

Grade 3 Key Concepts by LearnZillion Unit

Key Concepts for each unit can provide instructional guidance around the main focus for student learning and the depth of exploration and mastery toward a standard. The final focus for each standard is indicated with **black outline**. A **+** indicates the focus of this standard is isolated to a single unit.

Standards for Math Practice(MP.#) have been listed for each Key Concept. While the curriculum highlights opportunities to elevate these in learning, it is essential that these standards be embedded into student learning when they occur regardless of the few called out in this document. For more information on the Standards for Math Practice, please visit: [Illustrative Math](#)

A few questions teams have asked while using this document:

- Where does the standard occur before it is **finalized?**
- To what depth is the current unit calling for? (range of numbers, strategies, use of abstraction like equations, concept awareness and flexibility, etc.)
- What "I can" or "I know" statements would make the Key Concepts clear to my learning community?
- How does the standard progress over the year?

Key Concepts (Term 1)	Content Standards	Practice Standards
Unit 1 - Exploring equal groups as a foundation for multiplication and division		
1. Products of whole numbers can be interpreted as a number of groups of a number of objects.	3.OA.A.1	MP.2, MP.4, MP.7
2. Quotients of whole numbers can be interpreted as a number of shares (partitive or distribution division) and a number of groups (quotative or measurement division).	3.OA.A.1, 3.OA.A.2, 3.OA.C.7	MP.1, MP.4
3. We can use drawings and equations to represent and solve multiplication and division situational problems involving equal groups and arrays.	3.OA.A.3	MP.1
4. We can use strategies such as the relationship between multiplication and division or properties of operations to multiply and divide.	3.OA.C.7	MP.2, MP.4
Unit 2 - Developing conceptual understanding of area		
1. Area is an attribute of plane figures describing how much two-dimensional space is covered by the figure.	3.MD.C.5+, 3.MD.C.5.a+	MP.2
2. Square units or unit squares (that cover a figure without gaps) can be used to measure the area of a figure, which is said to be n square units.	3.MD.C.5+, 3.MD.C.5.a+, 3.MD.C.5.b+, 3.MD.C.6+	MP.2, MP.4, MP.6
3. We can find the area of a rectangle (with whole number length sides) by tiling it with unit squares or by multiplying the side lengths.	3.OA.B.5, 3.MD.C.5+, 3.MD.C.6+, 3.MD.C.7.a+	MP.1, MP.2, MP.4, MP.6
Unit 3 - Developing strategies for addition and subtraction		
1. Rounding is based on place value, and may be used to gauge the reasonableness of calculations or may be used in place of a specific calculation.	3.NBT.A.1+	MP.8
2. We can use place value understanding to add and subtract using a variety of strategies.	3.NBT.A.2	MP.6, MP.7, MP.8
3. Perimeter is the sum of lengths of the sides of a polygon.	3.MD.D.8	MP.5, MP.8

