

# Unit 1: Number Systems and Operations

Content Area: **Template**  
Course(s):  
Time Period: **Full Year**  
Length: **7 Weeks**  
Status: **Published**

## UNIT RATIONALE

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This unit is designed to support student's understanding of rational numbers. Students will represent mathematical and real-world situations by graphing rational numbers and their opposites on a number line and understand that rational numbers to the left of 0 have a value that is less than rational numbers to the right of 0. Students will compare numbers according to value and magnitude and observe that one number may have a greater value than another but a lesser magnitude or absolute value. Students will calculate the LCM and GCF of two numbers in order to rewrite fractions with a common denominator and to order fractions and mixed numbers from least to greatest. Students will learn to divide fractions by other fractions with like and unlike denominators. Students will demonstrate an understanding of adding and subtracting multi-digit decimals to the thousandths place. Students will demonstrate an understanding of how to multiply decimals using 10-by-10 grids, area models, and the standard algorithm. Students will divide up to four-digit dividends by up to a three-digit divisor using the standard algorithm with and without remainders. Students will divide multi-digit decimals with and without remainders, including interpreting the remainder in the context of the problem. Students will add and subtract multiply and divide rational numbers using real-world problems. Students will learn that the addition of two opposites yields a sum of zero. Finally, students will find the difference of two rational numbers by rewriting subtraction expressions as addition expressions.

## ESSENTIAL QUESTIONS

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How do mathematicians identify and interpret rational numbers using a number line?

How do mathematicians use number lines to compare and order rational numbers?

How do mathematicians find and use absolute value in real-world situations?

How do mathematicians find and use the GCF or LCM to rewrite and compare fractions?

How do mathematicians order positive and negative rational numbers of different forms?

How do mathematicians divide fractions with like and unlike denominators and mixed numbers?

How do mathematicians use LCM and GCF to add, subtract, multiply, and divide fractions?

How do mathematicians add, subtract, multiply and divide multi-digit decimals?

How do mathematicians solve real-world problems involving operations with multi-digit decimals?

How do mathematicians use a number line to add and subtract positive integers?

How do mathematicians use a number line to add and subtract a negative integer and then assess the results for reasonableness?

How do mathematicians use a number line to add and subtract rational numbers?

How do mathematicians calculate the sum, differences, products and quotients of rational numbers?

How do mathematicians use properties to solve multi-step problems involving positive and negative rational numbers?

## STANDARDS

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### INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS

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#### Analyzing and Interpreting Data

SOC.5-8.1.1.1

Construct timelines of the events occurring during major eras including comparative events in world history for the different civilizations.

### NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

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#### New Jersey Common Core - Grade 6 - Mathematics

##### CCSS.Math.Content.6.NS.B.3

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

##### CCSS.Math.Content.6.NS.C.5

Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

##### CCSS.Math.Content.6.NS.C.6c

Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

##### CCSS.Math.Content.6.NS.C.7a

Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

##### CCSS.Math.Content.6.NS.C.7b

Write, interpret, and explain statements of order for rational numbers in real-world contexts.

##### CCSS.Math.Content.6.NS.C.7c

Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.

##### CCSS.Math.Content.6.NS.C.7d

Distinguish comparisons of absolute value from statements about order.

#### New Jersey Common Core - Grade 7 - Mathematics

##### CCSS.Math.Content.7.G.A.2

Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

## CCSS.Math.Content.7.NS.A.2b

Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If  $p$  and  $q$  are integers, then  $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.

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| MA.7.RP.A.2b | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.  |
| MA.7.RP.A.3  | Use proportional relationships to solve multistep ratio and percent problems.  |
| MA.7.NS.A.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.   |
| MA.7.NS.A.1a | Describe situations in which opposite quantities combine to make 0.  |
| MA.7.NS.A.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.  |
| MA.7.NS.A.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.   |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.   |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.B.4  | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.  |
| MA.7.NS.A.2b | Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If $p$ and $q$ are integers, then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.   |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.  |
| MA.6.NS.C.6c | Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.   |
| MA.6.NS.C.7a | Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.  |
| MA.6.NS.C.7b | Write, interpret, and explain statements of order for rational numbers in real-world contexts.   |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.   |
| MA.6.NS.C.7d | Distinguish comparisons of absolute value from statements about order.   |

