 20 1.OA.2</td>
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<td>Write an addition equation to match a word problem 1.OA.2</td>
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<td>Explain the meaning of the symbols in an addition equation 1.OA.2</td>
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<td>Read an addition equation (number sentence), using the term ‘plus’ for (+) and ‘equals’ for (=)</td>
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<td>Solve a word problem for an unknown in all positions of an addition equations (by writing an equation with a symbol for the unknown) 1.OA.2</td>
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<td>Create word problem (number stories) that match a given addition equation with three addends 1.OA.2</td>
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<td>Explain or show the commutative property of addition (by switching the addends to get the same sum) 1.OA.3</td>
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<td>Explain or show the associative property of addition with three addends 1.OA.3</td>
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<td>Explain the meaning of the symbols in an addition equation 1.OA.3</td>
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<td>Read an addition equation (number sentence), using the term ‘plus’ for (+) and ‘equals’ for (=)</td>
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<td>Create different addition equations for the same sum 1.OA.3</td>
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<td>Add and subtract, using properties of operations 1.OA.3</td>
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<td>Describe addition and subtraction relationships 1.OA.4</td>
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**VOCABULARY**

- Add
- Addend
- Sum
- Equal
- Difference
- Part
- Whole
- In all
- Altogether
- Left
- Unknown
- Symbol
- Equation
- Solve

**MATHEMATICAL PRACTICES & RESOURCES**

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

**ASSESSMENT**

- Math Journaling
- Chapter Tests
- Performance Tasks
- Teacher Observation
- Rubric
- Checklists

**Resources for Implementation:**

- Math Centers: Variety of manipulatives
- Geometric shapes- 2 & 3 dimensional
### Questions and Key Notes

#### What is an example of an addition and subtraction equation that is true?

- Write a fact family given 3 different numbers and explain how they are related. 1.OA.4
- Read an equation (number sentence), using the term ‘plus’ for (+), ‘minus’ for (-) and ‘equals’ for (=). 1.OA.4
- Solve for an unknown addend using subtraction. 1.OA.4
- Add within 20 using counting or counting on to solve. 1.OA.5
- Subtract within 20 using count back or counting on (addition) to solve. 1.OA.5
- Explain the effect of addition and subtraction (subtraction will result in a smaller number & addition will result in a larger number). 1.OA.5
- Read an equation (number sentence), using the term ‘plus’ for (+), ‘minus’ for (-) and ‘equals’ for (=). 1.OA.5
- Write an addition or subtraction equation. 1.OA.5
- Count on and subtract fluently within 10 (with quick recall and without any visual aids). 1.OA.6
- Show and explain related addition and subtraction facts. 1.OA.6
- Create a known fact to help with another fact (i.e. composing a five, composing a ten, doubles, etc.). 1.OA.6
- Explain addition and subtraction strategies used. 1.OA.6
- Explain the meaning of the symbols in an addition and subtraction equation. 1.OA.7
- Read an equation (number sentence), using the term ‘plus’ for (+), ‘minus’ for (-) and ‘equals’ for (=). 1.OA.7
- Evaluate an equation for given value (Example: 3 + ? = 8. Is this question true if ? = 6? Why or why not?). 1.OA.7
- Manipulate objects, draw pictures or balance a scale to prove an equation (number sentence) true or false for different values. 1.OA.7
- Explain the meaning of the symbols in an addition and subtraction equation. 1.OA.8
- Read an equation (number sentence), using the term ‘plus’ for (+), ‘minus’ for (-) and ‘equals’ for (=). 1.OA.8
- Calculate the missing value in a given equation. (Example: 3 + ? = 8. What value of ? will make this equation true?). 1.OA.8
- Manipulate objects, draw pictures or balance a scale to prove an equation (number sentence) true for a value found. 1.OA.8
- Count to 120, starting from any number. 1.NBT.1
- Read numerals from 0 to 120. 1.NBT.1
- Write numerals 0 to 120, starting from any number. 1.NBT.1
- Label a given set of objects with a written numeral. 1.NBT.1
- Sequence a set of consecutive numbers in order from least to greatest, within 120. 1.NBT.1

#### Numbers and Operations in Base Ten (NBT)

- Count on and count back. 1.NBT.1
- Solve an equation. 1.NBT.1
- Double a number. 1.NBT.1
- Group of 5. 1.NBT.1
- Group of 10. 1.NBT.1
- Related fact family. 1.NBT.1
- Equal. 1.NBT.1
- Balanced. 1.NBT.1
- Addition. 1.NBT.1
- Subtract. 1.NBT.1

