*Revised: July 2022

**Mathematics**

Standards Based Report Card 2023-2024

**3rd Grade**

**3**: Meets expectations **2**: Approaching expectations **1**: Beginning to learn expectations

**Blank Box**: Not assessed **IE**: Insufficient Evidence

| **Math Priority Standards** | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
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| **Uses place value understanding to fluently add and subtract within 1000.**<br>3.NBT.A.3 Demonstrate fluency with addition and subtraction within 1000. Fluently add and subtract with numbers and results within 1000 using strategies and algorithms based on place value, properties of operations and/or the relationship between addition and subtraction. (Fluency refers to accuracy and efficiency and does not equate to memorization.) | | | | |
| **Interpret the reasonableness of answers.**<br>3.RA.D.10 Interpret the reasonableness of answers using mental computations and estimation strategies including rounding. | | | | |
| **Multiplies and divides within 100 using a variety of strategies**<br>3.RA.C.7 Multiply and divide with numbers and results within 100 using strategies such as the relationship between multiplication and division or properties of operations. Know all products of two one - digit numbers. | | | | |
| **Multiplies or adds to find area**<br>3.GM.C.13&14 Find rectangular arrangements that can be formed for a given area (e.g., an area of 12 sq. cm can be shown as a 3 x 4 rectangle, a 2 x 6 rectangle or a 1 x 12 rectangle); Decompose a rectangle into smaller rectangles to find the area of the original rectangle (Note: This is an application of the distributive property.) (e.g., a 16 x 5 rectangle could be divided into a 10 x 5 rectangle and a 6 x 5 rectangle) The area of the original rectangle can be found by adding 50 + 30. | | | | |
| **Solves two-step word problems using the four operations**<br>3.RA.D.9 Write and solve two-step problems involving variables using any of the four operations. Represent these problems using equations with a letter standing for the unknown quantity | | | | |
| **Multiplies within 100 fluently**<br>3.RA.C.8 Demonstrates fluency with products within 100. Know all products of two one -digit numbers. While automaticity for basic facts is desired, quick use of mental strategies may suffice. (Fluency refers to accuracy and efficiency and does not equate to memorization.) | | | | |
| **Understands fractions as part of a whole**<br>3.NF.A.1 Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts. (For example, ¼ [1 fourth] represents 1 of the 4 equal parts or ¼ of the whole.) | | | | |
| **Explain equivalence of fractions and compare fractions by reasoning about their size.**<br>3.NF.A.7 Explain why fraction comparisons are only valid when the two fractions refer to the same whole. (Students should record the results of the comparisons using <, > or = and justify the conclusions by using number lines, manipulative or drawings. (Limit to fractions with denominators 2, 3, 4, 6 and 8.) | | | | |
| **Understands properties of shapes**<br>3.GM.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories | | | | |
| **Understands concepts of perimeters.**<br>3.GM.D.15 Solve problems involving perimeters of polygons. (The student is to solve problems involving perimeters of polygons including finding the perimeter when given side lengths and finding missing side lengths when given the perimeter. | | | | |

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| **Priority Standard** | 3.NBT.A.3 Demonstrate fluency with addition and subtraction within 1000. Fluently add and subtract with numbers and results within 1000 using strategies and algorithms based on place value, properties of operations and/or the relationship between addition and subtraction. (Fluency refers to accuracy and efficiency and does not equate to memorization.)<br>**Report Card:: Uses place value understanding to fluently add and subtract within 1000** | |
| **Learning Targets** | • I can participate in a number talk involving addition and subtraction and defend my strategy on how I came up with the answer. (MP3)<br>• I can explain how I added or subtracted with a peer. (MP1/MP3)<br>• I can choose appropriate tools when adding and subtracting.(MP5)<br>• I can use partial sums to add numbers within 1000.(MP7)<br>• I can explain my reasoning using math vocabulary. (MP6)<br>• I can use mental math to add.<br>• I can use the standard algorithm to subtract numbers within 1000.(MP7)<br>• I can use mental math to subtract.<br>• I can use the relationship between inverse operations to problem solve.(MP2)<br>• I can estimate in the real world using mathematical equations.(MP4)<br>• I can calculate accurately and efficiently and use clear and concise notation to record my work.(MP6)<br>• I know what it means to regroup.<br>• I can discover and apply the rule of the commutative property (number talks).<br>• I can discover and apply the rule of the identity property. (number talks)<br>• I can discover and apply the rule of the associative property. (number talks)<br>• I can use addition and subtraction properties in new situations. (MP7) | |
| **Common Misconceptions** | • Students may mix up digit placement when using partial products or standard algorithm resulting in incorrect solutions. | |
| **Meeting the Standard<br>3** | **Approaching the Standard<br>2** | **Beginning to Learn<br>1** |
| Student can independently add and subtract numbers up to 1000 using a variety of strategies as well as mental math to come up with solutions. Student can share their thought process with others to justify their solution. | Student can add and subtract numbers up to 1000 while sometimes making errors in place value placement or mental math computations. Student can explain their process or their thinking but may still arrive at the wrong solution. | Student struggles to add and subtract larger numbers and consistently struggles to use given strategies for finding solutions. |
| **Next Level** | • Fluently add and subtract multi-digit whole numbers up to 1,000,000 using the standard | |