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| MA.7.G.A.2  | Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. |
| MA.6.EE.B.7 | Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which $p$ , $q$ and $x$ are all nonnegative rational numbers.  |
| MA.7.SP.B.3 | Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.  |

## **NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS**

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| TECH.9.4.8.CT.2  | Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1). |
| TECH.9.4.8.TL.3  | Select appropriate tools to organize and present information digitally.   |
| TECH.9.4.8.GCA.1 | Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).  |
| TECH.9.4.8.IML.5 | Analyze and interpret local or public data sets to summarize and effectively communicate the data.  |

## **NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING**

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| CS.6-8.8.1.8.AP.2 | Create clearly named variables that represent different data types and perform operations on their values.                              |
| CS.6-8.8.2.8.ED.3 | Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch). |

## **PRE-ASSESSMENTS**

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Module 1: Rational Number Concepts "Are You Ready?" pg 4

Module 2: Fraction Division "Are You Ready?" pg 44

Module 3: Fluency with Multi-Digit Decimal Operations "Are You Ready?" pg 78

Module 4: Understand Addition and Subtraction of Rational Numbers "Are You Ready?" pg 112

Module 5: Fluency with Rational Number Operations "Are You Ready?" pg 140

## **INSTRUCTIONAL PLAN**

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### **MODULE 1**

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# MODULE 1: Rational Number Concepts

## LESSON 1.1

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|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 1.1 Identify and interpret rational numbers using a number line.  |
| <b>Student Learning Strategies</b>                                     | Use Diagrams to Show Gains and Losses   |
| <b>Success Criteria</b>  | I can graph rational numbers and find their opposites.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 5 & 7)<br>Check for Understanding (p. 8)  |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 5B) & Spark Your Learning (p. 5)<br><b>Mini-lesson:</b> Build Understanding (p. 6-8)<br><b>Guided Practice:</b> Check Understanding (p. 8)<br><b>Independent Practice:</b> On Your Own (p. 9-10) & Exit Ticket (TM p. 10)<br>Teacher Resources: Into Math Teacher Edition Module 1 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 5C)  |

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| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.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.   |
| MA.6.NS.C.6a | Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$ , and that 0 is its own opposite.   |
| MA.6.NS.C.6c | Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.   |

MA.6.NS.C.7

Understand ordering and absolute value of rational numbers.

MA.6.NS.C.7c

Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.

## LESSON 1.2

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 1.2 Use number lines to compare and order rational numbers.  |
| <b>Student Learning Strategies</b>                                     | Use the Thermometer as a Number Line<br><br>Model with the Thermometer   |
| <b>Success Criteria</b>  | I can compare positive and negative rational numbers with and without a number line.   |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 13, 14, 15, 16)<br>Check for Understanding (p. 16)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 13B) & Spark Your Learning (p. 13)<br><b>Mini-lesson:</b> Build Understanding (p. 14-16)<br><b>Guided Practice:</b> Check Understanding (p. 16)<br><b>Independent Practice:</b> On Your Own (p. 17, 18) & Exit Ticket (TM p. 18)<br>Teacher Resources: Into Math Teacher Edition Module 1 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 13C)  |

MA.6.NS.C.6c

Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

MA.6.NS.C.7a

Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

MA.6.NS.C.7b

Write, interpret, and explain statements of order for rational numbers in real-world contexts.

## LESSON 1.3

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 1.3 Find and use absolute value in real-world situations.   |
| <b>Student Learning Strategies</b>                                     | Use a Number Line Scale<br>Use a Number Line without Scale  |
| <b>Success Criteria</b>  | I can find and use absolute value and magnitude to describe real-world situations.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 21, 22)<br>Check for Understanding (p. 23)  |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 21B) & Spark Your Learning (p. 21)<br><b>Mini-lesson:</b> Build Understanding (p. 22, 23)<br><b>Guided Practice:</b> Check Understanding (p. 23)<br><b>Independent Practice:</b> On Your Own (p. 24) & Exit Ticket (TM p. 24)<br>Teacher Resources: Into Math Teacher Edition Module 1 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 21C)   |

