

Boyd County Schools



Mathematics Curriculum Framework

Third Grade

UNIT 1: Numeration

Week 1	Week 2
Standards 3.NBT.1 – Use place value understanding to round whole numbers to the nearest 10 or 100.	
Learning Targets: <ul style="list-style-type: none">● I can use strategies for adding and subtracting within 1,000.● I can round a whole number to the nearest 10 and 100. <p>(The following I Can Statements are from a review of second grade standards to introduce numeration.)</p> <ul style="list-style-type: none">● I can write numbers in standard, written, and expanded form.● I can identify the place value of numbers in the ones, tens, hundreds, and thousands place.	
Vocabulary Rounding, Standard form, Place Value, Expanded Form	
Special Considerations: Students come into third grade with an understanding of place value from 2 nd grade.	
Resources: Number of the Day, Place Value Blocks Illustrative Math <ul style="list-style-type: none">● Rounding to 50 or 500● Rounding to the Nearest 100 and 1000● Rounding to the Nearest Ten and Hundred	
Assessments: End of Unit Assessment: Numeration KPREP Sample Questions	

Topic 2- Addition

Week 1	Week 2	Week 3
Standards 3.NBT.2 Fluently add within 1,000 using strategies and algorithms based on place value.		
Learning Targets <ul style="list-style-type: none">• I can use strategies for adding and subtracting within 1,000.• I can round a whole number to the nearest 10 and 1,000.		
Vocabulary Addend, Sum, Commutative Property of Addition, Associative Property of Addition, Identity Property of Addition, Estimation		
Special Considerations: Students should know basic addition strategies and should know how to make 10.		
Resources: Illustrative Math <ul style="list-style-type: none">• Classroom Supplies 3-Act Math <ul style="list-style-type: none">• The Water Boy		
Assessments End of unit assessment: Addition		

Topic 3- Subtraction

Week 1	Week 2	Week 3	Week 4 (Benchmark- Reteach based on needs identified on benchmark)
Standards 3.NBT.2 Fluently subtract within 1,000 using strategies and algorithms based on place value.			
Learning Targets <ul style="list-style-type: none">• I can use strategies for adding and subtracting within 1,000.• I can round a whole number to the nearest 10 and 1,000.			
Vocabulary- Difference, Regrouping,			
Special Considerations Students would have mastered addition and have an understanding of the relationship between addition and subtraction.			
Resources Illustrative Math <ul style="list-style-type: none">• Classroom Supplies 3-Act Math <ul style="list-style-type: none">• The Water Boy			
Assessments Unit Assessment: Subtraction			

Topic 4- Multiplication

Week 1	Week 2	Week 3	Week 4
Standards 3.OA.1 - Interpret products of whole numbers. 3.OA.3 - Use multiplication within 100 to solve word problems. 3.OA.4 - Determine the whole number in a multiplication equation. 3.OA.5 - Apply properties of operations of strategies to multiply. 3.OA.7 - Fluently multiply within 100 3.OA.8 - Solve 2 step word problems. 3.OA.9 - Identify arithmetic patterns in the multiplication table. 3.NBT.3 - Use strategies to multiply one-digit numbers by multiples of 10.			
Learning Targets <ul style="list-style-type: none">● I can use multiplication to figure out the total number of objects in an array or equal groups.● I can use multiplication and division to solve problems.● I can use the properties of multiplication and division to solve problems.● I can identify and explain patterns.● I can use strategies to multiply one-digit numbers by multiples of 10.● I can use strategies to decide if my answer is reasonable.● I can use strategies to multiply one-digit numbers by multiples of 10			
Vocabulary Factors, product, array, equal groups, repeated addition, Identity Property of Multiplication, Zero Property of Multiplication, Commutative Property of Multiplication, Associative Property of Multiplication, Distributive Property of Multiplication			
Special Considerations: Students will need to practice outside of school for memorization of facts.			
Resources Illustrative Math <ul style="list-style-type: none">● Analyzing Word Problems Involving Multiplication			

- [Classroom Supplies](#)
- [Gifts from Grandma, Variation 1](#)
- [Two Interpretations of Division](#)
- [Finding the unknown in a division equation](#)
- [Valid Equalities? \(Part 2\)](#)
- [Kiri's Multiplication Matching Game](#)
- [The Class Trip](#)
- [The Stamp Collection](#)
- [Addition Patterns](#)
- [Making a ten](#)
- [Patterns in the multiplication table](#)
- [Symmetry of the addition table](#)
- [How Many Colored Pencils?](#)

