

4th Grade Math Curriculum Map – Quarters 3 & 4

Day	Standard	Objective
January 6	3.NF.2 4.NF.3c	Represent fractions and mixed numbers on a number line.
January 7	4.NF.2	Put fractions with different denominators on the same number line.
January 8	4.NF.1 4.NF.2	Use a number line to represent addition and subtraction of fractions, and fraction equivalence.
January 13	4.MD.4	Interpret data from a line plot with fractions (no calculations today)
January 14 & 15	4.MD.4	Solve real world problems with data represented in line plots with fractions.
January 16	4.MD.4	Create line plots with fractions from sets of data.
January 17		Flex Day – Teacher created to respond to the needs of the class.
Day	Standard	Objective
January 21	4.NF.4a	Understand a fraction a/b as a multiple of $1/b$. Use this to find products of whole numbers and unit fractions and to identify equivalent expressions. Use concrete fraction models and fraction bar pictures to support reasoning.
January 22	4.NF.4b	Understand a multiple of fraction a/b as a multiple of $1/b$. Use this to find products of whole numbers and non-unit fractions and to identify equivalent expressions. Use concrete fraction models and fraction bar pictures to support reasoning.
January 23	4.NF.4a 4.NF.4b 4.NF.4c	Solve word problems involving multiplication of a fraction by a whole number. Use the 3R 2S process to support thinking.
January		Flex Day – Teacher created to respond to needs of class.

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Day	Stand ard	Objective
January 27	4.NF.5	Understand that, just as with whole numbers, when you add and subtract fractions you must add and subtract like units. Decompose one or more fractions into a smaller unit fraction to get like units and then add or subtract. Use concrete fraction models and fraction bar pictures to support reasoning.
January 28	4.NF.5	Repeat objective (pull small groups) Understand that, just as with whole numbers, when you add and subtract fractions you must add and subtract like units. Decompose one or more fractions into a smaller unit fraction to get like units and then add or subtract. Use concrete fraction models and fraction bar pictures to support reasoning.
January 29	4.NF.6	Use decimal notation to write fractions with denominators of 10. Explain that the numbers to the left of the decimal point are whole number amounts, while the numbers to the right of the decimal point are fractional amounts, and that the place value pattern works for decimal numbers in the same way it works with whole numbers. Use concrete models and pictures to support thinking.
January 30	4.NF.6	Use decimal notation to write fractions with denominators of 100. Use concrete models and pictures to support thinking.
January 31	4.NF.7	Decompose tenths into hundredths and vice versa. Represent decimal numbers in different ways, including using the largest units possible, the smallest units possible, and expanded form
February 3	4.NF.7	Compare two decimals to hundredths by reasoning about their size. Use concrete models and pictures to support thinking.

Unit 4 Aims Calendar

Day	Standard	Objective
2/4	4.MD.1 4.MD.2	SWBAT convert customary units of time (including mixed units), using equal groups pictures and two-column conversion tables to support thinking.
2/5	4.MD.1 4.MD.2	SWBAT convert customary units of time with fractional time, using bar models, number lines, and two-column conversion tables to support thinking.
2/6	4.MD.1 4.MD.2	SWBAT solve multi-step problems requiring converting between seconds, minutes and hours, using equal groups pictures, bar models, number lines, and two-column conversion tables to support thinking.
2/7	4.MD.1 4.MD.2	SWBAT convert customary units of length (inches, feet, yards, miles), using equal groups pictures, bar models, number lines, and two-column conversion tables to support thinking.
2/10	4.MD.1 4.MD.2	SWBAT solve multi-step problems (including those involving area and perimeter) involving conversions of length, using equal groups pictures, bar models, number lines, and two-column conversion tables to support thinking.
2/11	4.MD.1 4.MD.2	SWBAT convert customary units of weight (pounds and ounces), using equal groups pictures, bar models, number lines, and two-column conversion tables to support thinking.
2/12	4.MD.1 4.MD.2	SWBAT convert customary units of volume (gallons, quarts, pints, cups), using equal groups pictures base ten diagrams, and two-column conversion tables to support thinking.

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2/13	4.MD.1 4.MD.2	SWBAT solve multi-step problems involving conversions of volume and mass, using equal groups pictures base ten diagrams, and two-column conversion tables to support thinking.
2/14		Flex Day – Teacher created to respond to needs of class.

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2/18	4.MD.1 4.MD.2	Understand that in the metric system the basic units are meters (length), liters (volume/capacity), and grams (mass). Know that the prefix kilo means 1000, and that 1 kilo(meter, liter, or gram) is the same as 1000 of the basic unit. Convert from kilos to the basic unit using the base ten pattern, to solve real world problems. (including fractional kilos)
2/19	4.MD.1 4.MD.2	Understand that centi(meters, liters, and grams) are smaller than the basic unit. Know that the prefix centi means 100, and that 1 basic unit is the same as 100 centis. Convert from the basic unit to centis using the base ten pattern, to solve real world problems.
2/20	4.MD.1 4.MD.2	Understand that milli(meters, liters, and grams) are smaller than the basic unit. Know that the prefix milli means 1000, and that 1 basic unit is the same as 1000 millis. Convert from the basic unit to millis using the base ten pattern, to solve real world problems
2/21	4.MD.1 4.MD.2	Understand the relative sizes of metric units from kilos to millis, and name the units of kilo, centi, and milli, and the basic unit. Convert from a larger unit to a smaller, including from mixed units to smaller units and from fractional larger units to smaller units, to solve real world problems..
2/24	4.MD.1 4.MD.2	Understand that each metric unit is 10 times the metric unit to its right. Use this to convert between units other than the basic unit (e.g. centi to milli, kilo to centi)
2/25	4.MD.1 4.MD.2	SWBAT solve multi-step problems involving conversion of metric and customary measurements.
2/26		Flex Day – Teacher created to respond to needs of class.

