Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.G.1 Classify polygons by attributes. a. Recognize and classify polygons based on the number of sides and vertices (triangles, quadrilaterals, pentagons and hexagons). b. Recognize and classify quadrilaterals (rectangles, squares, parallelograms, rhombuses, trapezoids) by side lengths and understanding shapes in different categories may share attributes and the shared attributes can define a larger category. c. Identify shapes that do not belong to a given category or subcategory.
SMP	MP.7, MP.6,

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Classify
Polygon
Attributes
Sides
Vertices
Triangle
Quadrilateral
Pentagon
Hexagon
Rectangle
Square
Parallelogram
Rhombus
Trapezoid
Cube
Shape
Side lengths
Category

Subcategory
Angles
Sides
Faces
Two-dimensional shapes

2. Key Implementation Questions and Answers:

How can I reason with shapes and their attributes?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to classify polygons by attributes.

I am learning to explain what different types of quadrilaterals have in common and tell which attributes are important and which are not.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can identify and define rhombuses, rectangles, and squares as examples of quadrilaterals based on their attributes.

I will know that I learned it when I can describe, analyze, and compare properties of 2D shapes.

I will know that I learned it when I can compare and classify shapes by attributes, sides, and vertices.

I will know that I learned it when I can group shapes with shared attributes to define a larger category (quadrilaterals).

I will know that I learned it when I can draw examples of quadrilaterals that do and do not belong to any of the subcategories.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this to be able to categorize, problem solve, observe, and analyze objects in the real world (construction, art, engineering, architecture, computer imaging, animation, creating video games, mapping for astronomy and surveying, etc)

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
SMP	MP.2, MP.5

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Partition
Shapes
Equal
Area
Unit fraction
Part
Whole
Halves
Thirds
Fourths
Sixths
Eighths

2. Key Implementation Questions and Answers:

How can I reason with shapes and their attributes?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning partition shapes into parts with equal areas.

I am learning to state the area of each part as a unit fraction of the whole.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can show that shapes can be partitioned into equal areas.

I will know that I learned it when I can describe the area of each part as a fractional part of a whole.

I will know that I learned it when I can relate fractions to geometry by expressing the area of part of a shape as a unit fraction of the whole.

I will know that I learned it when I can partition shapes into halves, thirds, fourths, sixths, and eighths.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this to be able to categorize, problem solve, observe, and analyze objects in the real world (construction, art, engineering, architecture, computer imaging, animation, creating video games, mapping for astronomy and surveying, etc).

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
SMP	MP.2, MP.5

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Partition
Shapes
Equal
Area
Unit fraction
Part
Whole
Halves
Thirds
Fourths
Sixths
Eighths

2. Key Implementation Questions and Answers:

How can I reason with shapes and their attributes?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning partition shapes into parts with equal areas.

I am learning to state the area of each part as a unit fraction of the whole.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can show that shapes can be partitioned into equal areas.

I will know that I learned it when I can describe the area of each part as a fractional part of a whole.

I will know that I learned it when I can relate fractions to geometry by expressing the area of part of a shape as a unit fraction of the whole.

I will know that I learned it when I can partition shapes into halves, thirds, fourths, sixths, and eighths.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this to be able to categorize, problem solve, observe, and analyze objects in the real world (construction, art, engineering, architecture, computer imaging, animation, creating video games, mapping for astronomy and surveying, etc).

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.2 Measure and solve problems involving mass and liquid volume. a. Measure and estimate masses and liquid volumes of objects using standard units of grams (g), kilograms (kg) and liters (L). b. Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units
SMP	MP.6, MP.1

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Mass
Liquid volume
Length
Unit
Grams
Kilograms
Liters
Measure
Estimate
Unknown number
Addition
Subtraction
Multiplication
Division

2. Key Implementation Questions and Answers:

How can I measure and solve word problems involving mass and liquid volume?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***
I am learning to measure and estimate mass and liquid volume of objects. I am learning to solve word problems involving mass and volume.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know that I learned it when I can add, subtract, multiply, and divide to solve a one-step word problem involving mass, volume, and length that are given in the same units. I will know that I learned it when I can use drawings and equations with a symbol for the unknown number to represent a problem. I will know that I learned it when I can measure and estimate masses and liquid volumes of objects in grams (g), kilograms (kg), and liters (L). I will know that I learned it when I can weigh objects and fill containers to show my understanding of size and weight of a liter, gram, and kilogram.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I have a better understanding of measurement for new learning and for use in the real world (shopping, cooking, building, etc.).