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| | algorithm.<br>● Generate a number pattern that follows a given rule such as add 3 starting at 1. Recognize patterns created within these sequences. |

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| **Priority Standard** | 3.RA.D.10 Interpret the reasonableness of answers using mental computations and estimation strategies including rounding.<br>**Report Card**: **Interpret the reasonableness of answers** | |
| **Learning Targets** | • I can round to the nearest 10 and 100.<br>• I can choose appropriate tools to round to the nearest 10 and 100.(MP5)<br>• I know the value of a digit in the ones, tens, hundreds, and thousands place.<br>• I can use number sense to determine if an answer is reasonable<br>• I can estimate in the real world. (MP2/MP4)<br>• I can construct an argument explaining why rounding to the nearest ten or hundred would make sense. (MP3) | |
| **Common Misconceptions** | • Round to the nearest 10 instead of the nearest 100, or vice versa<br>• Confuse the meaning of least and greatest<br>• Look at the wrong digit when determining whether to round up or round down<br>• Mistakenly round twice: first to the tens place, and then to the hundreds place<br>• Does not understand landmark or friendly numbers to estimate a solution | |
| **Meeting the Standard**<br>**3** | **Approaching the Standard**<br>**2** | **Beginning to Learn**<br>**1** |
| Student can apply their place-value knowledge, number sense, and rounding to determine if an answer is reasonable | Student can apply their place-value knowledge , number sense, and rounding skill with moderate accuracy to find the reasonableness of a solution. | Student lacks place-value knowledge and and number sense to find the reasonableness of a solution. Student may not be able to identify landmark numbers or count by 10 or 100 and may struggle to use number lines or hundreds charts as appropriate tools. |
| **Next Level** | • Applies the place value knowledge or number sense to the powers of ten. | |

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| **Priority Standard** | 3.RA.C.7 Multiply and divide with numbers and results within 100 using strategies such as the relationship between multiplication and division or properties of operations. Know all products of two one - digit numbers. .<br>**Report Card: Multiplies and divides within 100 using a variety of strategies** | |
| **Learning Targets** | • I can recognize patterns to be a more efficient mathematician and create a shortcut/algorithm. (MP8)<br>• I can use multiple strategies (counting all, counting on, composing and decomposing numbers using properties, creating and easier problem, etc) to solve a problem. (MP1) | |
| **Common Misconceptions** | • Do not recognize equal group problem situations<br>• Do not understand how to group factors in a different way<br>• Break apart a factor into two lesser numbers, but don't understand how to use these lesser numbers to make multiplication easier<br>• Incorrectly apply the distributive property by adding or multiplying all of the numbers or only distributing to the first number inside the parentheses<br>• Do not understand the relationship between multiplication and division<br>• Do not understand division as repeated subtraction | |
| **Meeting the Standard**<br>**3** | **Approaching the Standard**<br>**2** | **Beginning to Learn**<br>**1** |
| Student flexibly multiplies and divides numbers within 100 with high accuracy and can explain that the operations are the reverse operation of each other using a variety of methods to demonstrate understanding including verbal explanations, property rules, counting on, counting all, equal groups, skip counting, decomposing, repeated addition, repeated subtraction, arrays, manipulatives, equations, and/or symbols. | Student multiplies and divides numbers within 100 with moderate accuracy and can only use one or two methods to demonstrate understanding and may or may not be able to explain that multiplication and division are inverse operations of the other. | Student multiplies and divides numbers within 100 inconsistently and is unable to describe the properties of operations or use a variety of strategies to solve. |
| **Next Level** | • Fluently multiplies and divides using mental strategies efficiently<br>• Use strategies to multiply factors up to 12 | |

