Diocese of Boise Math Curriculum – 1st grade

<table>
<tr><th>ESSENTIAL QUESTIONS</th><th>DOMAINS AND CLUSTERS</th><th>1st GRADE MATH SKILLS</th><th>VOCABULARY</th><th>PRACTICES, RESOURCES & ASSESSMENT</th></tr>
<tr>
<td>What is counting and how can it be used?

What are the different ways to solve addition and subtraction word problems?</td>
<td>Counting and Cardinality A1

Know and use number names and count sequence

Count to tell the number of objects

Understand the relationship between numbers and quantities; connect counting to cardinality</td>
<td>
Introduced Skills
<table>
<tr><td></td><td>Count to 120 starting at any number less than 120</td></tr>
<tr><td></td><td>Identify even and odd numbers</td></tr>
<tr><td></td><td>Read and write numbers up to 120</td></tr>
<tr><td></td><td>Identify, read and write ordinal numbers, first, second, etc.</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Count forward beginning from a given number</td></tr>
<tr><td></td><td>Use models (i.e. number lines, drawings, manipulatives) to identify,</td></tr>
<tr><td></td><td>Count to 100 by ones and tens</td></tr>
<tr><td></td><td>Skip count by 2s, 5s, 10s, 100s</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Read and write numbers from 0 to 20</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Show that the number of objects is the same regardless of arrangement or order counted</td></tr>
<tr><td></td><td>Identify the highest and lowest number</td></tr>
<tr><td></td><td>Given a number, identify more than, less than, equal to, most, least or fewest</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Count to answer “how many”</td></tr>
<tr><td></td><td>Explain the relationship between numbers and quantities</td></tr>
<tr><td></td><td>Say the number names in standard order when counting</td></tr>
<tr><td></td><td>Pair objects and number names</td></tr>
<tr><td></td><td>Explain that the last number name said tells the number of objects counted</td></tr>
</table>
</td>
<td>RIT 175-190 & Above
• Skip count
• 5 frame
• 10 frame
• Tens
• Add/addition
• Sum
• Subtract
• Subtraction
• Difference
• Half
• Tallest
• Before
• After
• Greater than
• Less than
• Double
• Fewest
• Longest
• Shortest
• Total
• Before
• Between
• Dollar sign
• Cent sign
• Fact family
• Fewer
• Hundred
• Largest
• Less
• Metric
• Ray</td>
<td>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 sense of structure</td>
</tr>
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<tr>
<td>What is an example of an addition and subtraction equation that is true?</td>
<td>Operations and Algebraic Thinking
A2

Represent and solve problems involving addition and subtraction

Add and subtract within 20

Demonstrate subtraction as taking apart and taking away

Work with addition and subtraction equations

Use basic properties of multiplication and division</td>
<td>
Introduced Skills
<table>
<tr><td></td><td>Solve word problems by adding three whole numbers</td></tr>
<tr><td></td><td>Apply the commutative property of addition (i.e. If 8+3=11 then 3+8=11)</td></tr>
<tr><td></td><td>Apply the associative property of addition [i.e. (2+6)+4=2+(6+4)=12]</td></tr>
<tr><td></td><td>Find the number that makes 10 when added to a given number</td></tr>
<tr><td></td><td>Add within 20</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Relate counting to addition (i.e. count on 2 to add 2)</td></tr>
<tr><td></td><td>Solve addition word problems</td></tr>
<tr><td></td><td>Decompose numbers less than or equal to 10 (i.e. 5=2+3 and 5=4+1) using objects or drawings</td></tr>
<tr><td></td><td>Represent addition with objects, fingers, mental images, drawings, sounds (i.e. claps), acting out situations, verbal explanation, expressions or equations</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Fluently add within 5</td></tr>
<tr><td></td><td>Add within 10 by using objects or drawings</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Associate subtraction as an unknown-addend problem (i.e. subtract 10-8 by finding the number that makes 10 when added to 8)</td></tr>
<tr><td></td><td>Subtract within 20</td></tr>
</table>
</td>
<td>

Before
Between
Model
Ordinal number
Fact family
Manipulative
Ones
Tens
Hundreds
Amount
Highest/lowest
Paris
Properties
Number sentence
Work problem
Expression
Operation
Addend
Digit
Place value
Slide
Flip
Turn
Fraction
Arithmetic
Geometric
Strategy
Hour
Half hour
Symmetry
Estimate
Solid/plane shapes
Rectangular prism

</td>
<td>
8. Look for and express regularity in repeated reasoning

Resources

Math centers
Variety of manipulatives
Geometric shapes 2 & 3 dimensional
Pattern blocks
Connecting cubes
Base ten logs
Numbers chart/cubes
Calendar
Objects of varying size
Calendar
Analog and digital clocks
Coins

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<td></td>
<td>Operations and Algebraic Thinking A2

