Math 7 Unit 1 Plan 2023 - 2024

Course: Math 7	**Unit: 1 - The Real Number System**
Time: 31 Days (8/7/23 - 9/19/23) *(Includes ESA #1)*	**Essential Standards: 7.NS.1b, 7.NS.1c, 7.NS.1d, 7.NS.2a,b,c,d**
Previous Standard: 6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	**Future Standard:** 8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
Standards for Mathematical Practice: 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	**Student Learning Targets:** 1. **I can** show that opposites are additive inverses and create zero pairs. (7.NS.1b) 2. **I can** add and subtract rational numbers, including applying through real-world contexts. (7.NS.1b and 7.NS.1d)) 3. **I can** show that the distance between two rational numbers on the number line is the absolute value of their difference and apply this principle in real-world contexts. (7.NS.1c) 4. **I can** multiply and divide rational numbers, including applying through real-world contexts. (7.NS.2) (Important to know) 5. **I can** solve problems using the four operations (7.NS.3) 6. **I can** describe situations in which opposite quantities combine to make zero. (7.NS.1a)

Standards	Vocabulary	Skills	Activities (Resources)	Assessment
Essential Standard				
7.NS.1b **Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.**	Absolute Value Integer	• Understand absolute value • Understand direction on a number line depending on whether a number is positive or negative • Show that a number and its opposite have a sum of zero • Interpret sums of rational numbers by describing real-world contexts	Big Ideas Chapter 1 and 2	
7.NS.1c **Understand subtraction of rational numbers as adding the additive inverse, p - q = p+ (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference and apply this principle in real-world contexts.**	Subtraction of Rational Numbers, Additive Inverse, Distance on a number line, Absolute value, difference, Real-world contexts	• Understand subtraction of rational numbers as adding the additive inverse • Show that the distance between two rational numbers on the number line is the absolute value of their difference • Apply this principle to real-world contexts	Big Ideas Chapter 1 and 2	

7.NS.1d **Apply properties of operations as strategies to add and subtract rational numbers**	Rational Numbers Operations Sum DIfference	• Understand the properties of operations to add rational numbers • Understand the properties of operations to subtract rational numbers	Big Ideas Chapter 1 & 2	
7.NS. 2 a.b.c.d **Apply and extend previous understanding of multiplication and division and of fractions to multiplying & dividing rational numbers**	Rational Numbers, Fractions,	• Apply previous knowledge of multiplication and division of fractions • Multiply and divide rational numbers • Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations • Know the rules for multiplying and dividing signed numbers • Interpret products and quotients of rational numbers by describing real-world contexts • Apply properties of operations as strategies to multiply and divide rational numbers. • Convert a rational number to a decimal using long division	Big Ideas Chapter 1 & 2 Click here to access SBAC sample item for NS.2.a	

		• Know that the decimal form of a rational number terminates in 0s or eventually repeats		
Important to Know Standard				
7.NS.1a Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its constituents are oppositely charged.	Quantity	• Describe situations when quantities combine to make 0	Big Ideas Chapter 1 and 2	
7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.	Operations, Rational Numbers	• Solve real-word problems involving the four operations with rational numbers. • Solve mathematical problems involving the four operations with rational numbers.	Big Ideas Chapter 1 and 2	

Reflection:
List strategies or 'things to remember" when teaching when planning the unit
After the unit, document what worked well and what needs to change for the next year

- Use manipulatives (e.g. algebra times, money, counters, etc)
    - Strategies for Adding and Subtracting Integers: Use Money! Use Debt for Negative Money
- Incorporate relevant, current real-world applications to aid in understanding and retention
- Use foldable/graphic organizer to help students to organize the properties.
- Integer Song

Calendar

Monday	Tuesday	Wednesday	Thursday	Friday
Date I can… Focus (skill or daily objective students will learn for the day)				

***Identify dates for CFAs and end of unit assessments on the calendar.**