

## Grade 5--First Nine Weeks

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GEO	NBT	NBT	NBT	NBT
Sorting and classifying 3D and 2D shapes	Place value & exponents - Whole number focus	Language & meaning of operations	Area model review/Introduction to standard algorithm	Number sense - Multiples Partial quotients foundation
7-10 days	5-7 days	5 days	7-10 days	7-10 days

### GEO (7-10 days)

#### Sorting and Classifying 3D and 2D shapes (M.5.25 & M.5.26)

<b>Conceptual Flow</b>	<ul style="list-style-type: none"> <li>Classroom Community and Norms</li> </ul>	<ul style="list-style-type: none"> <li>Build 3D Shapes</li> <li>Review 3D shape attributes and introduce terminology (faces, edges, vertices). Foundation for M.5.25 &amp; 26</li> </ul>	<ul style="list-style-type: none"> <li>Link 3D and 2D shapes (2D as “footprints”). Foundation for M.5.25 &amp; 26</li> <li>Link to nets. Extension of M.5.25 &amp; 26</li> </ul>	<ul style="list-style-type: none"> <li>Sort 2D shapes. Foundation for M.5.25 &amp; 26</li> <li>Define and describe attributes, including existences of parallel &amp; perpendicular lines, types of angles, etc. M.5.26</li> </ul>	<ul style="list-style-type: none"> <li>Create a web showing 2D shape categories and subcategories. M.5.25.</li> </ul>
<b>Essential Goals</b>	<ul style="list-style-type: none"> <li>Collecting and analyzing data</li> <li>Community building and establish routines (e.g., quick images, turn and talk).</li> <li>Risk-taking, defend their answers, and critique the reasoning of others.</li> <li>Build an “eye” for same &amp; different (comparing and contrasting).</li> <li>Review shape terminology and critical attributes (include parallel, perpendicular, acute, obtuse, right, etc.).</li> <li>Shapes are classified based on the existence or non-existence of certain attributes.</li> <li>Understand and describe requirements for membership in a category or subcategory for 2D and 3D shapes.</li> </ul>				
<b>Ongoing Ideas</b>	<ul style="list-style-type: none"> <li>Data Collection &amp; “Get to Know” / Community Building</li> <li>Establish key routines (e.g., Math mental warm-ups/review and preview key ideas; quick images)</li> </ul>				
<b>Daily Math Warm-Ups (Number Talk Style)</b>	<ul style="list-style-type: none"> <li>Human Line Plots</li> <li>Quick Draw/Quick Image</li> <li><a href="#">Grade 5 Math Resources</a></li> <li><a href="#">Red Think Tank Cards (2D &amp; 3D Shapes)</a></li> <li>Prepare for Number Talks, <i>Number Talks</i> (Gray Book) – pg. 16-31</li> </ul>				
<b>Activity suggestions</b>	<ul style="list-style-type: none"> <li><a href="#">Week of Inspirational Math</a></li> <li>Paper Folding Activity, <i>Mindset Mathematics</i> – pg. 17-22</li> </ul>	<ul style="list-style-type: none"> <li>Playdoh and bag builds – describe to a partner how to build without naming the shape. Neither should be able to see the shapes or partner’s work.</li> <li><a href="#">Shape Detectives</a></li> <li>Compare and Contrast- Based on Attributes</li> <li><a href="#">Interactive Shape Sorter</a></li> </ul>	<ul style="list-style-type: none"> <li>Impressions in playdoh -Draw and name shapes and their attributes.</li> <li><a href="#">Interactive Geoboard</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Shape cards sort</a></li> <li><b>My Math:</b> pages 903-908, 915-922, &amp; 923-928</li> <li><a href="#">What do these shapes have in common?</a></li> <li><a href="#">Always, Sometimes, Never</a></li> <li>Module 15, <i>Math in Practice</i> – pg. 282-285</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Mapping understandings of shape characteristics &amp; classifications.</a></li> <li><b>My Math:</b> pages 929-934</li> <li><a href="#">Hierarchy of Polygons</a></li> </ul>

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### NBT (5-7 days)