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| MA.7.RP.A.2b | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.  |
| MA.6.NS.C.7b | Write, interpret, and explain statements of order for rational numbers in real-world contexts.   |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.   |
| MA.6.NS.C.7d | Distinguish comparisons of absolute value from statements about order.   |
| MA.7.G.A.2   | Draw (with technology, with ruler and protractor, as well as freehand) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. |
| MA.7.SP.B.3  | Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.  |

## LESSON 1.4

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| <b>Student Learning Intentions (SLI) WALT: (We</b> | 1.4 Compare rational numbers using the GCF and LCM. |
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| <b>are learning to...)</b>                                   |  |
| <b>Student Learning Strategies</b>                           | Prime Factorization  |
| <b>Success Criteria</b>                                      | I can find and use the GCF or LCM to rewrite and compare fractions.  |
| <b>Formative Assessment (drives instructional decisions)</b> | Turn and Talk Question (p. 27)<br>Check for Understanding (p. 29)  |
| <b>Activities and Resources</b>                              | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 27B)<br><b>Mini-lesson:</b> Step it Out (p. 28, 29)<br><b>Guided Practice:</b> Check Understanding (p. 29)<br><b>Independent Practice:</b> On Your Own (p. 30,31) & Exit Ticket (TM p. 32)<br>Teacher Resources: Into Math Teacher Edition Module 1 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM p. 27C)  |

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| MA.6.NS.A.1  | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.   |
| MA.6.NS.B.4  | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. |
| MA.6.NS.C.7a | Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.   |
| MA.6.NS.C.7b | Write, interpret, and explain statements of order for rational numbers in real-world contexts.  |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.  |

## LESSON 1.5

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|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 1.5 Use strategies to order rational numbers.   |
| <b>Student Learning Strategies</b>                                     | Use a number line.<br>Find common denominators. |
| <b>Success Criteria</b>  | Use strategies to order rational numbers.       |

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| <b>Formative Assessment (drives instructional decisions)</b> | Turn and Talk Question (p. 35, 36)<br>Check for Understanding (p. 36)   |
| <b>Activities and Resources</b>                              | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 35B) &<br><b>Mini-lesson:</b> Step it Out (p. 35-36)<br><b>Guided Practice:</b> Check Understanding (p. 36)<br><b>Independent Practice:</b> On Your Own (p. 37-38) & Exit Ticket (TM p. 38)<br>Teacher Resources: Into Math Teacher Edition Module 1 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM p. 35C)   |

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|--------------|---|
| MA.6.NS.B.4  | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. |
| MA.6.NS.C.6a | Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$ , and that 0 is its own opposite.  |
| MA.6.NS.C.6b | Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.  |
| MA.6.NS.C.6c | Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.  |

## MODULE 2

# MODULE 2: UNDERSTAND DIVISION AND WHOLE NUMBERS

## LESSON 2.1

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 2.1 Divide fractions with like and unlike denominators. |
| <b>Student Learning Strategies</b>                                     | Use Fraction Addition<br><br>Use a Bar Model            |

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| <b>Success Criteria</b>                                      | I can divide two fractions using at least two methods.   |
| <b>Formative Assessment (drives instructional decisions)</b> | Turn and Talk Questions (p. 45, 46 & 48)<br>Check for Understanding (p. 48)  |
| <b>Activities and Resources</b>                              | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 45B) & Spark Your Learning (p. 45)<br><b>Mini-lesson:</b> Build Understanding (p. 46-48)<br><b>Guided Practice:</b> Check Understanding (p. 48)<br><b>Independent Practice:</b> On Your Own (p. 49-50) & Exit Ticket (TM p. 50)<br>Teacher Resources: Into Math Teacher Edition Modules 2 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM p. 45C)  |

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|--------------|---|
| MA.6.NS.A.1  | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. |
| MA.6.NS.C.7a | Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.   |
| MA.6.NS.C.7d | Distinguish comparisons of absolute value from statements about order.  |

