5th grade CI - Math
Course Essential Questions (from Phase I report): ● How does mathematics help us in finding patterns and relationships in the real-world? ● How can we use mathematics to solve real-world problems?
Tier 3 Vocabulary Words are highlighted in yellow

Unit 1: Counting/Place Value

Essential Questions:	**Essential Understanding:**
● How do we use our understanding of numbers and how they're written to make decisions?	● Our number system uses a base-ten place value system to allow us to identify magnitude of each numeral. ● Fractions identify how many of equal parts are chosen and by comparing the numerator and denominator, we can compare the fractions.

Curriculum Standards- DOK noted where applicable with Standards

EE.5.NBT.1: Compare numbers up to 99 using base ten models. (DOK I/II)

EE.5.NBT.3: Compare whole numbers up to 100 using symbols (<, >, =). (DOK I/II)

EE.5.NF.2: Identify models of thirds (1/3. 2/3, 3/3) and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10). (DOK I/II)

EE.5.OA.3: Identify and extend numerical patterns. (DOK I)

LEARNING TARGETS

Knowledge/Content **I Know …**	**Skills/Processes** **I Can …**
● A flat is 100 units, a rod is 10 units, and a unit cube is 1. ● the group with the largest number of units is the biggest one. ● = means two quantities of objects have the same number of objects in each set. ● the < means the quantity on the left has fewer objects than the quantity on the right. ● the >means the quantity on the left has more objects than the quantity on the right. ● the last number said when counting objects represents how many there are.	● EE.5.NBT.H.1: compare two quantities up to 99 using base ten models. ● EE.5.NBT.M.1: compare two quantities (0-20) using models. ● EE.5.NBT.L.1: compare two quantities of objects (0-10) with extreme differences to determine which set has more. ● EE.5.NBT.H.3: compare whole numbers up to 100 using symbols (=, <, >). ● EE.5.NBT.M.3: identify which numerals (0-10) are "greater than", "more than", "less than" or "fewer than" a target numeral. ● EE.5.NBT.L.3: identify which numeral,

- numerals before a target numeral in the counting sequence represent less quantities.
- numerals after a target numeral in the counting sequence represent more in quantity.
- <mark>equal parts</mark> means each piece is the same size.
- all the equal parts put together make 1 whole unit.
- the denominator in a fraction is the number of total equal parts.
- the numerator in a fraction is the number of equal parts shaded.
- a <mark>pattern</mark> is a sequence of pictures, objects, or symbols that repeats itself.
- to extend a pattern you add/subtract by the common difference.

- paired with a visual representation of its quantity, is greater than another numeral paired with a visual representation of its quantity (numerals 1-10).
- EE.5.NF.H.2: recognize thirds (1/3, 2/3, 3/3) and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10) on a model.
- EE.5.NF.M.2:identify the unit fractions 1/3 and 1/10 when provided with models.
- EE.5.NF.L.2: identify how many equal parts a shape or object are separated into, limited to 1 and 3.
- EE.5.OA.H.3: create, describe and extend simple number patterns that involve a simple addition or subtraction rule.
- EE.5.OA.M.3:extend a simple ABAB, ABC or ABBA pattern involving shapes, numbers or objects.
- EE.5.OA.L.3: extend a simple AB pattern using pictures, objects or familiar symbols.

Unit 2: Measurement	
Essential Questions: ● What are different ways that we measure and count in real life? ● How can looking at data graphs help us make decisions?	**Essential Understanding:** ● We have systems of measurement like time and money that allow us all to live and work in a cohesive manner. ● Graphs provide us with a picture of what the data is saying and helps us see what is going on.