#### Extend the counting sequence

- Number before. 1.NBT.1
- After. 1.NBT.1
- Between. 1.NBT.1
- Least. 1.NBT.1

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**Notes:**

- Addend
- Unknown
- Equation
- Fact family
- Addition
- Subtraction
- Related fact
- Solve
- Pattern blocks
- Connecting cubes
- Counting bears
- Base ten logs
- Numbers chart/cubes
- Objects of varying size
- Calendar
- Analog and digital clocks
- Coins
- Number lines

- www.time-for-time.com/lesson1.htm
- http://illuminations.nctm.org/Lessons.aspx
- www.illustrativemathematics.org.
- http://www.kidzone.ws/math/
- http://www.lessonplanspage.com
- http://www.theteacherscorner.net/
### Common Core Math Curriculum – Grade 1

**Diocese of Buffalo, 2012**

#### 1. What are the different ways that you can count to 120 starting at any number less than 120?
- Explain how each successive number is one more than the previous \(1.NBT.1\)
- Count objects and sort them into groups of ten \(1.NBT.2.a\)
- Draw groups of ten(s) to represent multiples of ten \(1NBT.2.a\)
- Explain and show 1 ‘ten’ as ten ones \(1.NBT.2.a\)
- Write the expanded form of a number 11-19 \(1.NBT.2.b\)
- Explain the value of a teen number in terms of tens and ones (i.e. 12 is one group of ten and two ones) \(1.NBT. 2.b\)
- Manipulate objects or draw groups of tens and ones to represent a two digit number \(1.NBT. 2.b\)
- Manipulate objects or draw picture to show that 1 ten is equal to 10 ones \(1.NBT. 2.b\)
- Name the value of any digit in a two digit number (i.e. In the number 18, the 1 = 10) \(1.NBT. 2.b\)
- State the place value of any digit in a two digit number (i.e. In the number 18, the 8 is in the tens place.) \(1.NBT. 2.b\)
- Skip count by tens \(1.NBT.2.c\)
- Draw groups of tens to represent numbers that are multiples of 10 \(1.NBT. 2.c\)
- Manipulate objects or draw picture to show that 1 ten is equal to 10 ones \(1.NBT. 2.c\)
- Compare 2 two-digit numbers using the terms and symbols > (greater than), < (less than) and = (equal to) \(1.NBT.3\)
- Explain why a 2-digit number is greater than or less than another 2-digit number, based on place value \(1.NBT.3\)
- Draw a visual representation (or manipulate place value blocks) to show why a two-digit number is larger or smaller than another two-digit number \(1.NBT.3\)
- Name the value of any digit in a two digit number (i.e. In the number 76, the 7 = 70) \(1.NBT.3\)
- State the place value of any digit in a two digit number (i.e. In the number 76, the 7 is in the tens place.) \(1.NBT.3\)
- Explain how one number is greater than or less than another \(1.NBT.3\)
- Match the symbol (>) with the phrase ‘greater than’ and the symbol (<) with the phrase ‘less than’ \(1.NBT.3\)
- Add a two-digit number to a one-digit number, using a variety of strategies and explain the strategy used \(1.NBT.4\)
- Add a two-digit number to a two-digit number with and without regrouping and explain the strategy used \(1.NBT.4\)

#### 2. What is place value?
- Greatest
- Order
- Digit
- Ten(s)
- One(s)
- Place value
- Value
- Group
- Bundle
- Skip count
- Compare
- Greater than
- Less than
- More
- Less
- Equal

#### 3. Extend the counting sequence

#### 4. Use place value understanding and properties of operations to add and subtract.

#### 5. What is an example of 10 more or 10 less than a number without having to count?
- Place value
- Two-digit number
- Ten(s)
- Ones(s)
- Group
- Regroup
- Add
- Strategy
- Ten more

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Common Core Math Curriculum – Grade 1
Diocese of Buffalo, 2012

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<th>Why do we need mental math?</th>
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<tbody>
<tr>
<td>Why do we need mental math?</td>
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<tr>
<td>How do you compare two objects by using a third object?</td>
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<td>How do you read a clock?</td>
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<td>What is the difference between an analog and a digital clock?</td>
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<td>What are the names of coins?</td>
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### Measurement and Data (MD) - 1.MD