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.3 Investigate questions involving categorical data. a. Identify a statistical question focused on categorical data and gather data; b. Create a scaled pictograph and a scaled bar graph to represent a data set (using technology or by hand); c. Make observations from the graph about the question posed, including "how many more" and "how many less" questions.
SMP	MP.3, MP.5, MP.6,

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Data
Categories
Statistics
Scale
Pictograph
Bar graph
Represent

2. Key Implementation Questions and Answers:

How can I investigate and answer questions using data?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to make sense of data related to a question.
I am learning to set up a graph to communicate data.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know I learned it when I can create pictographs and bar graphs to represent a data set with multiple categories. I will know I learned it when I can solve simple put together, take-apart, and compare problems using data in a bar graph or pictograph. I will know I learned it when I can choose a question of interest, gather data, and create a bar graph and pictograph (using technology or by hand). I will know I learned it when I can make observations from bar graphs and pictographs such as "how many more" or "how many less" questions.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can make sense of data in the real world and use it for decision-making.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.4 Investigate questions involving numerical data. a. Identify a statistical question focused on numerical data; b. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. c. Show the data by making a dot plot where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters. d. Make observations from the graph about the question posed, including questions about the shape of the data and compare responses
SMP	MP.3, MP.6, MP.1,

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Numerical data
Statistics
Measurement data
Length
Inch
Dot plot
Horizontal scale
Halves
Quarters
Whole numbers
Graph
Compare

2. Key Implementation Questions and Answers:

How can I investigate and answer questions using numerical data?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***
I am learning to make sense of data related to a question. I am learning to set up a graph to communicate data. I am learning to measure lengths using rulers.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know I learned it when I can choose a question of interest, gather data, and create a dot plot. I will know that I learned it when I can gather information from a statistical question, measure objects from the nearest whole number unit, and create a dot plot. I will know that I learned it when I can measure objects to the nearest ½ or ¼ of an inch. I will know that I learned it when I can analyze data collected on a dot plot.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can make sense of data in the real world and use it for decision-making.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.4 Investigate questions involving numerical data. a. Identify a statistical question focused on numerical data; b. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. c. Show the data by making a dot plot where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters. d. Make observations from the graph about the question posed, including questions about the shape of the data and compare responses
SMP	MP.3, MP.6, MP.1,

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Numerical data
Statistics
Measurement data
Length
Inch
Dot plot
Horizontal scale
Halves
Quarters
Whole numbers
Graph
Compare

2. Key Implementation Questions and Answers:

How can I investigate and answer questions using numerical data?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***
I am learning to make sense of data related to a question. I am learning to set up a graph to communicate data. I am learning to measure lengths using rulers.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know I learned it when I can choose a question of interest, gather data, and create a dot plot. I will know that I learned it when I can gather information from a statistical question, measure objects from the nearest whole number unit, and create a dot plot. I will know that I learned it when I can measure objects to the nearest ½ or ¼ of an inch. I will know that I learned it when I can analyze data collected on a dot plot.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can make sense of data in the real world and use it for decision-making.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft. and improvised units)
SMP	MP.5, MP.6,

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Area
Measurement
Partition
Row
Column
Unit square
Square units
Centimeter
Inch
Feet
Meter

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of area as measurement?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to measure area by counting unit squares.
I am learning to use unit squares of centimeters, meters, inches, feet, and other sizes of unit

squares to measure area.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can identify rows and columns.

I will know I learned it when I can partition a rectangle into rows and columns of same sized squares and count the total number.

I will know I learned it when I can measure area by counting unit squares.