Curriculum Standards- DOK noted where applicable with Standards
EE.5.NBT.4: Round two-digit whole numbers to the nearest 10 from 0—90. (DOK I/II) **EE.5.MD.1.a:** Tell time using an analog or digital clock to the half or quarter hour. (DOK I/II) **EE.5.MD.1.b**: Use standard units to measure weight and length of objects. (DOK I/II) **EE.5.MD.1.c**: Indicate relative value of collections of coins. (DOK I) **EE.5.MD.2:** Represent and interpret data on a picture, line plot, or bar graph. (DOK I/II)

LEARNING TARGETS	
Knowledge/Content **I Know** …	**Skills/Processes** **I Can** …
● 5 is a benchmark number ½ way between 0 and 10. ● if a numeral is 5 or bigger it is closer to the next multiple of 10. ● if a numeral is less than 5 it is closer to the previous multiple of 10. ● morning is before noon. ● afternoon is after noon. ● examples of morning activities ● examples of afternoon activities ● on a <mark>digital</mark> clock the first two numerals is the hour ● on a digital clock the last two numerals are the number of minutes. ● on an <mark>analog</mark> clock the hour is the small hand ● on an analog clock the minute is the big hand ● on an analog clock, 30 minutes is shown when the big hand is on the 6. ● length is the measurement of an object from its beginning to its end. ● weight is a measurement of how heavy or light something is.	● EE.5.NBT.H.4: round two-digit whole numbers (0-90) to the nearest ten using a number line indicating the tens. ● EE.5.NBT.M.4:round whole numbers (0-20) to the nearest ten using a number line. ● EE.5.NBT.L.4: determine if a single-digit number is closer to 0 or 10 on a number line. ● EE.5.MD.H.1.a: tell time to the quarter hour using a digital clock or to the half hour using an analog clock. ● EE.5.MD.M.1.a: tell time to the hour using a digital clock or analog clock. ● EE.5.MD.L.1.a: associate activities with morning and afternoon. ● EE.5.MD.H.1.b: use an appropriate tool and customary units of measurement to measure length (inches/feet) and weight of objects (ounces/pounds). ● EE.5.MD.M.1.b: identify the appropriate tool for measuring length and weight. ● EE.5.MD.L.1.b: compare the lengths or masses of two objects to determine which

- length can be measured using standard or non-standard tools. - weight is measure using a scale. - names of the coins (penny, nickel, dime, and quarter) - the values of the coins - that equivalent values between denominations exist. - the height of the bar or picture graph for a category displays the size of the quantity. - the number on the vertical axis aligns with the quantity of each bar. - the height of the bar is measured by the numerals on the vertical axis. - categories are listed on the bottom (x-axis).	one is longer or heavier, where the difference is vastly different. - EE.5.MD.H.1.c: tell the amount of money using collections of coins up to and including \$10.00. - EE.5.MD.M.1.c: identify an equivalent value of a nickel, dime, and quarter. - EE.5.MD.L.1.c: match coins of the same denomination (penny, nickel, dime, and quarter) when presented within a group. - EE.5.MD.H.2: read and interpret data from charts, tables, graphs, tallies and pictographs. - EE.5.MD.M.2: identify what type or quantity of data are needed to answer a question, solve a problem, or complete a chart or pictograph. - EE.5.MD.L.2: identify the category in a bar graph or picture graph that has the most or least when the quantities have extreme differences.

Unit 3: Area/Shape	
Essential Questions: ● How is area related to volume? ● How are 2D and 3D shapes alike and different?	**Essential Understanding:** ● 3D shapes sometimes look like 2D shapes with an added dimension called depth. ● Area is to 2D shapes what volume is to 3D shapes; finding volume is closely related to finding area.

Curriculum Standards- DOK noted where applicable with Standards

EE.5.G.1-4: Sort two-dimensional figures and identify the attributes (angles, number of sides, corners, color) they have in common. (DOK I)

EE.5.MD.3: Identify common three-dimensional shapes. (DOK I)

EE.5.MD.4-5: Determine the volume of a rectangular prism by counting units of measure (unit cubes). (DOK I/II)

