Subject: Mathematics

Grade: 7th Unit 1

Module 2 Lesson 2.1,2.2,2.3

Module 3 Lesson 3.1,3.2,3.3,3.4,3.5

Teacher: Mr. Jason Broughton

Duration: September

Summary of unit:

Stage 1 - Desired Results

Standards:

7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

7.NS.2a... Interpret products of rational numbers by describing real-world contexts.

7.NS.2c Apply properties of operations as strategies to multiply and divide rational numbers.

7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers.

7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

Essential Questions:

How do you multiply integers?

How do you divide integers?

How can you use integer operations to solve real-world problems?

How do you convert a rational number to a decimal?

How can you add rational numbers?

How do you subtract rational numbers?

How do you decide whether to model a realworld situation with addition or subtraction?

How do you multiply rational numbers?

How do you divide rational numbers?

7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form...; and assess the reasonableness of answers using mental computation and estimation strategies.

7.NS.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

7.NS.1d Apply properties of operations as strategies to add and subtract real numbers.

7.NS.1a Describe situations in which opposite quantities combine to make 0.

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 realworld contexts.

Language objective Mathematical practices

Students will model stepby-step how to multiply integers.

Students will show how to divide integers.

Students will describe how to use integer operations to solve realworld problems.

Students will illustrate how to convert a rational number to a decimal.

MP.7 Look for and make use of structure.

MP.2 Reason abstractly and quantitatively

MP.4 Model with mathematics.

MP.3 Construct viable arguments and critique the reasoning of others.

Integrate mathematical practice

MP.7 This lesson provides an opportunity to address this Mathematical Practice standard. It calls for students to examine the relationship between multiplication and division to make conjectures about the signs of quotients of integers.

MP.2 It calls for students to create and use representations to communicate mathematical ideas. In Explore Activity 1, students use a number line to model the multiplication of integers and record the results. In Explore Activity 2, students use counters to model the multiplication of integers and record the results. In

Students will describe Example 1, students use absolute how to add rational value to multiply integers. numbers. MP.4 It calls for students to apply Students will learn to mathematics to problems arising subtract rational numbers. in everyday life, society, and the workplace. In Explore Activity Students will learn to Example 1, Example 2, and multiply rational Example 3, students multiply or divide integers to solve real-world numbers. mathematical problems for withdrawals from a checking Students will explain the steps of dividing rational account, buying concert tickets, numbers. and playing a board game. This helps students understand that integer operations are applicable to everyday life. MP.3 It calls for students to display, explain, and justify mathematical ideas using precise mathematical language in written or oral communication. As students discuss the process of long division, they have the opportunity to use precise mathematical language such as divisor, dividend, differences, quotients, and so on. **Stage 2 - Assessment Evidence** Performance Tasks: **Unit Pre-Assessment:** Homework quizzes, worksheet, Tests. Assign ready-made or customized practice tests to prepare students for high-stakes tests Stage 3 - Learning Plan Learning Activities: procedures/topics Reading and discussing lesson with class. Giving students examples to be completed in class. Students taking notes and using notes to complete homework assignments.

Lesson Description

Unit 1

Module 2

Lesson 2.1: Multiplying Integers Lesson 2.2: Dividing Integers
Lesson 2.3: Applying Integer Operations

Module 3

Lesson 3.1: Rational Numbers and Decimals Lesson 3.1: Rational Numbers and Decimals
Lesson 3.2: Adding Rational Numbers
Lesson 3.4: Multiplying Rational Numbers
Lesson 3.5: Dividing Rational Numbers

Lesson 3.6: Applying Rational Number Operations