I will know I learned it when I can use centimeters, meters, inches, feet, and other sizes of unit squares to label area measurement.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I have a better understanding of measurement for new learning.
I am learning this so I can apply area measurement in building, farming, architecture, science, and home decor.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.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 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 the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b d. Coherence KY.3.MD.7→KY.4.MD.3→ KY.5.MD.5 73 Standards Clarifications and a × c. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of figures that can be decomposed into non-overlapping rectangles by adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
SMP	MP.8, MP.1

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Area
Measurement
Multiplication
Product
Addition
Length
Width
Unit square
Square units
Centimeter
Inch
Feet

Meter
Tiling
Arrays
Area model
Distributive property
Decompose

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of area as measurement?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to relate area to multiplication and addition.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can find the area of a rectangle by tiling it in unit squares.

I will know that I learned it when I can find the side lengths of a rectangle in units.

I will know that I learned it when I can compare the area found by tiling a rectangle to the area found by multiplying the side lengths.

I will know that I learned it when I can multiply side lengths to find the areas of rectangles.

I will know that I learned it when I can solve real world and mathematical area problems by multiplying side lengths of rectangles.

I will know that I learned it when I can use rectangular arrays to represent whole number products in multiplication problems.

I will know that I learn it when I can multiply using the area model (arrays).

I will know that I learned it when I can explain the relationship of area of a rectangle to multiplication and addition by modeling the distributive property.

I will know that I learned it when I can add areas of rectangles.

I will know that I learned it when I can identify the areas of a rectangular figure can be added together to find the area of a figure.

I will know that I learned it when I can decompose rectangular figures to find the area to solve real world problems.

I will know that I learned it when I can break apart rectangular figures into separate non overlapping rectangles.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can apply area measurement in building, farming, architecture, science, and home decor.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.MD.8 Solve real world and mathematical problems involving perimeters of polygons. a. Find the perimeter given the side lengths of a polygon. b. Find an unknown side length, given the perimeter and some lengths. c. Draw rectangles with the same perimeter and different areas or with the same area and different perimeters.
SMP	MP.1, MP.4

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Polygon
Perimeter
Side lengths
Area
Rectangle
Addition
Sum
Length
Width
Multiplication
Product
Centimeter
Inch
Feet
Meters

2. Key Implementation Questions and Answers:

Logan County Schools Deconstructed Standards 3rd Grade Math

How can I recognize perimeter as an attribute of plane figures and distinguish between linear and area measures?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to solve real world and mathematical problems using the perimeter of polygons.

I am learning to recognize perimeter is a measure of length and see perimeters of polygons as a group of side lengths added together to form the perimeter.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can define a polygon.

I will know that I learned it when I can define the perimeter.

I will know that I learned it when I can find the perimeter when given the length of the sides.

I will know that I learned it when I can find the perimeter when there is an unknown side length.

I will know that I learned it when I can create rectangles with the same area and different perimeters.

I will know that I learned it when I can create rectangles with the same perimeter and different areas.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can apply perimeter measurement in building, farming, architecture, science, and home decor.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.
SMP	MP.7

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Round
Place value
Ones
Tens
Hundreds
Digit
Whole numbers

2. Key Implementation Questions and Answers:

How can I show place value understanding when I round whole numbers to the nearest 10 or 100?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to demonstrate my understanding of place value when I round whole numbers to the nearest 10 or 100.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common*

misconceptions. ***"I will know that I learned it when"***
I will know that I learned it when I show understanding that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. I will know that I learned it when I show my understanding of place value by recognizing that 10 tens is a group or unit called one hundred. I will know that I learned it when I can round whole numbers to the nearest 10. I will know that I learned it when I can round whole numbers to the nearest 100. I will know that I learned it when I can use a number line to show my understanding of rounding.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can determine the reasonableness of answers and problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NBT.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.
SMP	MP.2, MP.3

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Addition
Subtraction
Place value
Properties of operations (commutative and associative- conceptual understanding only, not responsible for formal language)
Algorithm