## LESSON 2.2

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 2.2 Divide mixed numbers.  |
| <b>Student Learning Strategies</b>                                     | Divide Mixed Numbers Using Fractions<br>Use Models to Divide a Mixed Number by a Whole Number  |
| <b>Success Criteria</b>  | Divide a mixed number by a whole, number, fraction or mixed number.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 54 & 55)<br>Check for Understanding (p. 56)  |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 53B) & Spark Your Learning (p. 53)<br><b>Mini-lesson:</b> Build Understanding (p. 54-55)<br><b>Guided Practice:</b> Check Understanding (p. 56)<br><b>Independent Practice:</b> On Your Own (p. 57-58) & Exit Ticket |

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|--------------------------------|---|
|                                | (TM p. 58)<br>Teacher Resources: Into Math Teacher Edition Modules 2-3 & Online Resources |
| <b>Suggested Modifications</b> | Plan for Differentiated Instruction (TM p. 53c)   |

MA.6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

## LESSON 2.3

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 2.3 Divide fractions and mixed numbers.  |
| <b>Student Learning Strategies</b>                                     | Convert Mixed Numbers to Fractions<br>Divide by the Reciprocal   |
| <b>Success Criteria</b>  | I can solve real-world problems that require dividing with mixed numbers or fractions.   |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 61 & 62)<br>Check for Understanding (p. 62)  |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 61B)<br><b>Mini-lesson:</b> Build Understanding (p. 61-62)<br><b>Guided Practice:</b> Check Understanding (p. 62)<br><b>Independent Practice:</b> On Your Own (p. 63) & Exit Ticket (TM p. 64)<br>Teacher Resources: Into Math Teacher Edition Module 2 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 61)   |

MA.6.NS.A.1

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

MA.6.NS.B.2

Fluently divide multi-digit numbers using the standard algorithm.

MA.6.NS.C.7a

Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

## LESSON 2.4

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|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 2.4 Use LCM and GCF to add, subtract, multiply, and divide fractions.   |
| <b>Student Learning Strategies</b>                                     | Writing equivalent fractions.   |
| <b>Success Criteria</b>  | I can use the LCM and GCF to solve fraction problems with all four operations.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 67 & 68)<br>Check for Understanding (p. 69)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 67B)<br><b>Mini-lesson:</b> Build Understanding (p. 67-69) and Step it Out (p. 49)<br><b>Guided Practice:</b> Check Understanding (p. 69)<br><b>Independent Practice:</b> On Your Own (p. 70-71) & Exit Ticket (TM p. 72)<br>Teacher Resources: Into Math Teacher Edition Module 2 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 67C)   |

|              |  |
|--------------|--|
| MA.6.NS.A.1  | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.B.4  | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.  |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.   |

## MODULE 3

# MODULE 3: FLUENCY WITH MULTI-DIGIT DECIMAL OPERATIONS

## LESSON 3.1

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 3.1 Add and subtract multi-digit decimals  |
| <b>Student Learning Strategies</b>                                     | Use a hundredths grid.<br>Line up decimals.  |
| <b>Success Criteria</b>  | I can add and subtract decimals to thousandths.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (pg 79, 80)<br>Check Your Understanding (pg 80)<br>Exit Ticket (TM pg 82)  |
| <b>Activities and Resources</b>  | <b>Warm up:</b> Activate Prior Knowledge (TM pg 79B)<br><b>Mini Lesson:</b> Step it Out (pg 79 & 80)<br><b>Guided Practice:</b> Check Understanding (pg 80)<br><b>Independent Practice:</b> On Your Own (pg 81 & 82) & Exit Ticket (TM pg 82)<br>Teacher Resources Into Math Teacher Edition Module 3 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM pg 79C)  |

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|---------------|--|
| MATH.6.RP.A.1 | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.  |
| MA.6.NS.B.3   | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.C.7b  | Write, interpret, and explain statements of order for rational numbers in real-world contexts.   |
| MA.6.NS.C.7c  | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. |