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Unit 4 - Understanding unit fractions		
1. Fractions are numbers that describe a quantity that results from the partition of a whole.	3.G.A.2, 3.NF.A.1	MP.3, MP.4, MP.6, MP.7
2. Just as whole numbers denote a collection of whole units, fractions denote a collection of unit fractions.	3.G.A.2, 3.NF.A.1	MP.3, MP.4, MP.6, MP.7
3. When a whole is partitioned into b equal sized pieces, each piece is 1/b of the whole. It takes b of these pieces to make the whole. When we take a of those pieces, the result is a/b.	3.NF.A.1, 3.NF.A.2, 3.NF.A.2a+	MP.4
4. Fractions live on the number line denoting a distance from 0, just as whole numbers do.	3.NF.A.2, 3.NF.A.2.b+	MP.3, MP.4
Unit 5 - Using fractions in measurement & data		
1. Measurements get more precise when we use parts of units. Length measurements can be partitioned into any size increments. (restricted to halves and quarters in grade 3)	3.MD.B.4+, 3.NF.A.2	MP.4, MP.5
2. The quantitative measurement object is invariant (a toothpick's length does not change, regardless of how we align it to a ruler; the weight of a book doesn't change if we put another object on the scale with it).	3.MD.B.4+	MP.6
3. Measures can be reported to the nearest whole inch, half inch, or quarter inch.	3.MD.B.4+, 3.NF.A.2	MP.2, MP.6
Unit 6 - Solving addition and subtraction problems involving measurement		
1. We can use representations such as a number line to solve situational problems involving addition and subtraction of time (in minutes).	3.MD.A.1+	MP.1, MP.4, MP.5
2. Representations and drawings can be used to solve one-step situational problems involving addition and subtraction of liquid volumes.	3.MD.A.2	MP.1, MP.4, MP.5
3. Representations and drawings can be used to solve one-step situational problems involving addition and subtraction of mass.	3.MD.A.2	MP.1, MP.4, MP.5
Standards in Progress...	Standards Finalized (in Maintenance)	Standards Not Yet Taught
<p>3.OA.A.1, 3.OA.A.2, 3.OA.A.3 - Develop understanding of multiplication as "groups of" and division as both sharing and partitioning. Begin to use drawings and tools to show multiplication and division situations with equal groups and arrays. Interpretation of products and quotients or us of symbols for the unknown is not expected at this time.</p> <p>3.OA.B.5 - Begin to explore commutative property of multiplication (if $6 \times 4 = 24$ then $4 \times 6 = 24$) but other properties will be explored term 2.</p> <p>3.OA.C.7 - Begin to use known multiplication facts to solve division</p> <p>3.NBT.A.2 - Leverages place value understanding to add and subtract within 1000</p> <p>3.MD.A.2 - Begins to use drawings to solve addition and subtraction only</p> <p>3.MD.D.8 - Understand the concept of perimeter but not necessary to relate area with perimeters</p>	<p>3.NBT.A.1</p> <p>3.NF.A.1</p> <p>3.NF.A.2</p> <p>3.MD.A.1</p> <p>3.MD.B.4</p> <p>3.MD.C.5</p> <p>3.MD.C.6</p> <p>3.MD.C.7.a</p> <p>3.G.A.2</p>	<p>3.OA.A.4</p> <p>3.OA.B.6</p> <p>3.OA.D.8</p> <p>3.OA.D.9</p> <p>3.NBT.A.3</p> <p>3.NF.A.3</p> <p>3.MD.B.3</p> <p>3.MD.C.7.bcd</p>

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Key Concepts (Term 2)	Content Standards	Practices Standards
Unit 7 - Understanding the relationship between multiplication and division		
1. Quotients of whole numbers can be interpreted as a number of shares (partitive or distribution division) and a number of groups (quotative or measurement division).	3.OA.A.1, 3.OA.A.2, 3.OA.A.3	MP.1, MP.7
2. We can use drawings and equations to represent and solve multiplication and division situational problems involving equal groups, arrays, and measurement quantities.	3.OA.A.2, 3.OA.A.3	MP.1, MP.7
3. We can use the inverse relationship between multiplication and division and properties of the operations can be applied to multiply within 100.	3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.B.6	MP.1, MP.7
Unit 8 - Investigating patterns in number and operations		
1. We can use our understanding of place value to multiply multiples of 10.	3.NBT.A.3	MP.3, MP.7
2. We can find patterns in the number system and explain them using properties of operations.	3.OA.D.8, 3.OA.D.9	MP.3, MP.7
3. Picture graphs and bar graphs can have scales other than 1.	3.MD.B.3	MP.3, MP.7
Unit 9 - Developing strategies for multiplication and division		
1. A given set of factors has the same product, regardless of the order in which the factors are written.	3.OA.B.5	MP.5, MP.7
2. The area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$.	3.OA.B.5, 3.MD.C.7.c+	MP.5, MP.7
3. We can decompose rectilinear figures because area is additive.	3.MD.C.7.d+	MP.8
Unit 10 - Understanding equivalent fractions		
1. Equivalent fractions have the same value. They name the same amount of area of the same whole and are in the same position on the number line.	3.NF.A.3.a+, 3.NF.A.3.b+	MP.4, MP.6
2. Whole numbers can be named as fractions, and naming whole numbers as fractions does not change their value.	3.NF.A.3.a+, 3.NF.A.3.b+, 3.NF.A.3.c+	MP.4, MP.6
3. We can name quantities in infinitely many ways.	3.NF.A.3.a+, 3.NF.A.3.b+, 3.NF.A.3.c+	MP.4, MP.6
Unit 11 - Comparing fractions		
1. There are three possible relationships between two numbers a and b that are based on the same whole: $a < b$, $a > b$, or $a = b$	3.NF.A.3.d+	MP.3, MP.4
2. Fractions based on the same whole with the same numerator, but different denominators, have the same number of pieces, but the size of the pieces is different.	3.NF.A.3.d+	MP.4, MP.5, MP.6
3. Fractions based on the same whole with the same denominator, but different numerators, have pieces that are the same size, but the number of the pieces is different.	3.NF.A.3.d+	MP.3, MP.4, MP.5, MP.8
Unit 12 - Solving problems involving area		
1. We can use the relationship between the three whole numbers in a multiplication and division equation to identify a missing number that makes the equation true.	3.OA.A.3, 3.OA.A.4	MP.2, MP.6

