

Conceptual Curriculum Map (CCM) for

Content Area: Mathematics

Course: Applications of Math 6

Grade Level: 6th

Note:

***Major Standards**

***Supporting Standards**

***Additional Standards**

Fluency Practice is built in the beginning first 5 minutes of class once a week

Unit 1 Data Sets and Distributions	Long-Term Outcomes/Transfer Goals: Transfer Goal(s) : - Persevere, think strategically/flexibly, and reflect and revise thinking in order to solve complex problems. - Analyze and model mathematical relationships in authentic and varied contexts, make informed decisions, and draw conclusions. - Construct viable arguments, critique the reasoning of others, and communicate ideas precisely using the language of mathematics. Global Competency Goal(s): - GC 4 - Exhibit curiosity, imagination, flexibility, and perseverance in order to innovate and make valuable contributions to the community.		
	Standards	Conceptual Overview	Rationale
Focus & Timeframe Data Sets and Distributions (22-25 days)	6.SP.A.1-Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. 6.SP.A.2-Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape	- Distinguish characteristics of statistical questions and be able to distinguish the difference between statistical and nonstatistical questions - Study and quantify/qualify variables associated with populations - Interpret measurements of center	- Providing opportunities to review, describe, and interpret distributions will help students create meaning about real-world situations and be able to make informed decisions as citizens - Students can make informed decisions based on data they gather from specific questions

	6.SP.A.3-Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. 6.SP.B.4-Display numerical data in plots on a number line, including dot plots, histograms, and box plots. 6.SP.5-Summarize numerical data sets in relation to their context. MP1: Make sense of problems and persevere in solving them. MP3:Construct viable arguments and critique the reasoning of others. MP4:Model with mathematics.	and variability in context as a tool to describe data distributions • Data can be represented in many ways. Students need to be skillful in not only interpreting data but determining and building the correct way to represent data (dot plots, histograms, box plots)	
--	---	---	--

Unit 2 Applications of Nets, Volume & Surface Area	Long-Term Outcomes/Transfer Goals: Transfer Goal(s) : Students will be able to... ● Persevere, think strategically/flexibly, and reflect and revise thinking in order to solve complex problems. ● Analyze and model mathematical relationships in authentic and varied contexts, make informed decisions, and draw conclusions. Global Competency Goal(s): ● GC 3 - Respectfully engage with others in constructive and critical dialogue, and take initiative needed to accomplish a shared goal.		
Focus & Timeframe Converting Measurement s, Polyhedra, Surface Area and Volume, Graphing 2-D Geometry on a Coordinate Plane (17-19 days)	Standards 6.G.A.3 - Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. 6.G.A.4-Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems 6.EE.A.2.a -Write expressions that record operations with numbers and with letters standing for number	Conceptual Overview ● 3-D shapes - prisms (triangular, rectangular, cube), pyramid (triangular or square base), know what a cylinder and sphere are, but don't find SA ● 2-shapes in the coordinate plane and finding side lengths (of vertical or horizontal sides) ● Finding surface area from a net and a 3-D figure (use 3-D figures) ● dimensions with mixed numbers too	Rationale ● Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of

	6.EE.A.2.c - Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole- number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). 6.RP.A.3d - Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. MP1: Make sense of problems and persevere in solving them. <i>(assessed T3 only)</i> MP3: Construct viable arguments and critique the reasoning of others. <i>(assessed T1 only)</i> MP4: Model with mathematics. <i>(assessed T1 & T3)</i> MP5: Use appropriate tools strategically. <i>(assessed T1 & T3)</i> MP6: Attend to precision <i>(assessed T3 only)</i>	● Finding Volume of rectangular prisms ● Knowing the difference between which units are used for surface area vs. volume ● Distinguishing/approximating/c onverting units of mass, volume, and length (ie., kg vs. liters vs. meters, etc.) ● Extend graphing to all four quadrants	precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions ● Using horizontal and vertical number lines to represent number comparisons will help students become more comfortable using them as a tool. It will positively impact students' coordinate graphing skills as well as their work in later algebra courses for such skills as graphing equations ● Students build on their knowledge of graphing positive coordinate pairs on the coordinate plane to graphing coordinate pairs in all four quadrants
--	--	--	--

Unit 3 Financial Literacy - Money in Our Lives & Credit	Long-Term Outcomes/Transfer Goals: - Students will analyze and model mathematical relationships in authentic and varied contexts, make informed decisions, and draw conclusions. (GC 3) Students will be able to respectfully engage with others in constructive and critical dialogue, and take the initiative needed to accomplish a shared goal.		
Focus & Timeframe (19 - 22 Days)	Standards	Conceptual Overview	Rationale
	(Standards are from the National Standards for Personal Finance) Spending 1a:Identify personal goals for spending and saving 1b:Create a budget that includes expenses and savings out of a given amount of income 1c: Explain why people with identical incomes make different choices for spending, saving, and managing money 2b:Explain the types of information most helpful in making a purchase decision 4a: Explain the difference between a debit card and a credit card 4c: Summarize the advantages, disadvantages, risks, and protections of various payment methods	- Utilizing benchmark fractions, decimals, and percents and fluency converting between the various forms. - Knowing the basics of spending, saving, credit and debit, and managing credit - Crediting a budget can help people make informed choices about spending, saving, and managing money in order to achieve financial goals. - Consumers weigh the costs and benefits of different payment methods to determine the best option for purchasing goods and services - Savings decisions depend on individual preferences and	- Students need to be fluent in understanding the equivalencies in fractions decimals and percents in order to make sense of percentages in application to real world problems. - Using percent equations and benchmark percentages, students will be able to make sense if their answer is reasonable when applying it to real world scenarios. “Introducing age-appropriate personal finance concepts to younger learners.” (Middle School Financial Literacy curriculum Next Generation Personal Finance) - Students need to learn money basics in order to make informed choices with money

	Saving 1a: Identify the most common reasons that people save money for the future 2b: Explain how a person's personality type might affect their willingness to save or to stick to a savings plan 2c: Identify life situations that can make it difficult for a person to save or to stick to a savings plan 2d: Discuss how savings decisions can affect financial wellbeing 4a: Differentiate between principal and interest Credit and Debt 1b: Compare lenders based on type of credit offered, interest rates, and fees 5b: Discuss how a borrower's credit history can impact their borrowing costs Managing Credit: 1a: Identify financial institutions and businesses that offer consumer credit	circumstances, and can impact personal satisfaction and financial well-being • The longer a loan repayment period, the higher the interest rate, the larger the amount of interest paid by the borrower • Lenders charge different interest rates based on borrower risk of nonpayment, which is commonly evaluated using information in the borrower's credit report • Borrowing increases debt and can negatively affect a person's finances	and to reach financial goals • High School Financial Literacy Courses build on these standards
--	---	---	---

	3a: Describe the effect of higher interest rates and longer loan terms on the total cost of a loan 3b: For a given monthly payment, loan amount, and loan repayment period, calculate the total amount of interest paid by the borrower 4b: Describe how a credit card user can minimize interest charges on their credit card purchases 5a: Identify the types of information contained in a credit report 5b: Discuss how a borrower's credit history can impact their borrowing costs 6c: Justify the use of credit for a specific purchase 7a: Identify indicators that a person has accumulated too much debt 7b: Predict the possible consequences of having a lot of debt payments relative to income 6.RP.A.3.c-Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.		
--	--	--	--

--	--	--	--

(Delete rows as needed; Only use as many rows as the number of units across the course of a year/grade)