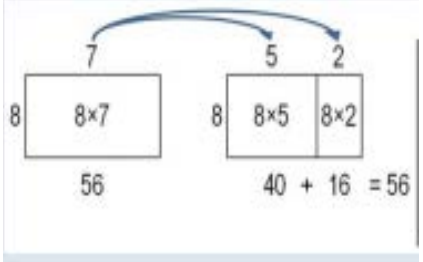
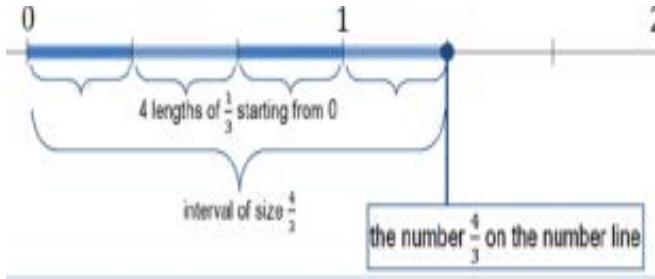
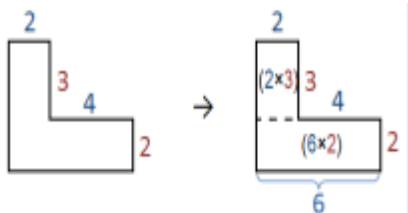


Grade 3 Math: Instructional Focus and Fluency

Transitioning to the NYS Next Generation Math Learning Standards for Grades K-8, Effective September 2022

Instructional Focus	Developmental Focus	Instructional Consideration (via Standards)
Develop understanding of multiplication and division and strategies for multiplication and division within 100 (whole numbers).	<p>► Equal-sized groups, arrays, and area models multiplication is finding an unknown product, and division is finding an unknown factor</p> <p>► If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication)</p> 	<p>NY-3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.</p> <p>NY-3.OA.5 Apply properties of operations as strategies to multiply and divide.</p> <p>NY-3.OA.8 Solve two-step word problems posed with whole numbers and having whole-number answers using the four operations.</p>
Develop understanding of fractions, especially unit fractions (fractions with numerator 1). <i>Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.</i>	<p>► Use fractions along with visual fraction models to represent parts of a whole</p> <p>► Represent numbers equal to, less than, and greater than one</p>	<p>NY-3.NF.1 Understand a unit fraction, $\frac{1}{b}$, is the quantity formed by 1 part when a whole is partitioned into b equal parts. Understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.</p>

<p><i>Develop understanding of fractions continued...</i></p>	<p>➤ Compare fractions-visual fraction models/strategies based on equal numerators or denominators</p>	<p>NY-3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line.</p>  <p>NY-3.NF.3 Explain equivalence of fractions and compare fractions by reasoning about their size.</p>
<p>Develop understanding of the structure of rectangular arrays and of area.</p>	<p>➤ Find the total number of same-size units of area required to cover the shape</p> <p>➤ Decompose rectangles into rectangular arrays of squares, connecting area to multiplication</p>	<p>NY-3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <p>NY-3.MD.6 Measure areas by counting unit squares.</p> <p>NY-3.MD.7 Relate area to the operations of multiplication and addition.</p> 

<p>Describe and analyze polygons based on the number of sides and vertices.</p>	<p>➤ <i>(POST-TEST)</i> Classify polygons by examining sides and vertices</p> <p>➤ Relate fraction work to geometry (i.e. area of part of a shape as a unit fraction of the whole)</p>	<p>NY-3.G.1 <i>(POST-TEST)</i> Recognize and classify polygons based on the number of sides and vertices (triangles, quadrilaterals, pentagons, and hexagons). Identify shapes that do not belong to one of the given subcategories.</p> <p>NY-3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.</p>
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Fluency	Fluency development	Fluency Standard
<p>Fluently solve single-digit multiplication and related divisions.</p>	<p>➤ Students use strategies such as the relationship between multiplication and division or properties of operations. <i>(procedural)</i></p> <p>➤ Example: use knowledge of $6 \times 7 = 42$ to understand $42 \div 6 = 7$</p>	<p>NY-3.OA.7a Fluently solve single-digit multiplication and related divisions, using strategies such as the relationship between multiplication and division or properties of operations.</p>
<p>Know from memory all products of two one-digit numbers.</p>	<p>➤ By the end of grade 3, students have sufficient experience with these strategies to know from memory (automaticity) all single-digit products.</p>	<p>NY-3.OA.7b Know from memory all products of two one-digit numbers.</p>
<p>Fluently <i>(procedural)</i> add and subtract within 1,000.</p>	<p>➤ Students use strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. A range of algorithms may be used. <i>(procedural)</i></p>	<p>NY-3.NBT.2 Fluently add and subtract within 1,000.</p>

Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies. Reaching fluency and knowing from memory (automaticity) of all single digit multiplication will take much of the year for many students. Fluently (procedural) adding and subtracting within 1,000 uses strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

(POST-TEST)* refers to standards content that is taught **after the NYS grade 3-8 assessment. This time typically occurs late April - June.