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2. We can use the properties of multiplication and the relationship between multiplication and division to solve equations with an unknown.	3.OA.B.5	MP.6
3. Area relates to multiplication and addition and that knowledge can be used to solve real world problems involving area.	3.OA.B.5, 3.MD.C.7.b+	MP.2, MP.8
Unit 13 - Solving problems involving shapes		
1. Perimeter is a linear attribute of plane figures telling the distance around the figure, and can be distinguished from area.	3.MD.D.8, 3.G.A.1+	MP.1, MP.3, MP.4, MP.7
2. Shapes in different categories (rhombuses, rectangles, etc.) may share attributes.	3.G.A.1+	MP.1, MP.3, MP.7
3. All rhombuses, rectangles and squares are examples of quadrilaterals, but not all quadrilaterals fit in those subcategories.	3.G.A.1+	MP.1, MP.7
Unit 14 - Using multiplication and division to solve measurement problems		
1. We can use multiplication to solve problems involving equal groups measurement quantities (including liquid volumes and masses of objects).	3.OA.A.3, 3.MD.A.2	MP.3, MP.4, MP.5, MP.7
2. We can use division to solve problems involving equal groups measurement quantities (including liquid volumes and masses of objects).	3.OA.A.3, 3.MD.A.2	MP.2, MP.5
3. The relationship between multiplication and division sometimes enables us to choose which operation to use; not all problems are either "multiplication problems" or "division problems".	3.OA.A.3, 3.MD.A.2	MP.1, MP.7
(optional) Unit 15 - Demonstrating computational fluency in problem solving		
1. We can use the relationship between addition and subtraction to add and subtraction within 1000.	3.NBT.A.2	MP.2
2. We can use the relationship between multiplication and division to multiply and divide within 1000.	3.OA.C.7	MP.8
3. We can represent unknown quantities in equations using letters.	3.OA.D.8	MP.2

* 3.OA.C.7 - Single-digit products and quotients (Products from memory by end of Grade 3): Fluency is built all year within lessons, during Number Talks and through game play. Since mental math (or memory) is the goal, students should be encouraged to use strategies like relating $\times 2$ to $\times 4$ and $\times 8$, $\times 10$ as double $\times 5$ or $\times 5$ as half of $\times 10$, $\times 3$ as $\times 2$ plus one more set, $\times 9$ as one less set than $\times 10$, etc.

** 3.NBT.A.2 - Add/subtract within 1000: Focus on leveraging place value and strategy for efficiency and flexibility for both addition and subtraction is key for this standard. Keep in mind, mastery of the traditional standard algorithm for addition and subtraction is required at the end of 4th grade.

KEY:

Color by Domain	NF	OA	CC	GEO	NBT	MD
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