#### Place Value & Exponents

#### Whole Number Focus (M.5.4, M.5.5 & M.5.6)

<b>Conceptual Flow</b>	<ul style="list-style-type: none"> <li>Review and solidify place value (periods and patterns within periods). Foundation for M.5.6</li> </ul>	<ul style="list-style-type: none"> <li>Review and solidify--read and write multi-digit numbers. Foundation for M.5.6</li> <li>Review and solidify—compare and order multi-digit numbers. Foundation for M.5.6</li> </ul>	<ul style="list-style-type: none"> <li>Review and solidify relationship of places (e.g. 10 times greater and 1/10 as much). Whole number portion of M.5.4</li> </ul>	<ul style="list-style-type: none"> <li>Examine patterns in powers of 10. M.5.5</li> <li>Using exponents with powers of 10 M.5.5</li> <li>Use factor language to describe terms within powers of 10. M.5.5</li> <li>Relationship between the number of factors and exponents. M.5.5</li> </ul>	<ul style="list-style-type: none"> <li>Multiply whole numbers by powers of 10. M.5.5</li> <li>Explain the patterns of zeros when multiplying by powers of 10. M.5.5</li> </ul>
<b>Essential Goals</b>	<ul style="list-style-type: none"> <li>Patterns in place names.</li> <li>Relationship of places.</li> <li>Relationship between the number of factors and exponents.</li> <li>Relationship between the number of zeros and the powers of 10.</li> </ul>				
<b>Ongoing Ideas</b>	<ul style="list-style-type: none"> <li>Our base ten system will link to later work with metric measurement.</li> <li>There are multiple ways to represent mathematical ideas: use concrete models, pictorial, verbal, and symbolic representations.</li> <li>Risk taking is encouraged and valued.</li> </ul>				
<b>Daily Math Warm-Ups (Number Talk Style)</b>	<ul style="list-style-type: none"> <li>Mystery number—See High Yield Routines, pp. 13-20.</li> <li>Quick images—2D &amp; 3D shapes. Give 2 shapes and have students describe the ways in which they are the same and different.</li> <li>Quick images of mix of base 10 images.</li> <li><a href="#">Red Think Tank Cards (Whole # &amp; Exponents)</a></li> </ul>				
<b>Activity suggestions</b>	<ul style="list-style-type: none"> <li><a href="#">Place Value Chart (think-pair-share)</a></li> <li><b>My Math:</b> pages 11-16</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Digit Draw</a></li> <li><b>My Math:</b> pages 17-22</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Dice Game Make 100, 1000, 5000, etc. (Whole number focus) (Interactive Dice)</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Powers of 10 Phased Lesson</a></li> </ul>	<ul style="list-style-type: none"> <li><b>My Math:</b> pages 93-110</li> </ul>

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### NBT (5 days)

