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Prioritizing Standards
Zooming in on the most important portions of the K - 8 Math standards Progression

<u>What:</u>	This document is a summary of the most prioritized mathematics learning by grade level (K - 8th grades) as found in this CCSS Overview of Math Standards
<u>Why:</u>	In support of general teacher planning/reflection, particularly in the wake of COVID 19 adjusted planning. This document aims to support teachers in reflecting on what was covered in distance learning as well as look forward to planning for SY2020-2021 and prioritize the focus areas of instruction.
<u>How:</u>	Meant for use in professional development sessions, teaching coaching sessions/planning sessions. If you are looking for further help in use of the tool, reach out EduQuate if you would like our support in running this PD.

Grade Level (leaving)	Priority Focus[1] Broken Down into goal areas:	Reflection Space

5th
 	
<u>Summary:</u>
Add, Subtract Multiply and Divide Fractions, Decimals and multi-digit whole numbers.
	(1) I can perform operations (+, - , x, ÷) with fractions.
	
	(Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)
	
	   a) I can show how to add and subtract fractions with like or unlike denominators (through models, equations, adjusting unlike denominators to equivalent like denominators, written explanations)
	   b) I can multiply and divide fractions (and explain why the procedures for multiplying and dividing fractions make sense using models, pictures, equations,etc).	

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[1] As taken from & PCA Math Scope and Sequence

Solve problems involving volume. **Bonus:** **Graph points on coordinate grid**	(2) I can use my knowledge of the base-ten system of numbers to fluently perform operations (+, - , x, ÷) with multi-digit numbers.	
	(3) I can perform operations (+, - , x, ÷) with decimals to the hundredths.	
	(4) I measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems. Supporting targets - I can define volume as an attribute of three-dimensional space. - I understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. - I understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. - I can select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. - I can decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes.	
	Bonus: I can graph points on the coordinate plane in order to solve problems.	
6th Summary: Solve problems involving ratios, rates, and the division of fractions. Write, analyze, and solve one-step expressions and equations involving variables. Calculate and explain in	(1) I can solve ratio and rate problems. a) I can use tables and drawings to connect multiplication and division with ratios and rates.	
	(2) I can explain and solve problems involving the division of fractions. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane	
	(3)I can write, analyze, and solve one-step expressions and equations involving variables.	

context mean, median, and measure of variability (interquartile range or mean absolute deviation) Find area, surface area and volume of shapes (including right triangles, special quadrilaterals, using whole and fractional side lengths	- I can understand the use of variables in mathematical expressions. - I can write expressions and equations that correspond to given situations. - I can evaluate expressions, and use expressions and formulas to solve problems. - I can explain that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. - I can solve for the solutions of an equation (where the values of the variables that make the equation true.) - I can use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. - I can construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.	
	(4) I can calculate and explain in context mean, median, and measure of variability (interquartile range or mean absolute deviation). Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.	
	(5) I can determine area, surface area, and volume. - Of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. - I can discuss, develop, and justify formulas for areas of triangles and parallelograms. - I can find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. - I can reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths.	

	● I can prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.	
7th <u>Summary:</u> Solve single- and multi-step problems involving ratios and proportional relationships, and percents. Graph and analyze proportional relationships (identifying unit rate as the slope). Perform operations with all rational numbers (including fractions, decimals all integers and percents). Find the area and circumference of circles. Find the surface area of 3D objects.	(1) I can solve single- and multi-step problems involving ratios and proportional relationships, and percents. (Contexts include: discounts, interest, taxes, tips, and percent increase or decrease) (2) I can solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. (3) I can graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.	

	(4) I can perform operations with ALL rational numbers
	
	  a) define rational numbers
	  b) convert between fractions, decimals, and percents.
	  c) +, - , x, ÷ fractions, decimals, whole numbers
	  d) +, - , x, ÷ integers	

	(5) I can find the area and circumference of circles. I can find the surface area of 3D objects. (6) I can analyze relationships between angles formed by intersecting lines. (7) I can find area, surface area, and volume of most shapes	
8th <u>**Needed for entry into Algebra 1:**</u> 1)Reason with and solve linear equations with one or two variables	(1) I can solve linear equations with one or two variables. (Further Explanation: Students recognize equations for proportions (y/x = m or y = mx) as special linear equations (y = mx + b), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount m·A. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom).	

2)Define and solve functions	Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.	
Needed for entry into Geometry: 1) Perform transformations (translations, rotations, reflections, dilations) 2) Explain congruency and similarity	(2) I can define a function (as a rule that assigns to each input exactly one output.) ● I can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and describe how aspects of the function are reflected in the different representations	
3) Reasons with angles (inside of triangles, when proving congruency and to find missing angle measures.) 4) Solve problems involving the Pythagorean Theorem (5) Solve volume and surface area for cones cylinders and spheres	(3) I can perform and analyze transformations (4) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. (5)Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. (6) Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. (7) Students complete their work on volume by solving problems involving cones, cylinders, and spheres.	