2. Key Implementation Questions and Answers:

How can I apply various properties to add and subtract within 1,000?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to apply various properties to add and subtract within 1,000.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common*

misconceptions. ***"I will know that I learned it when"***
I will know that I learned it when I can show the relationship between addition and subtraction. I will know that I learned it when I can choose the most efficient and appropriate strategy to add and subtract. I will know that I learned it when I can explain my approach for adding and subtracting I will know that I learned it when I can produce accurate answers to addition and subtraction equations. I will know that I learned it when I can apply the associative and commutative properties (conceptual understanding only, not responsible for formal language). I will know that I learned it when I can fluently add and subtract within 1,000.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this to apply mental strategies to efficiently solve real world addition and subtraction problems.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range of 10–90 using strategies based on place value and properties of operations
SMP	MP.7. MP.8

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiplication
Digit
Factors
Product
Multiples
Place value
Whole numbers
Properties of operations

2. Key Implementation Questions and Answers:

How can I multiply a one-digit number by multiples of ten (10-90)?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to multiply one-digit numbers by multiples of ten (10-90).

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common*

misconceptions. ***"I will know that I learned it when"***
I will know that I learned it when I show understanding that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. I will know that I learned it when I show my understanding of place value by recognizing that 10 tens is a group or unit called one hundred. I will know that I learned it when I can name and identify the associative, commutative, and distributive properties. I will know that I learned it when I can multiply within 100. I will know that I learned it when I can identify multiples of ten (10-90). I will know that I learned it when I can multiply a one-digit number by a multiple of ten (10-90).

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this to be able to apply mental strategies for solving problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NF.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 $1/b$.
SMP	MP.7, MP.2

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Fraction (halves, thirds, fourths, sixths, eighths)
Partition
Circles
Rectangles
Equal shares/parts
Whole
Quantity
Numerator
Denominator
Unit fractions

2. Key Implementation Questions and Answers:

How can I understand that a fraction is formed from the equal parts of a whole?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to demonstrate how to partition shapes into equal shares to model fractions.

I am learning to name equal shares as halves, thirds, fourths, sixths, and eighths.

I am learning to show understanding of what the numerator represents and what the denominator represents.

I am learning to name the unit fraction of a whole.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can partition circles and rectangles into two, three, four, six and eight equal shares.

I will know that I learned it when I can describe the shares using the words halves, thirds, fourths, sixths, and eighths.

I will know that I learned it when I can describe the whole as two halves, three thirds, four fourths, six sixths, and eight eighths.

I will know that I learned it when I can recognize that equal shares of identical wholes do not need to have the same shape.

I will know that I learned it when I understand that a fraction is a number (quantity formed by part of a whole).

I will know that I learned it when I can name parts of the whole.

I will know that I learned it when I can explain that a fraction is built out of unit fractions.

I will know that I learned it when I can describe the numerator and the denominator using pictures, numbers, and words (halves, thirds, fourths, sixths, and eighths).

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so that I have a better understanding of numbers for new learning and for use in the real world (shopping, cooking, building, measuring, etc.).

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line. a. Represent a fraction $1/b$ (unit fraction) on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. • Recognize each part has size $1/b$. • a unit fraction, $1/b$ is located $1/b$ of a whole unit from 0 on the number line. b. Represent a non-unit fraction a/b on a number line by marking off a lengths of $1/b$ (unit fractions) from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the non-unit fraction a/b on the number line.
SMP	MP.4

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Fraction (halves, thirds, fourths, sixths, eighths)
Partition
Circles
Rectangles
Equal shares/parts
Whole
Quantity
Numerator
Denominator
Unit fractions
Number line
Plot

2. Key Implementation Questions and Answers:

How can I show understanding that fractions are numbers that can be plotted on a number line?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to recognize fractions as numbers on a number line(halves, thirds, fourths, sixths, eighths) .

I am learning to plot and name fractions on a number line (halves, thirds, fourths, sixths, eighths) .

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can represent whole numbers as lengths on a number line.

I will know that I learned it when I understand a fraction as a number on the number line.

I will know that I learned it when I can represent unit fractions (1/b) on a number line by defining the interval from 0-1 as the whole and partitioning it into (b) equal parts (halves, thirds, fourths, sixths, eighths).