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| **Priority Standard** | 3.GM.C.13&14 Find rectangular arrangements that can be formed for a given area (e.g., an area of 12 sq. cm can be shown as a 3 x 4 rectangle, a 2 x 6 rectangle or a 1 x 12 rectangle); Decompose a rectangle into smaller rectangles to find the area of the original rectangle (Note: This is an application of the distributive property.) (e.g., a 16 x 5 rectangle could be divided into a 10 x 5 rectangle and a 6 x 5 rectangle) The area of the original rectangle can be found by adding 50 + 30..<br>**Report Card: Multiplies or adds to find area** | | |
| **Learning Targets** | • I can find the area of a rectangle by tiling it.<br>• I can discover the formula for finding the area of a rectangle through exploration and experiences.(MP7, MP8)<br>• I can identify side lengths of a rectangle to find perimeter and area<br>• I can flexibly use multiplication and addition to solve area problems (adding unit squares, skip counting, multiplying length and width, distributive property, commutative property).<br>• I can use the identified pattern and structure to solve new area of rectangle problems (multiplying the side lengths: l x w). (MP7)<br>• I know that area is conserved even if the shape is rotated.<br>• I can explain a real life scenario using an area formula.(MP4)<br>• I can use a variety of tools to model the distributive property of multiplication to find area (graph paper, tiles, area model). (MP7)<br>• I can communicate why the distributive property can help solve for the area of a composite figure. (MP8)<br>• I can decompose composite figures into rectangles to find the area of the whole.<br>• I can construct an argument explaining my strategy to solve a real world problem. (MP3) | | |
| **Common Misconceptions** | • Find the length of a side instead of the area of a shape<br>• Miscount the number of square units in a shape or miscount rows or squares in a row<br>• Add sides of lengths instead of multiplying | | |
| **Meeting the Standard (3)** | **Approaching the Standard (2)** | **Beginning to Learn (1)** | |
| Student uses their understanding of the multiplicative relationship between a rectangle's length and width and its area. Student applies the understanding of decomposing a rectangle or composite figure into rows and columns of the same sized square units to find the total number of square units to find the area. Student finds the area by multiplying the length times the width and | Student finds area with moderate accuracy and can only use one method. Has difficulty decomposing composite shapes to find area. Student has a limited understanding of square units and how to label area correctly in square units, centimeters, feet, etc. | Student has a limited understanding of area as the space inside a two-dimensional figure and inconsistently uses multiplication to find area. Student may try tiling to find area but misdraws the array or micounts the squares. Student inconsistently labels the area in square units, centimeters, feet, etc. | |

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| uses correct label. | | |
| **Next Level** | Use models to develop and understand the area formula | |

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| **Priority Standard** | 3.RA.D.9 Write and solve two-step problems involving variables using any of the four operations. Represent these problems using equations with a letter standing for the unknown quantity<br>**Report Card: Solves two-step word problems using the four operations** | |
| **Learning Targets** | • I can solve two-step word problems using the four operations.<br>• I can explain the meaning of a problem and look for ways to solve it. (MP1)<br>• I can represent a problem using an equation with a letter for the unknown.<br>• I can check my work using physical models, pictures, diagrams, equations, verbal descriptions, tables, or graphs to see if it's reasonable. (MP1)<br>• I can listen to others and critique their strategies. (MP3)<br>• I can solve addition and subtraction word problems (add to, take away, put together, take apart, compare) with unknowns in all positions.<br>• I can solve equal group word problems using drawings and equations with a symbol for the unknown number to represent the problem. (MP1)<br>• I can solve array word problems using drawings and equations with a symbol for the unknown number to represent the problem. (MP1)<br>• I can solve area word problems using drawings and equations with a symbol for the unknown number to represent the problem. (MP1)<br>• I can assess the reasonableness of answers using mental computation and estimation | |
| **Common Misconceptions** | • Perform only one step or do not recognize there are two steps<br>• Identify the one or both operations needed to solve the problem incorrectly | |
| **Meeting the Standard**<br>**3** | **Approaching the Standard**<br>**2** | **Beginning to Learn**<br>**1** |
| Student models and solves two-step word problems involving all four operations within a variety of problem types (add to, take away from, put together, take apart and compare, equal groups and arrays), and with the unknown located at different spots in the equation. Student will use drawings, diagrams, words, and equations to represent situations in word problems. Student can explain multiple ways to solve the problem and assess the reasonableness of answers. | Student solves two-step word problems with moderate accuracy. Student may complete only part of a problem or be unable to explain their strategy or make sense of the answer. Student may be proficient at one or two types of problems and need support with the more complex problem types. | Student solves two-step word problems inconsistently and is unable to determine the needed operations, or make sense of the answer. |
| **Next Level** | Model and solve multi-step word problems involving all four operations | |