Represent and solve problems involving addition and subtraction

Demonstrate addition as adding to

Demonstrate subtraction as taking apart and taking away

Work with addition and subtraction equations

Use basic properties of multiplication and division</td>
<td>
Reviewed Skills
<table>
<tr><td></td><td>Relate counting to subtraction (i.e. count on 2 to take away 2)</td></tr>
<tr><td></td><td>Solve subtraction word problems</td></tr>
<tr><td></td><td>Subtract within 10 using objects and drawings</td></tr>
<tr><td></td><td>Represent subtraction with objects, fingers, mental images, drawings,</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Fluently subtract within 5</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Use the strategy of using the relationship between addition and subtraction (8+4=12 thus 12-8=4)</td></tr>
<tr><td></td><td>Use the strategy of creating equivalent but easier or known sums to add and subtract (6+7=6+6+1= 12+1=13)</td></tr>
<tr><td></td><td>Determine if equations involving addition and subtraction are true or false (i.e. 6=6, 7=8-1, 5+2=2+5, 4+1=5+2)</td></tr>
<tr><td></td><td>Determine the unknown whole number in an addition or subtraction equation (i.e. 8+?=11, 5=□-3, 6+6=□)</td></tr>
<tr><td></td><td>Know from memory all sums of two one-digit numbers</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Explain the meaning of the equal sign</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Determine whether a group of objects has an odd or even number of members</td></tr>
<tr><td></td><td>Identify and explain arithmetic patterns (including patterns in addition and multiplication tables)</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Generate a number or shape pattern that follows a given rule</td></tr>
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<td>

Estimate
Thirds/fourths
Fifth/sixth
Pictograph
Bar graph
Line graph
Greater
Greater than
Largest
Less
Less than
Line segment
Metric
Morning
Multiply
First-twelfth
Ounce
Outside
Penny, nickel dime, quarter
Dollar
Pound
Quart
Similar
Square unit
Taller
Term
Total
Whole number
Dollar sign
Cent sign
Clockwise
O’clock
Rhombus
Hexagon

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Assessment:

Questioning strategies
Journaling
Performance tasks
Pencil and paper assignments
Presentation
Pictorial representation
Demonstration
Teacher observation

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<tr>
<td>What are the different ways that you can count to 120?

What is place value?</td>
<td>Numbers and Operations in Base Ten A3

Extend the counting sequence

Compare numbers

Explain and use the place value system

Use place value understanding and properties of operation to do arithmetic</td>
<td>
Introduced Skills
<table>
<tr><td></td><td>Compare two multi-digit numbers based on meanings of the digits in each place</td></tr>
<tr><td></td><td>Compare using the symbols >, <, and =</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Compare two numbers between 1 and 10</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Explain that the two digits of a two-digit number represent amounts of tens and ones</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Explain that the numbers 11-19 are composed of ten ones and one, two, three, four, five, six, seven, eight or nine ones.</td></tr>
<tr><td></td><td>Compose and decompose numbers from 11 to 19 into ten ones and some further ones</td></tr>
<tr><td></td><td>Explain that 10 can be thought of as a bundle of ten ones – called a “ten”, 100 as ten tens… etc.</td></tr>
<tr><td></td><td>Explain that 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), and 100, 200, 300, etc. refer to one, two, three, etc. hundreds</td></tr>
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ESSENTIAL QUESTIONS	DOMAINS AND CLUSTERS	1st GRADE MATH SKILLS	VOCABULARY	PRACTICES, RESOURCES & ASSESSMENT
	Numbers and Operations in Base Ten A3 Use place value understanding and properties of operation to do arithmetic ***Numbers and Operations Fractions A4*** Develop understanding of fractions as numbers	**Introduced Skills** Add within 100 by adding a two-digit number and a one-digit number Add within 100 by adding a two-digit number and a multiple of 10 Add and subtract within 100 and 1000 using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction Relate strategies to a written method and explain the reasoning Demonstrate that in adding two-digit numbers, one adds tens and tens, ones and ones and sometimes it is necessary to compose a ten Given a two-digit number, mentally find 10 more or 10 less without having to count Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range of 10-90 **Introduced Skills** Explain a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts (i.e. 1/3) **Reviewed Skills** Recognize the division of an object or unit into equal parts: halves	•	

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<td>Why do we need mental math?

Why should we compare things?

