Mathematics Florida Standards (MAFS)
Grade 3

Domain: OPERATIONS AND ALGEBRAIC THINKING	
Cluster 1: Represent and solve problems involving multiplication and division. (Major Cluster) Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.	
STANDARD CODE	**STANDARD**
MAFS.3.OA.1.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.* *Cognitive Complexity:* Level 1: Recall
MAFS.3.OA.1.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.* *Cognitive Complexity:* Level 1: Recall
MAFS.3.OA.1.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.OA.1.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations* 8 × ? = 48, 5 = [] ÷ 3, 6 × 6 = ?. *Cognitive Complexity:* Level 1: Recall

Cluster 2: Understand properties of multiplication and the relationship between multiplication and division. (Major Cluster)

Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.

STANDARD CODE	STANDARD
MAFS.3.OA.2.5	Apply properties of operations as strategies to multiply and divide. *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)* *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.OA.2.6	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.* *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

Cluster 3: Multiply and divide within 100. (Major Cluster)

Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.

STANDARD CODE	STANDARD
MAFS.3.OA.3.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. *Cognitive Complexity:* Level 1: Recall

Cluster 4: Solve problems involving the four operations, and identify and explain patterns in arithmetic. (Major Cluster)

Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.

STANDARD CODE	STANDARD
MAFS.3.OA.4.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

MAFS.3.OA.4.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.* *Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning

Domain: NUMBER AND OPERATIONS IN BASE TEN	
Cluster 1: Use place value understanding and properties of operations to perform multi-digit arithmetic. (Additional Cluster) Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.	
STANDARD CODE	**STANDARD**
MAFS.3.NBT.1.1	Use place value understanding to round whole numbers to the nearest 10 or 100. *Cognitive Complexity:* Level 1: Recall
MAFS.3.NBT.1.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. *Cognitive Complexity:* Level 1: Recall
MAFS.3.NBT.1.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations. *Cognitive Complexity:* Level 1: Recall

Domain: NUMBER AND OPERATIONS–FRACTIONS	
Cluster 1: Develop understanding of fractions as numbers. (Major Cluster) Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.	
STANDARD CODE	**STANDARD**
MAFS.3.NF.1.1	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.NF.1.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval

	from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction *a/b* on a number line diagram by marking off *a* lengths *1/b* from 0. Recognize that the resulting interval has size *a/b* and that its endpoint locates the number *a/b* on the number line. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.NF.1.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. *Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning

Domain: MEASUREMENT AND DATA	
Cluster 1: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. (Major Cluster) Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.	
STANDARD CODE	**STANDARD**
MAFS.3.MD.1.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.MD.1.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

Cluster 2: Represent and interpret data. (Supporting Cluster)

Don't sort clusters from Major to Supporting, and then teach them in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.
Examples of Opportunities for In-Depth Focus

Continuous measurement quantities such as liquid volume, mass, and so on are an important context for fraction arithmetic (cf. 4.NF.2.4c, 5.NF.2.7c, 5.NF.2.3). In grade 3, students begin to get a feel for continuous measurement quantities and solve whole-number problems involving such quantities.

STANDARD CODE	STANDARD
MAFS.3.MD.2.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.* *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts
MAFS.3.MD.2.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

Cluster 3: Geometric measurement: understand concepts of area and relate area to multiplication and to addition. (Major Cluster)

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STANDARD CODE	STANDARD
MAFS.3.MD.3.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units. *Cognitive Complexity:* Level 1: Recall
MAFS.3.MD.3.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). *Cognitive Complexity:* Level 1: Recall
MAFS.3.MD.3.7	Relate area to the operations of multiplication and addition.

	a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. *Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning

Cluster 4: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. (Additional Cluster)

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STANDARD CODE	STANDARD
MAFS.3.MD.4.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

Domain: GEOMETRY

Cluster 1: Reason with shapes and their attributes. (Supporting Cluster)

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STANDARD CODE	STANDARD
MAFS.3.G.1.1	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. *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts

MAFS.3.G.1.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.* *Cognitive Complexity:* Level 1: Recall