## LESSON 3.2

|  |  |
|--|--|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 3.2 Multiply multi-digit decimals.           |
| <b>Student Learning Strategies</b>                                     | Count decimal places in problem and product. |

|  |   |
|--|---|
| <b>Success Criteria</b>                                      | I can multiply multi-digit decimals to thousandths.   |
| <b>Formative Assessment (drives instructional decisions)</b> | Turn and Talk Questions (pg 85)<br>Check Your Understanding (pg 86)<br>Exit Ticket (TM pg 88)   |
| <b>Activities and Resources</b>                              | <b>Warm up:</b> Activate Prior Knowledge (TM pg 85B)<br><b>Mini Lesson:</b> Step it Out (pg 85& 86)<br><b>Guided Practice:</b> Check Understanding (pg 86)<br><b>Independent Practice:</b> On Your Own (pg 87 & 88) & Exit Ticket (TM pg 88)<br>Teacher Resources Into Math Teacher Edition Module 3 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM pg 85C)   |

|              |  |
|--------------|--|
| MA.6.NS.B.2  | Fluently divide multi-digit numbers using the standard algorithm.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.   |

### LESSON 3.3

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 3.3 Divide multi-digit whole numbers using the standard algorithm.                                |
| <b>Student Learning Strategies</b>                                     | Estimation<br>Division  |
| <b>Success Criteria</b>  | I can divide multi-digit whole numbers and use a problem's context to interpret the remainder.    |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (pg 91, 92)<br>Check Your Understanding (pg 92)<br>Exit Ticket (TM pg 94) |

|                                 |   |
|---------------------------------|---|
| <b>Activities and Resources</b> | <p><b>Warm up:</b> Activate Prior Knowledge (TM pg 91B)</p> <p><b>Mini Lesson:</b> Step it Out (pg 91-92)</p> <p><b>Guided Practice:</b> Check Understanding (pg 92)</p> <p><b>Independent Practice:</b> On Your Own (pg 93 &amp; 94) &amp; Exit Ticket (TM pg 94)</p> <p>Teacher Resources Into Math Teacher Edition Module 3 &amp; Online Resources</p> |
| <b>Suggested Modifications</b>  | Plan for Differentiated Instruction (TM pg 91C)   |

|              |  |
|--------------|--|
| MA.6.NS.B.2  | Fluently divide multi-digit numbers using the standard algorithm.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.   |

## LESSON 3.4

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 3.4 Divide multi-digit decimals using the standard algorithm.   |
| <b>Student Learning Strategies</b>                                     | Estimation<br>Division  |
| <b>Success Criteria</b>  | I can find the quotient of multi-digit decimals.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (pg 98)<br>Check Your Understanding (pg 98)<br>Exit Ticket (TM pg 100)  |
| <b>Activities and Resources</b>  | <p><b>Warm up:</b> Activate Prior Knowledge (TM pg 97B)</p> <p><b>Mini Lesson:</b> Step it Out (pg 97-98)</p> <p><b>Guided Practice:</b> Check Understanding (pg 98)</p> <p><b>Independent Practice:</b> On Your Own (pg 99 &amp; 100) &amp; Exit Ticket (TM pg 100)</p> <p>Teacher Resources Into Math Teacher Edition Module 3 &amp; Online Resources</p> |

**Suggested Modifications**

Plan for Differentiated Instruction (TM pg 97C)

|              |  |
|--------------|--|
| MA.6.NS.B.2  | Fluently divide multi-digit numbers using the standard algorithm.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. |
| MA.6.NS.C.7b | Write, interpret, and explain statements of order for rational numbers in real-world contexts.                     |

**LESSON 3.5**

|  |  |
|--|--|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 3.5 Solve real-world problems involving operations with multi-digit decimals.  |
| <b>Student Learning Strategies</b>                                     | Estimation   |
| <b>Success Criteria</b>  | I can determine which operation is needed to solve a decimal word problem.   |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (pg 103, 104)<br>Check Your Understanding (pg 104)<br>Exit Ticket (TM pg 106)  |
| <b>Activities and Resources</b>  | <b>Warm up:</b> Activate Prior Knowledge (TM pg 103B)<br><b>Mini Lesson:</b> Step it Out (pg 104-104)<br><b>Guided Practice:</b> Check Understanding (pg 104)<br><b>Independent Practice:</b> On Your Own (pg 105-106) & Exit Ticket (TM pg 58)<br>Teacher Resources Into Math Teacher Edition Module 3 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM pg 103C)   |

|              |  |
|--------------|--|
| MA.6.NS.A.1  | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.   |
| MA.6.NS.C.5  | Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| MA.6.NS.C.7b | Write, interpret, and explain statements of order for rational numbers in real-world   |

contexts.