3-Act Math

- [Knotty Rope](#)

Achieve the Core

- [Multiplication and the Meaning of the Factors](#)

Assessments:

Unit Assessment Multiplication

Formative Assessment Lessons (FAL)

- [Grade 3: Multiplication](#)
- [Grade 3 Multiplication Distributive Property](#)

Topic 5- Division

Week 1	Week 2	Week 3	Week 4	Week 5 Benchmark- Reteach
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				based on benchmark data
Standards				
3.OA.2- Interpret whole number quotients of whole numbers. 3.OA.6- Understand division as an unknown factor problem.				
Learning Targets				
<ul style="list-style-type: none"> • I can divide to show how to share a set of objects equally. • I can use division to divide a set of objects into equal groups. • I can multiply and divide to solve word problems. • I can find a missing number in a multiplication or division problem. • I can use my understanding of multiplication to solve division problems. • I can multiply and divide within 100.I can use the four operations to solve two-step word problems where a variable is used to represent an unknown quantity. 				
Vocabulary				
Dividend, Divisor, Quotient, Remainder				
Special Considerations				
Students should have an understanding of the relationship between multiplication and division.				
Resources				
Illustrative Math				
<ul style="list-style-type: none"> • Fish Tanks • Markers in Boxes 				
Assessments				
Unit Assessment- Division				

Topic 6- Fractions

Week 1	Week 2	Week 3	Week 4
Standards			

3.G.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 areas, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.*

3.NF.1 Understand a fraction $\frac{1}{b}$ as 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 $\frac{1}{b}$

3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.

3.NF.2a Represent a fraction $\frac{1}{b}$ 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 $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.

3.NF.2b Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.

NF.3 Explain equivalence of fraction in special cases, and compare fractions by reasoning about their size.

3.NF.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

3.NF.3b Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual model.

3.NF.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form $\frac{3}{1}$; recognize that $\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram*

3.NF.3d 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 with the symbols $>$, $=$, or $<$, and justify the conclusion, e.g., by using a visual fraction model

Learning Targets

- I can recognize fractions as parts of a whole.
- I can understand the difference between numerators and denominators
- I can understand that fractions can be represented on a number line.
- I can represent a fraction on a number line from 0 to 1.
- I can divide a number line into equal parts in order to represent a fraction on a number line.
- I can compare fractions.
- I can understand what makes fractions equivalent.
- I can recognize and form simple equivalent fractions.

- I can express whole numbers as fractions.
- I can compare fractions that have the same numerator or the same denominator
- I can justify the comparisons.

Vocabulary

Fraction, numerator, denominator, equivalent, mixed number

Special Considerations

Students should have an understanding that fractions are equal parts of a whole.

Resources

Manipulatives - Fraction Strips, Fraction Circles, Number Lines

Illustrative Math

- [Halves, thirds, and sixths](#)
- [Naming the Whole for a Fraction](#)
- [Closest to \$1/2\$](#)
- [Find 1](#)
- [Find \$1/4\$ Starting from 1, Assessment Version](#)
- [Find 1 Starting from \$5/3\$, Assessment Variation](#)
- [Find \$2/3\$](#)
- [Find \$7/4\$ starting from 1, Assessment Variation](#)
- [Locating Fractions Greater than One on the Number Line](#)
- [Locating Fractions Less than One on the Number Line](#)
- [Which is Closer to 1?](#)
- [Comparing Fractions](#)
- [Comparing Fractions Game](#)
- [Ordering Fractions](#)
- [Snow Day](#)
- [Jon and Charlie's Run](#)
- [Halves, thirds, and sixths](#)
- [Comparing Fractions Game](#)
- [Comparing Fractions with a Different Whole](#)
- [Comparing Fractions with the Same Denominator, Assessment Variation](#)
- [Comparing Fractions with the Same Numerators, Assessment Variation](#)

- [Fraction Comparisons With Pictures, Assessment Variation](#)

Assessments

Unit Assessment- Fractions

[Fractions on a Number Line FAL](#)

[KPREP Sample Questions](#)

[KPREP short answer](#)