How do we compare things (one, two and three objects)?</td>
<td>Measurement and Data B1

Describe and compare measurable attributes

Measure lengths indirectly and by iterating length units

Solve problems using measurement

Recognize and identify coins, their names and their value</td>
<td>
Introduced Skills
<table>
<tr><td></td><td>Compare the length of two objects indirectly by using a third object</td></tr>
<tr><td></td><td>Express the length of an object as a whole number of length units by laying multiple copies of a shorter object end to end</td></tr>
<tr><td></td><td>Explain that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Describe several measurable attributes of objects (i.e. length, weight, temperature)</td></tr>
<tr><td></td><td>Compare two objects with a measurable attribute in common</td></tr>
<tr><td></td><td>Classify objects into given categories</td></tr>
<tr><td></td><td>Count and sort the categories of objects</td></tr>
<tr><td></td><td>Describe temperature as hot, warm, cold, warmer than, cooler than, as warm as, etc.</td></tr>
<tr><td></td><td>Associate temperature in degrees Fahrenheit with weather</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Order three objects by length</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Observe Celsius and Fahrenheit thermometers to measure and record temperature to the nearest degree</td></tr>
<tr><td></td><td>Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec, degrees</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Recognize that temperature is measured in degrees</td></tr>
<tr><td></td><td>Identify temperatures in degrees Celsius and Fahrenheit</td></tr>
</table>
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<td>

Whole number
Length
Width
Height
Weight
Temperature
Compare
Classify
Categories
Degrees
Thermometer
Meter
Centimeter
Kilometer
Hour
Minute
Second

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<td>What is time?

How can we tell when time has passed?

How do you read a clock?

What is the difference between an analog and digital clock?

What is data?

How do we interpret data?</td>
<td>Time – B2

Work with time

Read a clock

Money – B3

Work with money

Name all coins with proper names

Data – B4

Represent and interpret data</td>
<td>
Introduced Skills
<table>
<tr><td></td><td>Tell and write time in hours and half-hours using analog and</td></tr>
<tr><td></td><td>Read the clock to tell time in terms of minutes before and after the hour</td></tr>
<tr><td></td><td>Write the date using words and numbers</td></tr>
</table>
Mastered Skills
<table>
<tr><td></td><td>Describe orientation in time: today, yesterday, tomorrow, morning (AM), afternoon (PM), etc.</td></tr>
<tr><td></td><td>Locate dates on a calendar</td></tr>
<tr><td></td><td>Indicate days of the week and months of the year</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Identify and recognize relative value of penny, nickel, dime, quarter and dollar</td></tr>
<tr><td></td><td>Show how different combinations of coins equal the same amount of money</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Organize, represent and interpret data with up to three categories</td></tr>
<tr><td></td><td>Ask and answer questions about the total number of data points – how many, how many more or less</td></tr>
</table>
Reviewed Skills
<table>
<tr><td></td><td>Show data with a picture graph and a bar graph</td></tr>
<tr><td></td><td>Solve simple put-together, take-apart and compare problems using information presented in a graph</td></tr>
<tr><td></td><td>Solve one- and two-step “how many more” and “how many less” problems using information presented in a graph</td></tr>
</table>
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<td>

Clock
Digital/analog
Calendar
All days of the week
All months of the year

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<td></td>
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<tr>
<td>Why do we have shapes?

How can you define an shape?

How can we use a shape to create another shape?</td>
<td>Geometry – C

Reason with shapes and their attributes

Identify and describe shapes

Analyze, compare, create, classify and compose shapes</td>
<td>
Reviewed Skills
<table>
<tr><td></td><td>Describe objects in the environment using names of shapes</td></tr>
<tr><td></td><td>Correctly name shapes regardless of orientation or size (square, circle, triangle, rectangle, hexagon, cube, cone, cylinder, sphere)</td></tr>
<tr><td></td><td>Identify shapes as two-dimensional</td></tr>
<tr><td></td><td>Identify shapes as three-dimensional</td></tr>
<tr><td></td><td>Describe the relative positions of objects (i.e. above, below, beside, in front of, behind, next to)</td></tr>
</table>
Introduced Skills
<table>
<tr><td></td><td>Distinguish between defining attributes (i.e. triangles are closed and three-sided) versus non-defining attributes (i.e. color, orientation, overall size)</td></tr>
<tr><td></td><td>Compose two-dimensional shapes or three-dimensional shapes to create a composite shape</td></tr>
<tr><td></td><td>Compose new shapes from composite shapes</td></tr>
<tr><td></td><td>Partition circles and rectangles into equal shares</td></tr>
<tr><td></td><td>Describe the divisions of shapes using the words halves, half of, fourths, fourth of, quarters and quarter of.</td></tr>
<tr><td></td><td>Describe the whole of a shape as two of or four of the shares, two halves, three thirds, etc.</td></tr>
<tr><td></td><td>Show that decomposing into more equal shares creates smaller shares of an object</td></tr>
</table>
Reviewed
<table>
<tr><td></td><td>Analyze and compare two- and three-dimensional shapes</td></tr>
<tr><td></td><td>Build and draw shapes to possess defining attributes</td></tr>
<tr><td></td><td>Use informal language to describe similarities, different parts</td></tr>
<tr><td></td><td>Model shapes in the world by building and drawing shapes</td></tr>
<tr><td></td><td>Compose simple shapes to form larger shapes (i.e. join two triangles to make a rectangle)</td></tr>
</table>
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<td>

Square
Circle
Triangle
Rectangle
Oval
Hexagon
Cube
Cone
Cylinder
sphere

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