

**Fayette County Schools
Mathematics Learning Map**

5th Grade

1st Nine Weeks

Unit EQ	How do fractions and mixed numbers relate to decimals, percents, and ratios?		
Benchmark CSOs	M.O.5.1.5 – determine and apply greatest common factor and lowest common multiple to write equivalent fractions and to real-world problem situations.	M.O.5.1.6 - model and write equivalencies of fractions, decimals, percents, and ratios.	M.O.5.1.7 – analyze and solve application problems and justify reasonableness of solution in problems involving addition and subtraction of: <ul style="list-style-type: none"> • fractions and mixed numbers • decimals.
Standards Based Math Unit	<i>Name That Portion</i>		
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)		
21st Century Online Resources	I Can Statements		
Lesson EQ's	How can the greatest common factor and the lowest common multiple help you write equivalent fractions?	What is the relationship among fractions, decimals, percents, and ratios?	How can fractions, mixed numbers, and decimals help you solve problems?

Unit Vocabulary

Fractions	Numerator	Factor	Common denominator
Percents	Denominator	GCF	Ratio
Decimals	Mixed numbers	LCM	
Equivalent	Improper fraction	Simplest form	

**Fayette County Schools
Mathematics Learning Map**

5th Grade

1st Nine Weeks

Unit EQ	How can two-dimensional geometry be used for real life problem solving?					
Benchmark CSOs	M.O.5.3.1 - classify and compare triangles by sides and angles; measure the angles of a triangle using a protractor.	M.O.5.3.3 - create a design with more than one line of symmetry.	M.O.5.3.4 - construct a circle with a given radius or diameter.	M.O.5.3.5 - draw a similar figure using a scale, given a real-world situation.	M.O.5.4.2 - model, calculate and compare area of triangles and parallelograms using multiples strategies (including, but not limited to, formulas).	M.O.5.4.4 - describe the effects on the measurements of a two-dimensional shape (such as its perimeter and area) when the shape is changed in some way, justify changes.
Standards Based Math Unit	<i>Picturing Polygons</i>					
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)					
21st Century Online Resources	I Can Statements					
Lesson EQ's	How can triangles and angles be compared and classified?	What design can you create that will have more than one line of symmetry and why?	How can you construct a circle when given the radius or diameter?	Given a real world situation, how can you draw a similar figure using a scale?	What is the relationship between the area of triangles and parallelograms?	What is the relationship between perimeter and area?

Unit Vocabulary

Regular polygons
Irregular polygons
Right angle
Acute angle
Obtuse angle

Straight angle
Quadrilaterals
Parallelogram
Trapezoid
Rhombus

Symmetry
Similar
Triangle
Angle
Protractor

Circle
Radius
Diameter
Parallelogram
Congruent

Scale
Perimeter
Area

**Fayette County Schools
Mathematics Learning Map**

5th Grade

2nd Nine Weeks

Unit EQ	How do fractions and mixed numbers relate to decimals, percents, and ratios?	
Benchmark CSOs	M.O.5.3.2 - construct and analyze three-dimensional shapes using properties (i.e. edges, faces or vertices).	M.O.5.4.3 – develop strategies (i.e. finding number of same sized units of volume) to determine the volume of a rectangular prism; solve application problems involving estimating or measuring volume of rectangular prisms.
Standards Based Math Unit	<i>Containers & Cubes</i>	
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)	
21st Century Online Resources	I Can Statements	
Lesson EQ's	What is the relationship between the edges, faces, and vertices of three-dimensional objects?	How can you use volume to solve real world problems?

Unit Vocabulary

Edge

Vertices

Face

Volume

Three-dimensional

Rectangular prisms

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5th Grade

2nd Nine Weeks

Unit EQ	Why do we need customary and metric units of measurement and how are they converted?					
Benchmark CSO's	M.O.5.1.3 - estimate solutions to problems involving whole numbers, decimals, fractions, and percents to determine reasonableness using benchmarks.	M.O.5.4.1 - estimate, measure, compare, order and draw lengths of real objects in parts of an inch up to 1/8 of an inch and millimeters.	M.O.5.4.5 - solve real-world problems requiring conversions within a system of measurement.	M.O.5.4.6 - estimate and/or measure the weight/mass of real objects in ounces, pounds, grams, and kilograms.	M.O.5.4.7 – collect, record, estimate and calculate elapsed times from real-world situations (with and without technology).	M.O.5.4.8 - determine the actual measurements of a figure from a scale drawing, using multiple strategies.
Standards Based Math Unit	<i>Measurement Benchmarks</i>					
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)					
21st Century Online Resources	I Can Statements					
Lesson EQ	How can you estimate solutions to problems involving whole numbers, decimals, fractions, and percents?	How do you compare lengths of real objects in inches and millimeters?	How can you use conversions with a system of measurement to solve real world problems?	What estimation strategies can you use to find the mass of objects?	Why do I need to know about elapsed time?	What strategies can you use to determine the actual measurements of a figure from a scale drawing?

