Grade 6
Math Unit 3
Canterbury Public Schools

Subject	Math
Grade Level	6
Unit Title	Units of Measure
Unit Goals	<u>Units of Measurement</u> Evaluate the usefulness of calculating a rate per 1 when solving problems involving unfamiliar rates Explain how to solve a problem involving rates in a less familiar context “How much for 1? <u>Unit Conversion</u> Compare the relative size of different units of measure for one attribute (length, volume, weight or mass) Comprehend the approximate size of “1” foot, inch, yard, mile, millimeter, centimeter, kilometer, ounce, pound, gram, ton, cup, quart, gallon, liter, etc.) Identify which unit is closest to the length,volume, weight, or mass of a given object , and explain the reasoning Given a measurement in one unit, estimate what would be the same amount expressed in a different unit- explain. <u>Rates:Comparing speeds and prices</u> Explain that if two ratios have the same rater per 1 , they are equivalent ratio<u>s</u> <u>J</u>ustify comparisons of speeds or prices Recognizing that calculating how much for 1 of the same unit is a useful strategy for comparing rates (per) “How much for 1” P<u>ercentages</u> What are percentages? Draw and label a double number line with percentages on one line and dollar amounts on the other line Explain the meaning of percentages using dollars and cents as an example <u>Let’s Put it to Work</u> Apply rates and percentages to calculate ow long it will take and how much will cost to complete a project Determine what information is needed to solve a problem
Pacing (# of weeks)	6 weeks

Standards	6.RP.A.2, Understand the concept of a unit rate a/b associated with a ratio a:b with b 3 =/=0, and use rate language in the context of a ratio relationship 6.RP.A.3.d,Use ratio reasoning to convert measurement units, manipulate and transform units appropriately when multiplying or dividing quantities 6.RP.A.3.b solve unit rate problems i including those involving unit pricing and constant speed.
Content/Conceptual Knowledge (know) "How to"	A context in which identifying a unit rate is helpful Familiar with ratios and rates A:B is equivalent to every other ratio sa:sb - s is a positive number Find the two values a/b and b/a that are associated with the ratio a:b and interpret these values as rates per 1. Interpret unit rates in different contexts Interpret situations involving constant speed Interpret tape diagrams used to represent percentages Interpret situation involving measurement rates and costs Name common objects that are about as long as 1 inch, foot, yard, mile, etc. Name common objects that weigh about 1 ounce, pound, gram, ton etc.; or that holds about 1 cup, quart, gallon, etc. Know which unit of measure makes the most sense when measuring an object, etc.
Skills (be able to do)	Explain: reasoning for estimating and sorting measurements, reasoning about relative sizes of u its of measurement, how to make decisions using rates, Reasoning about percentages, strategies for finding missing information involving percentages, Justify; reasoning about equivalent ratios and unit rates, reasoning about finding percentages Reason about costs and time Generalize about unit ratios unit rates, and percentages from multiple contexts and with reference to benchmark percentages, tape diagrams, and other mathematical representations Describe measurements and observations, describe and compare situations involving percentages, compare speeds, compare prices and critique the reasoning about costs and time.. Apply the skills necessary to solve topical problems

Essential Questions	What are some other units that measure length? What are some units that measure volume? What are percentages?
Enduring Understandings	Kilometers and inches are some units used to measure length. Tablespoons and liters are some units used to measure volume It takes more of a smaller unit or fewer of a larger unit to measure the same quantity When two ratios have the same rate per 1, they are equivalent
Vocabulary	Use language for mathematical purposes: interpreting,explaining, and justifying. ____% of (as much, of) , good, better, best, unit rate, pace, percentage, regular price, sale price.meters per second, tape diagram,
Common Learning Experiences	Formative assessments (Check your readiness), Experiences such as, investigate the Burj Khalifa building, Warm ups and cool downs Classroom activities Practice problems Use of stations for experimentation
Assessments	Formative - Check your readiness, End-of- Unit Assessments
Resources	Base-ten blocks, Cuisenaire rods, four-function calculators, gallon jugs, graduated cylinders, inch cubes, home items, liter-sized bottle, paper fasteners, meter sticks, [polyhedra, quart bottle, rules, salt , scales, straightedges, string, teaspoons, trays, yardsticks
Strategies	Turn and talk, Think Pair Share, compare and connect, take turns, card sort, sort and match activity, Which one doesn't belong? Math talks