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| **Priority Standard** | 3.RA.C.8 Demonstrates fluency with products within 100.<br>While automaticity for basic facts is desired, quick use of mental strategies may suffice. (Fluency refers to accuracy, flexibility, and efficiency and does not equate to memorization.).<br>**Report Card: Multiplies within 100 fluently** | |
| **Learning Targets** | • I can notice the generalization to be a more efficient mathematician and create a shortcut/algorithm. (MP8)<br>• I can use multiple strategies (counting all, counting on, composing and decomposing numbers using properties, creating and easier problem, etc) to solve a problem. (MP1)<br>• I can fluently multiply basic facts within 100. (fluently means accurate, efficient and flexible) (MP6) | |
| **Common Misconceptions** | • Do not recognize equal group problem situations<br>• Do not understand how to group factors in a different way<br>• Break apart a factor into two lesser numbers, but don't understand how to use these lesser numbers to make multiplication easier<br>• Incorrectly apply the distributive property by adding or multiplying all of the numbers or only distributing to the first number inside the parentheses<br>• Do not understand the relationship between multiplication and division | |
| **Meeting the Standard<br>3** | **Approaching the Standard<br>2** | **Beginning to Learn<br>1** |
| Student fluently multiplies numbers within 100 with high accuracy using a variety of strategies including property rules, mental skip counting, mental decomposition of numbers, etc. | Student multiplies numbers within 100 with moderate accuracy sometimes efficient math strategies and sometimes needing tools (manipulatives, drawing arrays, etc.). | Student multiplies numbers within 100 inconsistently with or without tools or consistently uses tools to multiply accurately. |
| **Next Level** | • Multiply 1 digit and 2 digit numbers using a variety of strategies<br>• Apply powers of 10 to basic facts | |

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| **Priority Standard** | 3.NF.A.1 Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts. (For example, ¼ [1 fourth] represents 1 of the 4 equal parts or ¼ of the whole.)<br>**Report Card: Understands fractions as part of a whole** | |
| **Learning Targets** | • I can partition a whole into equal parts using a model (region/area model, visual model, set model). (MP5)<br>• I know the denominator represents the number of equal parts that make up the whole. (MP6)<br>• I know the numerator represents the count of the number of equal parts of the whole (ex. ¾ means that there are 3 one fourths). (MP6)<br>• I know that a unit fraction is formed by one of the equal parts of the whole.<br>• I know a fraction is made up of combined unit fractions. (⅗ = ⅕ + ⅕ +⅕ ) (MP6)<br>• I know that the size of the fractional parts is relative to the size of the whole.<br>• I can write a fraction to represent a set model. | |
| **Common Misconceptions** | • Confuse the number of lines inside a model with the number of parts inside the model<br>• Think that any two models showing the same number of shaded (or unshaded) parts show equivalent fractions even if the sizes are not the same<br>• Confuse the numerator and denominator when writing fractions | |
| **Meeting the Standard<br>3** | **Approaching the Standard<br>2** | **Beginning to Learn<br>1** |
| Student names fractions by the number of equal parts in the whole. Student identifies the denominator as the number of equal parts and the numerator as the number of parts being considered. Student identifies unit fractions using models and applies their understanding of unit fractions to understand greater fractions are built from unit fractions. | Student names fractions by the number of equal parts in the whole with moderate accuracy. Student may correctly write the fraction but is unable to explain where the numerator and denominator came from. Student may identify unit fractions but doesn't understand how many are needed to make a whole. | Student inconsistently names fractions by the number of equal parts in the whole Student may mix up the numerator and denominator and may be unable to identify the whole and partition it into equal parts or unit fractions. |
| **Next Level** | • Work with fractions greater than 1 and add and subtract fractions | |