#### Language and meaning of operations (M.5.8, M.5.9, M.5.10, M.5.11, M.5.12, M.5.13, M.5.14, M.5.16 & M.5.17)

<b>Conceptual Flow</b>	<ul style="list-style-type: none"> <li>Review and solidify conceptual language for addition (put together, join, combine, and). Foundation for M.5.10-12</li> <li>Other terms associated with addition (sum, addend). Foundation for M.5.10-12</li> </ul>	<ul style="list-style-type: none"> <li>Language of multiplication (equal groups, equal rows, by, times as many). Foundation for M.5.8, 10, 14-16</li> <li>Other terms associated with multiplication (product, factor). Foundation for M.5.8, 10, 14-16</li> </ul>	<ul style="list-style-type: none"> <li>Language of subtraction (remove, take away, how many more than, how many fewer than, difference as a distance). Foundation for M.5.10-12</li> <li>Other terms associated with subtraction (difference, missing addend). Foundation for M.5.10-12.</li> </ul>	<ul style="list-style-type: none"> <li>Language of division (separated into equal groups, how many _____ are in _____?). Foundation for M.5.9-10, 13, 17.</li> <li>Other terms associated with division (quotient, missing factor, dividend, divisor). Foundation for M.5.9-10, 13, 17.</li> </ul>
<b>Essential Goals</b>	<ul style="list-style-type: none"> <li>Review and solidify the conceptual language associated with each of the operations.</li> <li>Build the language of word problems when students are reading symbols and computing.</li> <li>Connect the operations. (e.g., equal groups in multiplication is a special case of addition; removing equal groups in division is a special case of subtraction; subtraction is the inverse operation of addition; division is the inverse operation of multiplication.</li> <li>Represent whole number word problems by writing the appropriate equation and/or drawing the appropriate pictures.</li> <li>Students can create word problems that represent a given operation.</li> </ul>			
<b>Ongoing Ideas</b>	<ul style="list-style-type: none"> <li>Our base ten system is a positional system based on powers of 10. Can express place value in terms of powers of ten.</li> <li>Risk taking is encouraged and valued.</li> <li>Use models to represent the operations, connect the operations, and use multiple strategies to compute.</li> </ul>			
<b>Daily Math Warm-Ups (Number Talk Style)</b>	<ul style="list-style-type: none"> <li>I have _____. Who has _____? (Shapes, number, addition, subtraction, multiplication)</li> <li>Equivalency “charts” for a given number or money using hundreds, tens, and ones.</li> </ul>			
<b>Activity suggestions</b>	<ul style="list-style-type: none"> <li>Number Chart Addition, <i>Fundamentals</i>, Red Book - pg. 12</li> <li><a href="#">I have _____. Who has _____?</a> (Addition language)</li> </ul>	<ul style="list-style-type: none"> <li>Times Target, <i>Fundamentals</i>, Blue Book pg. 12</li> <li>I have _____. Who has _____? (Addition &amp; multiplication language)</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Class posters.</a></li> <li>I have _____. Who has _____? (Addition, multiplication, &amp; subtraction language).</li> <li>Prepare for Take Off, <i>Fundamentals</i>, Blue Book- pg. 36</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Brainstorm as a class using all operations.</a></li> <li><a href="#">Class posters</a></li> <li>I have _____. Who has _____? (All operations language)</li> <li>Does it Divide, <i>Fundamentals</i>, Blue Book – pg. 24</li> </ul>

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### NBT (7-10 days)

#### Area model review/Introduction of Standard Algorithm (M.5.8, M.5.10, M.5.14 & M.5.16)

<b>Conceptual Flow</b>	<ul style="list-style-type: none"> <li>Review &amp; solidify the connection between the area of rectangles and multiplication. Foundation for M.5.8, 10, 14, 16.</li> <li>Connect factors to the side lengths of the rectangles. Foundation for M.5.8, 10, 14, 16.</li> </ul>	<ul style="list-style-type: none"> <li>Review &amp; solidify—draw efficient pictures for double-digit by double-digit multiplication (without grid paper; using expanded form of the numbers). Foundation for M.5.8, 10, 14, 16.</li> </ul>	<ul style="list-style-type: none"> <li>Link the area model representation to the Distributive Property e.g., <math>24 \times 16 = 20 \times 10 + 20 \times 6 + 4 \times 10 + 4 \times 6</math> (the dimensions of each of the smaller rectangles within the larger rectangle. Foundation for M.5.10</li> </ul>	<ul style="list-style-type: none"> <li>Extend to double- by triple-digit multiplication and triple- by triple-digit multiplication. Foundation for M.5.10</li> <li>Use the standard multiplication algorithm as another option for multiplying multi-digit numbers. M.5.8</li> </ul>
<b>Essential Goals</b>	<ul style="list-style-type: none"> <li>Draw “efficient” pictures for area.</li> <li>Review and solidify the area representation for the Distributive Property.</li> <li>Conservation of area...Area is additive (A region can be divided into smaller pieces. The area can be found for each of the smaller sections and then combined to get the total area).</li> <li>Revisit terms such as factors. Connect factors to side-lengths of a rectangle.</li> </ul>			
<b>Ongoing Ideas</b>	<ul style="list-style-type: none"> <li>Use models to represent the operations, connect the operations, and use multiple strategies to compute.</li> <li>Computation strategies often represent algebraic properties (Commutative, Associative, and Distributive Properties).</li> </ul>			
<b>Daily Math Warm-Ups (Number Talk Style)</b>	<ul style="list-style-type: none"> <li>Quick images—rectilinear area.</li> <li>Risk taking is encouraged and valued.</li> <li><a href="#">Red Think Tank Cards (Area Model)</a></li> </ul>			
<b>Activity suggestions</b>	<ul style="list-style-type: none"> <li>Draw all the rectangles with a given area (e.g., 9, 12, 24).</li> <li><b>My Math:</b> pages 113-118</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Build, draw, describe... Solve double-digit problems using the area model.</a></li> <li>See <i>Creating Fraction &amp; Decimal AHAs</i>, Appendix B pg. 188-192</li> <li>Module 3, <i>Math in Practice</i>-pg. 66-74</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Four-part charts (24 x 16 sample).</a> Connect to the <a href="#">Distributive Property</a>.</li> <li><b>My Math:</b> pages 119-124</li> <li><a href="#">Interactive Partial Product Finder</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Four-part charts (132 x 56 sample).</a> Connect to the Distributive Property and Standard Algorithm.</li> </ul>