I will know that I learned it when I can represent non-unit fractions (a/b) on a number line by marking off 'a ' lengths of 1/b (unit fractions) from zero (halves, thirds, fourths, sixths, eighths).

I will know that I learned it when I can recognize that the endpoint locates non-unit fractions (a/b) on a number line (halves, thirds, fourths, sixths, eighths) .

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can measure precisely in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.NF.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 same point on a number line. b. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent through writing or drawing. c. Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. 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.
SMP	MP.2, MP.3

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Fraction (halves, thirds, fourths, sixths, eighths)
Partition
Circles
Rectangles
Equal shares/parts
Whole
Quantity
Numerator
Denominator
Unit fractions
Number line
Plot
Equivalence/equal
Compare

2. Key Implementation Questions and Answers:
How can I explain equivalent fractions and compare fractions?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***
I am learning to compare fractions. I am learning to name and make equivalent fractions.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know that I learned it when I understand two fractions are equal if they are the same size or same point on a number line. I will know that I learned it when I can recognize and make simple equivalent fractions (halves, thirds, fourths, sixths, eighths). I will know that I learned it when I can explain why two fractions are equal through writing or drawing. I will know that I learned it when I can express whole numbers as fractions. I will know that I learned it when I can recognize fractions that are equivalent to whole numbers. I will know that I learned it when I can compare two fractions with the same numerator or the same denominator by reasoning about their size if the wholes are the same. I will know that I learned it when I can compare fractions using symbols (>, <, =) and prove my thinking.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so that I have a better understanding of numbers for new learning and for use in the real world (cooking, mixtures, proportions, ratios, etc).

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.1 Interpret and demonstrate products of whole numbers.
SMP	MP.2, MP.5

Standard for Mathematical Practice (select and highlight)
1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of the structure 8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.
Multiplication Factors Product

2. Key Implementation Questions and Answers:
How can I demonstrate my understanding of multiplication?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***
I am learning to explain products of whole numbers. I am learning to demonstrate products of whole numbers.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know that I learned it when I can use models to show my understanding of multiplication (equal groups, arrays, tape diagrams, etc).

I will know that I learned it when I can find the product of multiple groups of objects.

I will know that I learned it when I can interpret products of whole numbers as a total number of objects in a number of groups.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can apply my understanding of multiplication to solve problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.2 Interpret and demonstrate whole-number quotients of whole numbers, where objects are partitioned into equal shares.
SMP	MP.2, MP.5

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Quotients
Divide
Partition
Equal shares

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of division?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to explain how to find the quotient in a division equation.

I am learning to demonstrate how to partition objects into equal shares to model division.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can divide whole numbers to find the quotient.

I will know that I learned it when I can partition objects into equal shares.

I will know that I learned it when I can show the relationship between multiplication and division.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can apply my understanding of division to solve problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays and measurement quantities, by using drawings and equations with a symbol for the unknown number to represent the problem
SMP	MP.1, MP.4

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiplication
Division
Product
Quotient
Factors
Equal groups
Arrays
Equations
Equal shares

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of multiplication and division to solve word problems?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to solve word problems using multiplication and division.

I am learning to represent a word problem using a model and an equation with a symbol for the unknown number.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can multiply and divide using equal groups, arrays and measurement quantities.

I will know that I learned it when I can use drawings and equations with a symbol for the unknown number to represent the problem.

I will know that I learned it when I can multiply and divide within 100.

I will know that I learned it when I can choose the correct operation when solving a word problem.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this so I can apply my understanding of multiplication and division to solve problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
SMP	MP.6, MP.7

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiplication
Division
Product
Quotient
Factors
Equal groups
Arrays
Equations
Equal shares

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of multiplication and division?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to determine which operation (multiplication, division) is needed to determine the unknown whole number.

