Targets for Spiraling, Rationale, Structure - The MATH Edition

**Kindergarten**

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| --- | --- | --- |
| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested** **Intervention** |
| **Counting and Cardinality (CC)** * Know number names and the count sequence.
* Count to tell the number of objects.
* Compare numbers.
 |  |  |
| **Operations and Algebraic Thinking (OA)** * Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Work with numbers 11-19 to gain foundations for place value
 |  |  |
| **Measurement and Data (MD)** * Describe and compare measureable attributes
* Classify objects and count the number of objects in categories
 |  |  |
| **Geometry (G)*** Identify and describe shapes
* Analyze, compare, create and compose shapes
 |  |  |

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**Grade 1**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Operations and Cardinality (OA)** * Represent and solve problems involving addition and subtraction.
* Understand and apply properties of operations and the relationship between addition and subtraction.
* Add and subtract within 20.
* Work with addition and subtraction equations.
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Work with numbers 11-19 to gain foundations for place value.
* Understand place value.
* Use place value understanding and properties to add and subtract.
 |  |  |
| **Measurement and Data (MD)** * Measure lengths indirectly and by iterating length units.
 |  |  |
| **Measurement and Data (MD)*** Tell and write time.
* Represent and interpret data.
 |  |  |
| **Geometry (G)*** Reason with shapes and their attributes.
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**Grade 2**

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| --- | --- | --- |
| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention)** |
| **Operations and Algebraic Thinking (OA)** * Represent and solve problems involving addition and subtraction.
* Add and subtract within 20.
 |  |  |
| **Operations and Algebraic Thinking (OA)** * Work with equal groups of objects to gain foundations for multiplication.
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Understand place value.
* Use place value understanding and properties to add and subtract.
 |  |  |
| **Measurement and Data (MD)** * Measure and estimate lengths in standard units.
* Relate addition and subtraction to length.
 |  |  |
| **Measurement and Data (MD)*** Work with time and money.
* Represent and interpret data.
 |  |  |
| **Geometry (G)*** Reason with shapes and attributes.
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**Grade 3**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Operations and Algebraic Thinking (OA)** * Represent and solve problems involving multiplication and division
* Understand properties of multiplication and the relationship between multiplication and division.
* Multiply and divide within 100.
* Solve problems involving the four operations, and identify and explain patterns in arithmetic.
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Use place value understanding and properties of operations to perform multi-digit arithmetic
 |  |  |
| **Numbers and Operations - Fractions (NF)*** Develop understanding of fractions as numbers.
 |  |  |
| **Measurement and Data (MD)** * Solve problems involving measurement and estimation of intervals of time, liquid volumes and masses of objects
* Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
 |  |  |
| **Measurement and Data (MD)*** Represent and interpret data.
* Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures..
 |  |  |
| **Geometry (G)*** Reason with shapes and their attributes.
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**Grade 4**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Operations and Algebraic Thinking (OA)** * Use the four operations with whole numbers to solve problems.
 |  |  |
| **Operations and Algebraic Thinking (OA)** * Gain familiarity with factors and multiples.
* Generate and analyze patterns.
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Generalize place value understanding for multi-digit whole numbers.
* Use place value understanding and properties of operations to perform multi-digit arithmetic.
 |  |  |
| **Numbers and Operations - Fractions (NF)*** Extend understanding of fraction equivalence and ordering.
* Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
* Understand decimal notation for fractions, and compare decimal fractions.
 |  |  |
| **Measurement and Data (MD)** * Solve problems involving measurement and conversion of measurements from a larger unit to a small unit.
* Represent and interpret data.
* Geometric measurement: understand concepts of angle and measure angles.
 |  |  |
| **Geometry (G)*** Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
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**Grade 5**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Operations and Algebraic Thinking (OA)** * Write and interpret numerical expressions.
* Analyze patterns and relationships.
 |  |  |
| **Number and Operations in Base Ten (NBT)** * Understand the place value system.
* Perform operations with multi-digit whole numbers and with decimals to hundredths.
 |  |  |
| **Numbers and Operations - Fractions (NF)*** Use equivalent fractions as a strategy to add and subtract fractions.
* Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
 |  |  |
| **Measurement and Data (MD)** * Convert like measurement units within a given measurement system.
* Represent and interpret data.
 |  |  |
| **Measurement and Data (MD)*** Geometric measurement: understand concepts of volume and relate volume to multiplication and addition.
 |  |  |
| **Geometry (G)*** Graph points on the coordinate plane to solve real-world and mathematical problems.
* Classify two-dimensional figures into categories based on their properties.
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**Grade 6**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Ratio and Proportional Relationships (RP)*** Understand ratio concepts and use ratio reasoning to solve problems.
 |  |  |
| **The Number System (NS)*** Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
* Apply and extend previous understanding of numbers to the system of rational numbers.
 |  |  |
| **The Number System (NS)*** Compute fluently with multi-digit numbers and find common factors and multiples
 |  |  |
| **Expressions and Equations (EE)*** Apply and extend previous understandings of arithmetic to algebraic expressions.
* Reason about and solve one-variable equations and inequalities.
* Represent and analyze quantitative relationships between dependent and independent variables.
 |  |  |
| **Geometry (G)*** Solve real-world and mathematical problems involving area, surface area, and volume.
 |  |  |
| **Statistics and Probability (SP)*** Develop understanding of statistical variability.
* Summarize and describe distributions.
 |  |  |

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**Grade 7**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **Ratio and Proportional Relationships (RP)*** Analyze proportional relationships and use them to solve real-world and mathematical problems.
 |  |  |
| **The Number System (NS)*** Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
 |  |  |
| **Expressions and Equations (EE)*** Use properties of operations to generate equivalent expressions.
* Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
 |  |  |
| **Geometry (G)*** Draw, construct and describe geometrical figures and describe the relationships between them.
* Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
 |  |  |
| **Statistics and Probability (SP)*** Use random sampling to draw inferences about a population.
* Draw informal comparative inferences about two populations.
* Investigate chance processes and develop, use, and evaluate probability needs.
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**Grade 8**

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| **Cluster/Standard** | **What will be emphasized?*****Rationale for Spiraling*** | **Suggested****Intervention** |
| **The Number System (NS)*** Know that there are numbers that are not rational, and approximate them by rational numbers
 |  |  |
| **Expressions and Equations (EE)*** Work with radicals and integer exponents.
* Understand the connections between proportional relationships, lines, and linear equations.
* Analyze and solve linear equations and pairs of simultaneous linear equations.
 |  |  |
| **Functions (F)*** Define, evaluate, and compare functions.
* Use functions to model relationships between quantities.
 |  |  |
| **Geometry (G)*** Understand congruence and similarity using physical models, transparencies, or geometry software.
* Understand and apply the Pythagorean Theorem.
 |  |  |
| **Geometry (G)*** Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.
 |  |  |
| **Statistics and Probability (SP)*** Investigate patterns of association in bivariate data.
 |  |  |