## MODULE 4

# MODULE 4: UNDERSTAND ADDITION AND SUBTRACTION OF RATIONAL NUMBERS

## LESSON 4.1

|  |  |
|--|--|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 4.1 Use a number line to add and subtract positive integers.   |
| <b>Student Learning Strategies</b>                                     | Use a Number Line<br>Use Bar Models  |
| <b>Success Criteria</b>  | I can use a number line to add and subtract positive integers.   |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn & Talk (pg 113, 114, 115)<br>Check Understanding (pg 116)<br>Exit Ticket (TM pg 118)  |
| <b>Activities and Resources</b>  | <b>Warm Up:</b> Activate Prior Knowledge (TM pg 113B)<br><b>Mini Lesson:</b> Build Understanding (114-116)<br><b>Guided Practice:</b> Check Understanding (pg 116)<br><b>Independent Practice:</b> On Your Own (pg 117-118) and Exit Ticket (TM pg 118)<br>Teacher Resources Into Math Teacher Edition Module 4 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM pg 113C)   |

MA.7.NS.A.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.

MA.7.NS.A.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.

MA.6.NS.B.3

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

## LESSON 4.2

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 4.2 Use a number line to add and subtract a negative integer and then assess the results for reasonableness.  |
| <b>Student Learning Strategies</b>                                     | Use Addition or Subtraction of Positive Integers<br>Use a Visual Model  |
| <b>Success Criteria</b>  | I can use a number line to add and subtract negative integers.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn & Talk (pg 121-123)<br>Check Understanding (pg 124)<br>Exit Ticket (TM pg 126)   |
| <b>Activities and Resources</b>  | <b>Warm Up:</b> Activate Prior Knowledge (TM pg 121B)<br><b>Mini Lesson:</b> Spark Your Learning (Pg 121) and Build Understanding (pg 122-124)<br><b>Guided Practice:</b> Check Understanding (pg 124)<br><b>Independent Practice:</b> On Your Own (pg 125-126) and Exit Ticket (TM pg 126)<br>Teacher Resources Into Math Teacher Edition Module 4 &<br>Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM pg 121C)  |

|              |   |
|--------------|---|
| MA.7.NS.A.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.  |
| MA.7.NS.A.1a | Describe situations in which opposite quantities combine to make 0.   |
| MA.7.NS.A.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. |
| MA.7.NS.A.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.  |

## LESSON 4.3

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 4.3 Use a number line to add and subtract rational numbers. |
|--|---|

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|--|--|
| <b>Student Learning Strategies</b>                           | Use a Number Line<br>Use Equations   |
| <b>Success Criteria</b>                                      | I can use a number line to add and subtract rational numbers.  |
| <b>Formative Assessment (drives instructional decisions)</b> | Turn & Talk (pg 129-131)<br>Check Understanding (pg 132)<br>Exit Ticket (TM pg 134)  |
| <b>Activities and Resources</b>                              | <b>Warm Up:</b> Activate Prior Knowledge (TM pg 129B)<br><b>Mini Lesson:</b> Spark Your Learning (Pg 129) and Build Understanding (pg 129-131)<br><b>Guided Practice:</b> Check Understanding (pg 132)<br><b>Independent Practice:</b> On Your Own (pg 133-134) and Exit Ticket (TM pg 134)<br>Teacher Resources Into Math Teacher Edition Module 4 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM pg 129C)   |

|              |   |
|--------------|---|
| MA.7.RP.A.3  | Use proportional relationships to solve multistep ratio and percent problems.   |
| MA.7.NS.A.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.  |
| MA.7.NS.A.1a | Describe situations in which opposite quantities combine to make 0.   |
| MA.7.NS.A.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. |
| MA.7.G.A.1   | Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.   |