I am learning to solve to find the unknown whole number in a multiplication or division equation.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***
I will know that I learned it when I can multiply and divide within 100. I will know that I learned it when I can show the relationship between multiplication and division. I will know that I learned it when I can determine which part of the equation is the unknown.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can apply my understanding of multiplication and division to solve problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.5 Apply properties of operations as strategies to multiply and divide.
SMP	MP.3, MP.4
Also See	

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiply
Divide
Factor
Quotient
Product
Commutative Properties
Associative Properties
Distributive Properties

2. Key Implementation Questions and Answers:

How can I apply various properties to multiply and divide?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to apply properties to multiply and divide.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics*

of strong and weak work related to the standard and/or element(s). Identify common misconceptions. ***"I will know that I learned it when"***
I will know that I learned it when I can name and identify the associative, commutative, and distributive properties. I will know that I learned it when I can show the relationship between multiplication and division. I will know that I learned it when I can multiply and divide within 100.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this to apply mental strategies to efficiently solve real world multiplication and division problems.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.6 Understand division as an unknown-factor problem.
SMP	MP.2

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiply
Divide
Factor
Quotient
Product
Unknown

2. Key Implementation Questions and Answers:

How can I use multiplication to solve division equations?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to identify the unknown factor in the related multiplication problem.

I am learning to solve division equations using multiplication.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can show the relationship between multiplication and division.

I will know that I learned it when I can multiply and divide within 100.

I will know that I learned it when I can identify the multiplication problem related to the division problem.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this to apply mental strategies to efficiently solve real world multiplication and division problems.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations.
SMP	MP.2, MP.8

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiplication
Division
Product
Quotient
Factors
Equations
Properties (commutative, distributive, associative)

2. Key Implementation Questions and Answers:

How can I use strategies to fluently multiply and divide?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to use strategies to fluently multiply and divide.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common*

misconceptions. ***"I will know that I learned it when"***
Strong Work
I will know that I learned it when I can choose the most efficient and appropriate strategy to multiply and divide. I will know that I learned it when I can explain my approach for multiplying and dividing. I will know that I learned it when I can produce accurate answers to multiplication and division equations.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***
I am learning this so I can efficiently and accurately solve multiplication and division problems in real world situations.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.8 Use various strategies to solve two-step word problems using the four operations (involving only whole numbers with whole number answers). 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.
SMP	MP.1, MP.4

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Multiplication
Division
Product
Quotient
Factors
Equal groups
Arrays
Equations
Equal shares

2. Key Implementation Questions and Answers:

How can I use various strategies to solve various word problems using the four operations.

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to solve two step word problems using the four operations.

I am learning to represent word problems using equations with a letter representing an unknown quantity.

I am learning to assess the reasonableness of my answers.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can add, subtract, multiply, and divide whole numbers.

I will know that I learned it when I can represent a problem using equations with an unknown quantity.

I will know that I learned it when I can use estimation and rounding strategies.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this in order to reasonably solve word problems in the real world.

Logan County Schools Deconstructed Standards 3rd Grade Math

Grade Level:	3
Standard	KY.3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.
SMP	MP.3, MP.8

Standard for Mathematical Practice (select and highlight)

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of the structure
8. Look for and express regularity in repeated reasoning

1. Critical vocabulary and questions as it relates to the standard.

Arithmetic patterns
Properties
Addition table
Multiplication table

2. Key Implementation Questions and Answers:

How can I demonstrate my understanding of arithmetic patterns using the properties of operations?

3. Develop "Learning Intention" statements. *Describe the standard and/or element(s) as statements of intended learning.* ***"I am learning"***

I am learning to use arithmetic patterns using the properties of operations.

4. Establish success criteria by identifying strong and weak work. *Identify the characteristics of strong and weak work related to the standard and/or element(s). Identify common misconceptions.* ***"I will know that I learned it when"***

I will know that I learned it when I can determine whether a group of objects has an odd or even number of members by demonstrating that a number can be broken apart by pairing objects to see

if there are leftovers (odd) or not (even).

I will know that I learned it when I can identify patterns in addition and multiplication tables.

I will know that I learned it when I can show understanding of the relationship between addition/subtraction and multiplication/division.

I will know that I learned it when I can apply properties of operations to identify patterns.

5. Ideas for Relevance (Authentic Work with a Connection to Real-World) ***"I am learning this because"***

I am learning this to have strategies for solving any mathematical operation in real world situations.