Marietta City Schools

2024–2025 District Unit Planner

Grade 6 Mathematics

Unit title	UNIT 5: Exploring Real-life Phenomena through One-Step Equations and Inequalities	**MYP year**	*1*	**Unit duration (hrs)**	*20 hours*

Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): ***What will students learn?***

GA DoE Standards
Standards **6.PAR.7: Write and solve one-step equations and inequalities as mathematical models to explain authentic, realistic situations.** **6.MP:** Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. **Concepts/Skills to be Mastered by Students**

6.PAR.7: Write and solve one-step equations and inequalities as mathematical models to explain authentic, realistic situations.			
Expectations		**Evidence of Student Learning** **(not all inclusive; see Grade Level Overview for more details)**	
6.PAR.7.1	Solve one-step equations and inequalities involving variables when values for the variables are given. Determine whether an equation and inequality involving a variable is true or false for a given value of the variable.	***Strategies and Methods*** • Students should be able to use algebraic reasoning to solve an equation as a process of answering an authentic question and explain their reasoning. • When solving an equation or inequality as a process of answering a question, students should be able to explain why specific values from a specified set, if any, make the equation or inequality true. • Students should use substitution to determine whether a given number in a specified set makes an equation or inequality true.	
6.PAR.7.2	Write one-step equations and inequalities to represent and solve problems; explain that a variable can represent an unknown number or any number in a specified set.	***Age/Developmentally Appropriate*** • Students should be able to represent equations involving positive variables and rational numbers. • Students should have opportunities to solve relevant, mathematical problems.	***Strategies and Methods*** • Students should have an opportunity to solve problem situations with variables in all positions. • Students should be able to explain that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.
6.PAR.7.3	Solve problems by writing and solving equations of the form $x \pm p = q$, $px = q$ and $\frac{x}{p} = q$ for cases in which p, q and x are all nonnegative rational numbers.	***Strategies and Methods*** • Students should have opportunities to use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction and multiplication and division when solving one-step equations. • Students should be able to solve equations presented in applicable, mathematical problems involving positive rational numbers using number sense, properties of arithmetic and the idea of maintaining equality on both sides of the equation. • Students should be able to interpret a solution in the original context and assess the reasonableness of results.	
6.PAR.7.4	Recognize and generate inequalities of the form $x > c$, $x \geq c$, $x < c$, or $x \leq c$ to explain situations that have infinitely many solutions; represent solutions of such inequalities on a number line.	***Strategies and Methods*** • Students should represent authentic, mathematical situations using inequalities involving variables. • Students should be able to create practical, mathematical situations corresponding to specific inequalities. • This objective includes the use of the symbols: <, >, =, ≤, ≥.	

Vocabulary: K-12 Mathematics Glossary

Addition Property of Equality	Constant of proportionality	Dependent Variable	Direct Proportion (Direct Variation)	Division Property of Equality	Equation
Independent Variable	Inequality	Inverse Operation	Multiplication Property of Equality	Proportion	Solution
Substitution	Subtraction Property of Equality	Term	Variable		

Key concept	Related concept(s)	Global context
Logic A method of reasoning and a system of principles used to build arguments and reach conclusions.	Model Pattern Measurement	Globalization and Sustainability Human impaction on the environment

Statement of inquiry

Expressions, equations and inequalities communicate real world scenarios through symbols, numbers, and algebraic thinking

Inquiry questions

Factual— What are the parts of an algebraic expression? What is the difference between an expression and an equation? What are the similarities and differences between equations and inequalities?

Conceptual— How can variables be used to represent values? How is an equation different from an expression? How is an equation like a balance scale? How are variables used to solve equations? What strategies can we use to solve and graph inequalities?

Debatable- Is there more than one way to represent a linear equation?

MYP Objectives	Assessment Tasks

*What specific MYP **objectives** will be addressed during this unit?*	***Relationship** between summative assessment task(s) and statement of inquiry:*	*List of common formative and summative assessments.*
Criteria B (Investigating Patterns)	Students will understand how to write and solve equations and inequalities and discuss the difference between equations and inequalities.	**Formative Assessment(s):** Unit 5 CFA **Summative Assessment(s):** Unit 5 Test MYP- Investigating Patterns
Approaches to learning (ATL)		
Category: Social **Cluster:** Collaboration Skills **Skill Indicator:** Give and receive meaningful feedback. **Category:** Thinking **Cluster:** Critical Thinking, Creative Thinking & Transfer **Skill Indicator:** Use models and simulations to explore complex systems and issues		

Learning Experiences Add additional rows below as needed.		
Objective or Content	**Learning Experiences**	**Personalized Learning and Differentiation**
6.PAR.7.2 Write one-step equations and inequalities to represent and solve problems; explain that a variable can represent an unknown number or any number in a specified set. **6.PAR.7.3** Solve problems by writing and solving equations of the form x + p = q, px = q and x p = q for cases in which p, q and x are all nonnegative rational numbers.	**Building with Toothpicks** In this learning plan, students will generalize a formula, based on identifying a pattern, for expressing the perimeter of a figure built with toothpicks.	Students will extend their understanding of perimeter, distance, as a linear measure. While using manipulatives, such as toothpicks, rods, or other uniform tools, students can physically measure linear distances.
Content Resources		
6-11 Savvas Correlation to 2021 standards **GaDoe Intervention Table of Tasks/Activities** **Additional Resources** ● **Savvas** ● **Desmos** ● **Hands-On Math**		