## MODULE 5

# MODULE 5: FLUENCY WITH RATIONAL NUMBER OPERATIONS

## LESSON 5.4

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.4 Express rational numbers as decimals.   |
| <b>Student Learning Strategies</b>                                     | Use Long Division<br>Use a Model to Relate Fractions and Decimals   |
| <b>Success Criteria</b>  | I can show that a number is rational by writing it as a ratio of integers, and I can convert a rational number to a decimal. I can show that $-(p/q) = (-p)/q = p/(-q)$ for specific values of $p$ and $q$ .  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 165, 166 & 167)<br>Check for Understanding (p. 168)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 165B) & Spark Your Learning (p. 165)<br><b>Mini-lesson:</b> Build Understanding (p. 166-168)<br><b>Guided Practice:</b> Check Understanding (p. 168)<br><b>Independent Practice:</b> On Your Own (p. 169) & Exit Ticket (TM p. 170)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 165C)  |

|              |   |
|--------------|---|
| MA.7.NS.A.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.   |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.  |
| MA.7.NS.A.2a | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. |
| MA.7.NS.A.2b | Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If $p$ and $q$ are integers, then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.  |
| MA.7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers.   |
| MA.7.NS.A.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.   |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.   |

## LESSON 5.3

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.3 Develop rules to find products and quotients of rational numbers.   |
| <b>Student Learning Strategies</b>                                     | Use a Number Line<br>Use a Table  |
| <b>Success Criteria</b>  | I can apply the rules for multiplying and dividing rational numbers.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 157 & 159)<br>Check for Understanding (p. 160)  |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 157B) & Spark Your Learning (p. 157)<br><b>Mini-lesson:</b> Build Understanding (p. 158-160)<br><b>Guided Practice:</b> Check Understanding (p. 160)<br><b>Independent Practice:</b> On Your Own (p. 161) & Exit Ticket (TM p. 162)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 157C)  |

|              |  |
|--------------|--|
| MA.7.NS.A.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.   |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.   |
| MA.7.NS.A.2a | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.                          |
| MA.7.NS.A.2b | Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If $p$ and $q$ are integers, then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.   |
| MA.7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers.  |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.  |
| MA.7.EE.B.3  | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. |
| MA.6.EE.B.7  | Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which $p$ , $q$ and $x$ are all nonnegative rational numbers.  |

## LESSON 5.2

|  |  |
|--|--|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.2 Compute Differences of Rational Numbers  |
| <b>Student Learning Strategies</b>                                     | Use Reasoning to Find the Difference Between Integers<br>Use a Number Line to Model an Integer Subtraction   |
| <b>Success Criteria</b>  | I can compute differences of rational numbers with the same or different signs, and for real-world problems, I can interpret the results.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 149, 150, & 151)<br>Check for Understanding (p. 152)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 149B) & Spark Your Learning (p. 149)<br><b>Mini-lesson:</b> Build Understanding (p. 150-151)<br><b>Guided Practice:</b> Check Understanding (p. 152)<br><b>Independent Practice:</b> On Your Own (p.154) & Exit Ticket (TM p. 154)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 149C)   |

|              |   |
|--------------|---|
| MA.7.NS.A.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.  |
| MA.7.NS.A.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. |
| MA.7.NS.A.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.  |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.  |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.   |
| MA.6.NS.C.7c | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.  |
| MA.6.EE.B.7  | Solve real-world and mathematical problems by writing and solving equations of the form   |

$x + p = q$  and  $px = q$  for cases in which  $p$ ,  $q$  and  $x$  are all nonnegative rational numbers.