LEARNING TARGETS

Knowledge/Content **I Know** …	**Skills/Processes** **I Can** …
● names for the 2D shapes ● number of sides for each shape ● number of angles for each shape ● the difference between 2D and 3D ● names for the 3D shapes ● the outlines to 3D shape relationships ● strategy for finding volume (count face and skip count the depth, count the face times the depth) ● volume is the space inside a 3D object ● empty means nothing is taking up the space inside ● full means the space inside an object is taken up by something else.	● EE.5.G.H.1-4: The student can sort two-dimensional figures using attributes (e.g., angles, numbers of sides) they have in common. ● EE.5.G.M.1-4: The student can identify two-dimensional figures with a common attribute. ● EE.5.G.L.1-4: The student can identify two-dimensional shapes (circle, square, star). ● EE.5.MD.H.3: The student can identify a sphere, cube, cone, and cylinder. ● EE.5.MD.M.3: The student can match objects to their outlines. ● EE.5.MD.L.3: The student can differentiate between round and square or sphere and cube. ● EE.5.MD.H.4-5: The student can determine the volume of a rectangular prism by counting unit cubes. ● EE.5.MD.M.4-5: The student can

	demonstrate understanding that 3-D shapes have volume. ● EE.5.MD.L.4-5: The student can differentiate between empty and full.

Unit 4: Multiplication	
Essential Questions: ● How do we compare numerals? ● How do we multiply?	**Essential Understanding:** ● We use place-value, the number of zeros in a number, to compare the magnitudes of numerals. ● Multiplication can be accomplished using repeated addition.

Curriculum Standards- DOK noted where applicable with Standards
EE.5.NBT.2: Use the number of zeros in numbers that are powers of 10 to determine which values are equal, greater than, or less than. (DOK I/II) **EE.5.NBT.5**: Multiply whole numbers up to 5 × 5. (DOK I/II)

LEARNING TARGETS	
Knowledge/Content **I Know** …	**Skills/Processes** **I Can** …
● place values to 10,000 ● multiples of 10 ● the cardinality of numerals up to 10 ● multiplication is repeated addition of equal groups of objects. ● strategies for multiplying up to 5x5. ● a set is a group of objects ● when comparing groups you can use 1-to-1 correpsondance.	● EE.5.NBT.H.2: The student can order numbers that are multiples of ten ranging from 0 to 10,000 in sequential order least to greatest. ● EE.5.NBT.M.2: The student can order multiples of ten ranging from 0-50 in sequential order least to greatest. ● EE.5.NBT.L.2: The student can identify the sequential order of numbers up to 10 ● EE.5.NBT.H.5: The student can multiply numbers up to 5 x 5. ● EE.5.NBT.M.5: The student can use visual models or objects to depict repeated addition related to a multiplication problem using single digits to 3. ● EE.5.NBT.L.5: The student can combine two sets with an equal number of objects in each set.

Unit 5: Geometry	
Essential Questions: ● How is division represented in fractions?	**Essential Understanding:** ● Division of a whole in to equal parts is represented using fractions.

Curriculum Standards- DOK noted where applicable with Standards

EE.5.NBT.6-7: Illustrate the concept of division using fair and equal shares. (DOK I/II)

EE.5.NF.1: Identify models of halves (1/2, 2/2) and fourths (1/4, 2/4, 3/4, 4/4). (DOK I/II)

LEARNING TARGETS	
Knowledge/Content **I Know** …	**Skills/Processes** **I Can** …
● equal sets have the same number of objects in each set. ● to divide an object into two equals sets, 1-to-1 correspondence can be used to sort the objects into two equal sets. ● one half is one of 2 equal subsets of a whole. ● one fourth is one of 4 equal subsets of a whole. ● to differentiate between fractions, compare the numerators.	● EE.5.NBT.H.6-7: partition a set into equal subsets to solve a problem. ● EE.5.NBT.M.6-7: divide objects into two equal sets. ● EE.5.NBT.L.6-7: replicate or identify an equal set from a model. ● EE.5.NF.H.1: differentiate between halves (1/2, 2/2) and fourths (1/4, 2/4, 3/4, 4/4). ● EE.5.NF.M.1: identify one-half and one-fourth in a model. ● EE.5.NF.L.1: differentiate between a whole and one half.