- Draw pictures and use place value blocks to show why when adding, it might be necessary to compose a ten (regroup). 1.NBT.4
- Name the value of any digit in a two digit number when adding two numbers 1.NBT.4
- State the place value of any digit in a two digit number when adding two numbers 1.NBT.4
- Explain the meaning of regrouping when adding 1.NBT.4
- Explain/ write the relationship between addition and subtraction 1.NBT.4
- Add 10 more to a given number with quick recall and explain reasoning used 1.NBT.5
- Subtract 10 from a given number with quick recall and explain reasoning used 1.NBT.5
- Skip count by tens from any given number 1.NBT.5
- Write a sequence of numbers with the rule “add ten” or “subtract ten” starting with any number 1.NBT.5
- Explain how ten more or ten less is related to place value 1.NBT.5
- Subtract 10 from a given number that is a multiple of 10 and explain the reasoning used 1.NBT.6
- Explain, show using manipulatives or drawing and write about how ten less is related to place value 1.NBT.6
- Explain/ write how addition and subtraction are related 1.NBT.6
- Order three objects by length 1.MD.1
- Describe the lengths of three objects in terms of measurement 1.MD.1
- Compare the length of a two object indirectly using a third and explain how this conclusion can be made 1.MD.1
- Measure the length of an object using shorter, non-standard units, end-to-end with no gaps or overlaps 1.MD.2
- Write/ record the length of an object measured using non-standard units (could also introduce inches and centimeters) 1.MD.2
- Compare and contrast between standard and non-standard units 1.MD.2
- Read & write the time shown on a digital & analog clock to the hour and half-hour 1.MD.3.a
- Draw the minute and hour hands on an analog clock to show a given time to the hour and half-hour 1.MD.3.a
- Manipulate the hands on an analog clock to show directionality 1.MD.3.a
- Match time shown on a digital clock with an analog clock to the hour and half-hour (and vice versa) 1.MD.3.a
- Name the coins: penny, nickel, dime and quarter 1.MD.3.b

### Mathematical Vocabulary

- Ten less
- Skip counting
- Add
- Subtract
- Length
- Longer than
- Shorter than
- Taller than
- Measure
- Measurement
- Order
- Width
- Inch(es)
- Centimeter(s)
- Ruler
- Time
- Clock
- Hour(s)
- Minute(s)
- Digital
- O’Clock
- Hour hand
- Minute hand
- Analog
- Second hand
- Penny
- Nickel
- Dime
- Quarter
- Coin
- Cent(s)
- Money
- Value
- Decimal Point
- Data
- Graph
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<th>Represent and interpret data</th>
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<td>State the value of the coins: penny, nickel, dime and quarter 1.MD.3.b</td>
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<td>Calculate the total value of a group of coins, up to $1.00. 1.MD.3.b</td>
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<td>Read and write coin amounts using decimal notation 1.MD.3.b</td>
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<td>Compare information provided in charts and graphs using the terms most, least, greater than, less than or equal to 1.MD.4</td>
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<tr>
<td>Read data in a graph, chart or table1.MD.4</td>
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<td>Calculate how many more or less of a quantity is displayed in a graph 1.MD.4</td>
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<td>Calculate the total number of data points and answer how many is shown in a specific category 1.MD.4</td>
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<td>Explain the summative results of a collection of data or survey results1.MD.4</td>
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<td>Name the defining attributes of two dimensional shapes (closed, number or sides, number of angles, etc) 1.G.1</td>
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<td>Name non-defining attributes of two-dimensional shapes (color, orientation, size, etc.) 1.G.1</td>
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<td>Build and draw shapes with specified attributes 1.G.1</td>
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<td>Compare and contrast between two and three dimensional figures 1.G.2</td>
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<td>Create two dimensional shapes using triangles, squares, rectangles, trapezoids, half-circles and quarter-circles and explain the composition created1.G.2</td>
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<td>Create three dimensional shapes using triangles, squares, rectangles, and circles and explain the composition created 1.G.2</td>
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<td>Name the faces of three dimensional shapes in terms of two dimensional shapes 1.G.2</td>
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<td>Explain the effects of dividing a shape in terms of the size of the divided pieces (ex. The more pieces a shape divided into (the more equal shares formed), the smaller the pieces (the smaller the shares) 1.G.3</td>
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<td>Name and label the divided pieces of a shape using the terms halve, fourth (quarter) of 1.G.3</td>
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<td>Describe shares of a divided figure in terms of fourth of, half of and quarter of 1.G.3</td>
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