Standards for PBL Project

Standards	Content	Focus SMPs
	<p>4.MD.C - Geometric measurement: understand concepts of angle and measure angles.</p> <ul style="list-style-type: none"> ● <u>4.MD.5</u> - Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: <ul style="list-style-type: none"> ○ 4.MD.5a - An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles. ○ 4.MD.5b - An angle that turns through n one-degree angles is said to have an angle measure of n degrees. ● 4.MD.6 - Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. ● 4.MD.7 - Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure. <p>4.G.A - Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</p> <ul style="list-style-type: none"> ● 4.G.1 - Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. ● 4.G.2 - Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. ● 4.G.3 - Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. 	<p>SMP 5 – Use appropriate tools strategically</p> <p>Students will be exposed to new tools, the straight edge, right angle template, and protractor, and will choose whether and how to use them when measuring and sketching angles, drawing perpendicular lines and constructing 2D figures. They will need to use the tools strategically; in some situations, a visual provides enough information that a protractor is not necessary to find a missing angle measure.</p> <p>SMP 3 – Construct viable arguments and critique the reasoning of others</p> <p>Students will routinely need to justify classifications of shapes based on attributes and construct viable arguments using evidence to prove a shape's classification. (SMP 3)</p>

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<p>Materials Needed <i>List any manipulatives or other materials teachers should order, gather, or create ahead of time.</i></p>	<p>Circle protractor needed for each student for lesson 6. If necessary, you can use transparency paper to copy the provided template (linked in the lesson).</p> <p>See daily lessons for other materials needed.</p>	
<p>Assessments</p>	<p>Formative Assessment Link: Here Summative Assessment Link: N/A – This unit ends right before PARCC. Fluency Assessment: Here Administer in Prep Session at end of Unit.</p>	
<p>Vocabulary <i>What is the Tier 3 vocabulary students need to master the content of this unit? Include normed definitions.</i></p>	<p>Grade-Specific Vocabulary</p> <ul style="list-style-type: none"> • Line – collection of points that goes on forever in either direction; \overleftrightarrow{AB} • Line segment – collection of points that starts at a point and ends at a point, and is measurable; \overline{AB} • Ray – collection of points that has a starting point but goes on forever in one direction \overrightarrow{AB} • Angle – the shape formed by two rays with a common endpoint; the amount of rotation between two rays with a common endpoint $\angle ABC$ • Point – a precise location with no size, only position A • Endpoint – a point that marks the end of a line segment or ray • Vertex – the point where two rays (or line segments) meet; a corner • Right angle – the angle that is formed when two perpendicular lines meet; forms a 90° angle and is represented with a small square in the corner • Obtuse angle – an angle greater than a right angle and less than a straight angle (greater than 90° and less than 180°) • Acute angle – an angle less than a right angle (between 0° and 90°) • Straight angle – angle that formed by one line (measures exactly 180°) • Orientation – the way something is facing • Intersecting – meeting (as in two lines or line segments) • Intersect: Meet (like with two line segments, rays, or lines) • Intersecting lines: Lines that meet, and therefore cross • Perpendicular Lines: Lines that, when they intersect, form a right angle. • Perpendicular: Forming a right angle • Non-intersecting – two lines or line segments that do not/will not ever meet • Parallel lines- two lines go in the same direction; will never intersect • Degree – a unit of measure to measure an angle; $1/360$ of a rotation around a point • Protractor – a tool used to measure angle size • • Additive – the measure of the whole is the sum of the parts 	<p>Common Vocabulary</p> <ul style="list-style-type: none"> • Compose – to put together • Decompose – to take apart

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| | <ul style="list-style-type: none">• Asymmetrical – a shape that has no line of symmetry• Classify – categorize• Equilateral – a triangle where all sides are equal• Isosceles – a triangle with exactly two sides of equal length• Parallelogram – a 4-sided shape with two pairs of parallel sides• Quadrilateral – a shape with four sides• Rectangle – a quadrilateral with 4 right angles• Rhombus – a quadrilateral with 4 equal sides• Right – an angle that is exactly 90°• Scalene – a triangle where all sides are of different lengths• Square – a quadrilateral with four equal sides and 4 right angles• Symmetrical – a shape that has a line of symmetry• Symmetry - a line that splits a shape exactly in half where the two sides are reflections of each other. If you fold along a line of symmetry, the two sides will match up• Two-dimensional – a shape that has only two dimensions (like width and height) and no thickness | |
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