Topic 7: Measurement

Week 1	Week 2	Week 3	Week 4
<p>Standards</p> <p>3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).¹ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.²</p> <p>3.MD.4 Generate measurements 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.</p> <p>3.MD.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 problems on a number line diagram</p>			
<p>Learning Targets</p> <ul style="list-style-type: none"> • I can gather data in lengths of inches, half inches, and quarter inches. • I can measure volume and mass using customary and metric units. • I can solve volume and mass word problems. • I can tell and write time to the nearest minute and measure time intervals in minutes. • I can solve word problems involving addition and subtraction of time intervals in minutes 			
<p>Vocabulary</p> <p>Inches, grams, liters, kilograms, liquid volume, mass, horizontal axis</p>			
<p>Special Considerations</p>			

<p>Resources</p> <p>Illustrative Math</p> <ul style="list-style-type: none"> • Dajuana's Homework • How Heavy? <p>3-Act Math</p> <ul style="list-style-type: none"> • The Orange
<p>Assessments</p> <p>Unit Assessment: Fractions</p> <p>K-PREP Question</p>

Topic 8: Geometry

Week One	Week Two
<p>Standards</p> <p>3.G.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.</p>	
<p>Learning Targets</p> <ul style="list-style-type: none"> • I can understand that all shapes within a category share similar attributes. • I can identify and describe shapes based on their attributes 	
<p>Vocabulary- Quadrilaterals, parallel, right angles, rectangle, square, rhombus, trapezoid, parallelogram</p>	
<p>Special Considerations</p>	
<p>Resources</p>	

Assessments

Unit Assessment- Polygons

KDE Formative Assessments Lessons (FALS)

- [Attribute of Shapes FAL](#)

Topic 9 Area and Perimeter

Week 1	Week 2	Week 3	Week 4
Standards:			
3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.			
3.MD.5a A square with side length 1 unit, called “a unit square,” is to have “one square unit” of area, and can be used to measure area.			
3.MD.5b 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.			
3.MD.6 Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).			
3.MD.7 Relate area to the operations of multiplication and addition.			
3.MD.7a 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			
3.MD.7b 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.			
3.MD.7c Use tiling to showing a concrete case that the area of a rectangle with whole-number side lengths a and $(b+c)$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.			
3.MD.7d 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.			
3.MD.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			

Learning Targets

- I can understand area.
- I can use square units to measure area.
- I can find area by using square units laid side to side without gaps or overlaps.
- I can find areas by counting square units (customary and metric).
- I can use multiplication and addition to solve for area.
- I can find the area by multiplying the side lengths.
- I can solve problems involving areas of rectangles.
- I can find the area of a rectangle by using the distributive property of multiplication.
- I can find the area of a rectangular polygon by separating it into smaller rectangles and adding the areas.
- I can solve for the perimeters of polygons when given various pieces of information.

Vocabulary

Area, Perimeter, Polygon, Square Units, Distributive Property,

Special Considerations

Resources

Illustrative Math

- [Finding the Area of Polygons](#)
- [Halves, thirds, and sixths](#)
- [India's Bathroom Tiles](#)
- [Introducing the Distributive Property](#)
- [Three Hidden Rectangles](#)

3-Act Math

- [Paper Cut](#)
- [Piles of Tiles](#)
- [the Big Pad](#)

Assessments

Unit Assessment- Area and Perimeter

KDE Formative Assessments Lessons (FALS)

- [Multiplication Distributive Property FAL](#)

Topic 10 Data

Week 1	Week 2	Week 3	Week 4(Benchmark- Give benchmark and reteach based on data)
<p>Standards</p> <p>3.MD.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. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p> <p>3.MD.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.</p>			
<p>Learning Targets</p> <ul style="list-style-type: none">• I can create a scaled picture graph and a scaled bar graph with multiple categories.• I can analyze graphs to solve problems.• I can gather data in lengths of inches, half inches, and quarter inches.• I can show the data on a line plot.			
<p>Vocabulary</p> <p>Data, line plot, graph, picture graph, bar graph</p>			
<p>Special Considerations:</p>			
<p>Resources</p>			

Illustrative Math

- [Classroom Supplies](#)

Assessments

Unit Assessment- Graphing and Data

[Line Plot KPREP Sampler](#)

[KPREP Sample Question](#)