Unit Vocab

Kilometer
Meter
Centimeter
Millimeter
Hectometer
Decameter

Decimeter
Base
Height
Elapsed time
Fahrenheit
Weight

Mass
Ounce
Pound
Gram
Kilogram

**Fayette County Schools
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5th Grade

3rd Nine Weeks

Unit EQ	How can you use the relationship of whole numbers and decimals to complete the estimation process?									
Benchmark CSOs	M.O.5.1.1 - read, write, order and compare all whole numbers, fractions, mixed numbers and decimals using multiple strategies (e.g., symbols, manipulative, number line).	M.O.5.1.2 - demonstrate an understanding of place value of each digit utilizing standard and expanded form in any whole number using powers of 10 [(3 X 105) + (4 X 103) + 7 X 102) + (1 X 101) + 6].	M.O.5.1.4 - use inductive reasoning to identify the divisibility rules of 2, 3, 5, 9 and 10 and apply the rules to solve application problems.	M.O.5.1.8 - apply the distributive property as it relates to multiplication over addition.	M.O.5.1.9 - solve multi-digit whole number division problems using a variety of strategies, including the standard algorithm and justify the solutions.	M.O.5.1.10 - demonstrate fluency in addition, subtraction, multiplication and division of whole numbers.	M.O.5.1.11 - solve real-world problems involving whole numbers, decimals and fractions using multiple strategies and justify the reasonableness by estimation.	M.O.5.2.3 - solve simple equations and inequalities using patterns and models of real-world situations, create graphs on number lines of the equations and interpret the results.	M.O.5.2.4 - model, identify and describe square, prime and composite numbers.	
Standards Based Math Unit	<i>Building on Numbers You Know</i>									
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)						Project 6: Problem Solving Table Rubric	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)		

21st Century Online Resources	I Can Statements								
Lesson EQ's	How can you use symbols or manipulatives to compare numbers?	How are standard form and expanded form different? How are they the same?	How can inductive reasoning help you identify and apply divisibility rules?	How does the distributive property relate to multiplication over division?	How can division problems help you solve real world situation?	How can you use addition, subtraction, multiplication, and division to solve problems?	How can you solve problems using whole numbers, decimals, and fractions?	How can patterns help you in real world situations?	What are the similarities and differences in square, prime, and composite numbers?

Unit Vocabulary

Whole numbers
Fractions
Mixed numbers
Decimals

Standard form
Expanded form
Divisibility
Distributive property

Equations
Inequalities
Square number
Prime number

Composite number

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5th Grade

3rd Nine Weeks

Unit EQ	What effect does the Law of Large Numbers have on probability?
Benchmark CSO's	M.O.5.5.1 - construct a sample space and make a hypothesis as to the probability of a real life situation overtime, test the prediction with experimentation, and present conclusions (with and without technology).
Standards Based Math Unit	<i>Between Never & Always</i>
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)
21st Century Online Resources	<u>I Can Statements</u>
Lesson EQ	How can probability help you hypothesize about real life situations?

Unit Vocabulary:

Event
Outcome
Trial

Law of Large Numbers
Sample space
Probability

**Fayette County Schools
Mathematics Learning Map**

5th Grade

4th Nine Weeks

Unit EQ	How can I use charts, tables, and graphs to discover relationships between numbers in data sets?		
Benchmark CSOs	M.O.5.5.2 - construct, read, and interpret tables, charts, and graphs including stem and leaf plots to draw reasonable inferences or verify predictions.	M.O.5.5.3 - collect and organize real-world data to construct a circle graph (with and without technology), present data and draw conclusions.	M.O.5.5.4 - collect and analyze data using mean, median and mode to determine the best statistical measure.
Standards Based Math Unit	<i>Data: Kids, Cats & Ads</i>		
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)		
21st Century Online Resources	I Can Statements		
Lesson EQ's	How can tables, charts, and graphs help you make predictions or draw reasonable inferences?	How can you draw conclusions from a circle graph?	How can you use mean, median, and mode to analyze data?

Unit Vocabulary

Survey	Bar graph	Interval	Mean
Data	Scale	Stem and leaf plot	Mode
Table of values	Axis	Median	Circle graph

****Science Connection****

This integrated math and science lesson is appropriately centered around Earth Day – April 22. Collaboration between the math and science teacher is encouraged, as this lesson addresses many math and science WV CSO's.

Overview:

The activities in these lessons focus on connections between mathematics and environmental concerns. Students participate in activities in which they investigate the data in connection with recyclable materials and develop plans to help the environment. They are designed to make students aware of various materials that people ordinarily use and discard, to increase their knowledge of the numbers of material that people use, and to make plans to use materials more conservatively. Plans may include reducing material

used, reusing materials, or recycling them. Each activity includes gathering, graphing, and interpreting data, thus extending opportunities for communicating, reasoning, and problem solving. Each activity features ideas to share with classmates or family members. Most students want to make a difference in saving the earth, and these activities can help them get a start or extend their efforts in this appealing and important area.

Activating Thinking Strategy – Read the picture book, [The Adventures of an Aluminum Can: A Story About Recycling.](#)

Thinkfinity Lesson Link: [Math and Environmental Concerns](#)

**Fayette County Schools
Mathematics Learning Map**

5th Grade

4th Nine Weeks

Unit EQ	How can patterns help you solve real world problems?	
Benchmark CSO's	M.O.5.2.1 - use inductive reasoning to find missing elements in a variety of patterns (e.g., square numbers, arithmetic sequences).	M.O.5.2.2 - given an input/output model using two operations, determine the rule, output or input.
Standards Based Math Unit	<i>Patterns of Change</i>	
Tech Steps	There is not a Tech Step lesson for this CSO—refer to Ed Class (optional)	
21st Century Online Resources	I Can Statements	
Lesson EQ	How can inductive reasoning help you determine patterns?	How can you determine a rule, input, or output given an input/output model?

Unit Vocabulary

- Patterns
- Square numbers
- Rule
- Output
- Input