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| **Priority Standard** | 3.NF.A.7 Explain why fraction comparisons are only valid when the two fractions refer to the same whole. (Students should record the results of the comparisons using <, > or = and justify the conclusions by using number lines, manipulative or drawings. (Limit to fractions with denominators 2, 3, 4, 6 and 8.)<br>**Report Card: Explain equivalence of fractions and compare fractions by reasoning about their size.** | |
| **Learning Targets** | • I know two fractions are equivalent if they are the same size or the same point on a number line.<br>• I can generate equivalent fractions.<br>• I can recognize equivalent fractions.<br>• I can justify why fractions are equivalent by using a visual model. (MP3)<br>• I know that a whole numbers can be represented as a fraction.<br>• I can express whole numbers as fractions.<br>• I can express fractions as whole numbers.<br>• I can recognize fractions that are equivalent to whole numbers.<br>• I know I can only compare fractions with the same size whole.<br>• I can justify my fraction comparison by using a visual model. (MP3)<br>• I know there are a variety of tools available to compare fractions. (MP5)<br>• I can discover patterns when exploring fractions. (MP7)<br>• I can develop rules for comparing fractions based on patterns. (MP8)<br>• I can compare fractions with like numerators by reasoning about their size (MP2)<br>• I can compare fractions with like denominators by reasoning about their size. (MP2)<br>• I can use symbols to compare fractions. (MP6)<br>• I can make a plan to compare fractions using a picture or concrete objects. (MP1) | |
| **Common Misconceptions** | • A larger digit in the denominator means the fractional piece is larger<br>• Mixing up <, > symbols | |
| **Meeting the Standard<br>3** | **Approaching the Standard<br>2** | **Beginning to Learn<br>1** |
| Student consistently is able to generate and recognize equivalent fractions using a given strategy. Student is also able to give reasoning to describe fractions as greater than, less than, or equal to other fractions with common numerators or denominators. | Student can generate and recognize equivalent fractions but may not be consistent. Student may struggle to compare fractions using incorrect reasoning about the size of the numerator, denominator, or placement on a number line. | Student struggles to identify equivalent fractions and is unable to reason about the size of fractions compared to other fractions. |
| **Next Level** | • Explain why a fraction $a/b$ is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual | |

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| | fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.<br>● Compare two fractions with different numerators and different denominators<br>● Recognize that comparisons are valid only when the two fractions refer to the same whole. |

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| **Priority Standard** | 3.GM.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories<br>**Report Card: Understands properties of shapes** | |
| **Learning Targets** | • I know that there are various shapes that can be described by attributes such as sides and angles.<br>• I can compare shapes using attributes such as sides and angles. (MP3)<br>• I can recognize rhombuses, rectangles, squares, and irregular shapes as quadrilaterals. (MP7)<br>• I can draw shapes with prespecified attributes, without making a prior assumptions regarding their classification.(MP1) (ex. draw quadrilaterals that are not rhombuses, rectangles, or squares.)<br>• I can justify my classification of a polygon (MP3). | |
| **Common Misconceptions** | • Consider only some of the given attributes or assume attributes not given when determining if a shape belongs to a category or when labeling or filling a venn diagram.<br>• Determine a shape has a given attribute incorrectly or do not recognize that a shape has a given attribute.<br>• Do not differentiate between all, some, at least one, and opposite.<br>• Think a quadrilateral must belong to exactly one category.<br>• Think symmetry implies that a quadrilateral has two pairs of parallel sides and/or two pairs of equal-length sides. | |
| **Meeting the Standard<br>3** | **Approaching the Standard<br>2** | **Beginning to Learn<br>1** |
| Student identifies, compares, and classifies two-dimensional shapes and groups them by their attributes. Student identifies and draws shapes that belong and don't belong to a particular group. | Student identifies, compares, and classifies two-dimensional shapes with moderate accuracy. Student identifies and draws some shapes that belong and don't belong to a particular group. | Student inconsistently identifies compares, and classifies two-dimensional shapes by attributes. Student may not account for adjectives that add specifics to attributes and may not understand that a shape can have more than one name. Student identifies and draws only a few shapes. |
| **Next Level** | • Classify shapes according to the presence or absence of parallel and perpendicular sides and angles of a specified size. | |

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| **Priority Standard** | 3.GM.D.15 Solve problems involving perimeters of polygons. (The student is to solve problems involving perimeters of polygons including finding the perimeter when given side lengths and finding missing side lengths when given the perimeter.<br>**Report Card: Understands concepts of perimeter.** | |
| **Learning Targets** | • I can identify side lengths of a rectangle to find perimeter<br>• I can decompose composite figures into rectangles to find the perimeterof the whole.<br>• I can construct an argument explaining my strategy to solve a real world problem. (MP3) | |
| **Common Misconceptions** | • Does not include all side of shape to find perimeter.<br>• Add sides of lengths instead of multiplying | |
| **Meeting the Standard (3)** | **Approaching the Standard (2)** | **Beginning to Learn (1)** |
| Student uses their knowledge of shapes to determine the perimeter of a shape. Student applies the understanding of decomposing a rectangle or composite figure to find all the side lengths in determining its perimeter. | Student may forget some attributes of figures in determining how many side lengths to add in finding perimeter. Students may also inconsistently apply the understanding of decomposing a rectangle or composite figure to find all the side lengths in determining its perimeter. | Student has a limited understanding of perimeter or may not know the attributes of polygons to find perimeter of different figures. |
| **Next Level** | • Applies the formula of Perimeter | |