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### NBT (7-10 days)

#### Number Sense—Multiples

#### Partial quotients foundation (M.5.9)

<b>Conceptual Flow</b>	<ul style="list-style-type: none"> <li>Decompose numbers into given multiples (e.g., if working with multiples of 4, separate 64 into multiples of 4. 64 is 40 and 24 OR 60 and 4 OR 20 and 20 and 20 and 4. Foundation for M.5.9</li> </ul>	<ul style="list-style-type: none"> <li>Connect to dividing a rectangular area into smaller “areas”. e.g., 4 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="padding: 2px 10px;">40</td><td style="padding: 2px 10px;">24</td></tr></table> Foundation for M.5.9</li> </ul>	40	24	<ul style="list-style-type: none"> <li>Extend to other numbers and multiples of 4 (e.g., 424, 3216, 62—list as a remainder, remainders will be expressed as a fraction later in the year). Foundation for M.5.9</li> </ul>	<ul style="list-style-type: none"> <li>Extend to other numbers and change the “multiples of” number. Foundation for M.5.9</li> </ul>
40	24					
<b>Essential Goals</b>	<ul style="list-style-type: none"> <li>Understand that numbers can be decomposed in a variety of ways.</li> <li>Use the concept that area is additive and can be separated into smaller areas to find a missing side length.</li> <li>Be comfortable with working with multiples of a given number.</li> </ul>					
<b>Ongoing Ideas</b>	<ul style="list-style-type: none"> <li>Area is a measure of plane shapes in square units.</li> <li>Relative size and position of multi-digit whole numbers and ways to express (e.g., expanded form, number of tens and ones).</li> <li>Use models to represent the operations, connect the operations, and use multiple strategies to compute.</li> <li>Computation strategies often represent algebraic properties (Commutative, Associative, and Distributive Properties).</li> </ul>					
<b>Daily Math Warm-Ups (Number Talk Style)</b>	<ul style="list-style-type: none"> <li>“Skip count” by a given number saying, “One multiple of four is four. Two multiples of four is eight, etc.” Students take turns saying the next number.</li> <li>Draw a rectangle &amp; label the dimensions. Students find the area. Encourage a variety of approaches for finding the area.</li> <li>Draw a rectangle. Label one of the dimensions and give the area. Have students find the missing side length.</li> <li><a href="#">Red Think Tank Cards (Multiples/Partial Quotients)</a></li> <li>Division: Partial Quotient, <i>Number Talks</i> (Gray Book) – pg. 288-294</li> </ul>					
<b>Activity suggestions</b>	<ul style="list-style-type: none"> <li><a href="#">Division Phased Lesson</a></li> <li>Module 4, <i>Math in Practice</i> – pg. 84-90</li> </ul>		<ul style="list-style-type: none"> <li><a href="#">Division Dice</a></li> <li><i>My Math</i>: pages 157-168 &amp; 175-194</li> </ul>			