## MODULE 5.1

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.1 Compute Sums of Rational Numbers  |
| <b>Student Learning Strategies</b>                                     | Use Integer Addition to Find a Sum<br>Use Number Line to Model Integer Addition   |
| <b>Success Criteria</b>  | I can compute sums of rational numbers with the same or different signs, and for real-world problems, I can interpret the results   |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p.141 & 142)<br>Check for Understanding (p. 144)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 141B) & Spark Your Learning (p. 141)<br><b>Mini-lesson:</b> Build Understanding (p. 142-143)<br><b>Guided Practice:</b> Check Understanding (p. 144)<br><b>Independent Practice:</b> On Your Own (p. 145) & Exit Ticket (TM p. 146)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 141C)  |

|              |   |
|--------------|---|
| MA.7.NS.A.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.  |
| MA.6.NS.A.1  | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.   |
| MA.7.NS.A.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. |
| MA.7.NS.A.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.  |
| MA.6.NS.B.3  | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.  |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.  |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.   |

**LESSON 5.5**

|  |  |
|--|--|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.5 Use products and quotients of rational numbers to solve problems.  |
| <b>Student Learning Strategies</b>                                     | Use long division<br>Use estimation  |
| <b>Success Criteria</b>  | I can solve word problems that require multiplying and dividing rational numbers.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 173 & 174)<br>Check for Understanding (p. 174)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 173B) & Spark Your Learning (p.173)<br><b>Mini-lesson:</b> Build Understanding (p. 173-174)<br><b>Guided Practice:</b> Check Understanding (p. 175)<br><b>Independent Practice:</b> On Your Own (p. 176) & Exit Ticket (TM p. 176)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 173C)   |

|              |   |
|--------------|---|
| MA.7.NS.A.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.   |
| MA.7.NS.A.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.  |
| MA.7.NS.A.2a | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. |
| MA.7.NS.A.2b | Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If $p$ and $q$ are integers, then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.  |
| MA.7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers.   |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.   |

## LESSON 5.6

|  |   |
|--|---|
| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.6 Use properties to solve multi-step problems involving positive and negative rational numbers.   |
| <b>Student Learning Strategies</b>                                     | Estimation<br>Number Lines  |
| <b>Success Criteria</b>  | I can apply properties of operations to evaluate multi-step expressions with positive and negative rational numbers.  |
| <b>Formative Assessment (drives instructional decisions)</b>           | Turn and Talk Questions (p. 179, 180)<br>Check for Understanding (p. 181)   |
| <b>Activities and Resources</b>  | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 179B) & Spark Your Learning (p. 179)<br><b>Mini-lesson:</b> Build Understanding (p. 180-181)<br><b>Guided Practice:</b> Check Understanding (p. 181)<br><b>Independent Practice:</b> On Your Own (p. 182) & Exit Ticket (TM p. 182)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>   | Plan for Differentiated Instruction (TM p. 179C)  |

|              |  |
|--------------|--|
| MA.7.NS.A.1a | Describe situations in which opposite quantities combine to make 0.  |
| MA.7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers.   |
| MA.7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers.  |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.  |
| MA.7.EE.B.3  | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. |

## LESSON 5.7

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| <b>Student Learning Intentions (SLI) WALT: (We are learning to...)</b> | 5.7 Solve multi-step problems involving a combination of rational number operations. |
| <b>Student Learning Strategies</b>                                     | Distributive Property  |

|  |   |
|--|---|
| <b>Success Criteria</b>                                      | I can solve multi-step problems that involve rational numbers in different forms and multiple operations  |
| <b>Formative Assessment (drives instructional decisions)</b> | Turn and Talk Questions (p. 187 & 188)<br>Check for Understanding (p. 189)  |
| <b>Activities and Resources</b>                              | <b>Warm-up:</b> Activate Prior Knowledge (TM p. 187B) & Spark Your Learning (p. 187)<br><b>Mini-lesson:</b> Build Understanding (p. 187-188)<br><b>Guided Practice:</b> Check Understanding (p. 189)<br><b>Independent Practice:</b> On Your Own (p. 190-191) & Exit Ticket (TM p. 192)<br>Teacher Resources: Into Math Teacher Edition Module 5 & Online Resources |
| <b>Suggested Modifications</b>                               | Plan for Differentiated Instruction (TM p. 187C)  |

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|--------------|--|
| MA.7.RP.A.2c | Represent proportional relationships by equations.   |
| MA.7.NS.A.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.   |
| MA.7.NS.A.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.  |
| MA.7.NS.A.3  | Solve real-world and mathematical problems involving the four operations with rational numbers.  |
| MA.7.EE.B.3  | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. |

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## REFLECTIONS