Unit Overview	Content Elaborations	Unit Resources
Students will be able to:		Common Core Model Curriculum
		Holt Middle School Math Course 2 :Lesson 2-
describe real life situations for quantities that		11, 2-12, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7
combine to make zero		Teacher-made "properties" lessons
		Manipulatives
understand the distance between two numbers		Smart Board Resources
on a number line		United Streaming
show how opposites have a sum of zero		Study Island
interpret sums using real-world contexts		Calculator
		Laptops
understand additive inverses for subtraction of		Document Camera
rational numbers		Number lines
understand that the absolute value of distance		Coordinate Grid
on a number line is the same as the difference		
use properties to add and subtract rational		
numbers		
use the distributive property to develop		
understanding of the rules for multiplying		
integers		
using real word contexts, interpret products of		
understand that a quotient of two integers can		
be a negative rational number (with non-zoro		
divisor)		

 apply operation properties of multiplication and division using long division understand the difference between a terminating and repeating decimal use the four operations to solve real-world and mathematical problems 		
Additive Inverse Property, Addition Property of Equality, Inverse Operation, Subtraction Property of Equality, Multiplication Property	Students develop a unified understanding of number, recognizing fractions, decimals (that	It is essential to use real-world word problems to develop understanding
of Equality, Division Property of Equality, Opposite, Integers, Absolute Value, Number Line, Rational Number, Terminating Decimal,	representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication,	Use pictures, diagrams, and explanations to show why algorithms work
Repeating Decimal, Reciprocal, Decimal, Fraction, Coordinate Plane, Coordinate Grid, X-axis, Y-axis, Origin, Quadrant, Ordered Pair	and division to all rational numbers, mainintaing the properties of operations and the relationships between addition and	Develop mental math strategies for problem solving
	subtraction, and multiplication and properties of operations and the relationships between	Real-world applications
	addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of	Correlations to other subjects or project applications
	temperatures below zero), students explain and	
	interpret the rules for adding, subtracting, multiplying, and dividing with negative	
	numbers. They use the arithmetic of rational numbers as they formulate expressions and	

Grade 7 Math The Number System

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equations in one variable and use these	
equations to solve problems.	

Standards

CC_Common Core State Standards - Mathematics (2010) - Grade 7

Domain 7.NS The Number System

Cluster Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Standard 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.

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

7.NS.1.b 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.

7.NS.1.c 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.

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

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

7.NS.2.a 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.

7.NS.2.b 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.

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

7.NS.2.d 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.

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

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Student Assessment	Unit Refection
Common Core Short Cycles	Teacher comments following instruction and
	assessment This could provide a topic for
Banchmark Tests	discussion at department meetings
Deneminark resis	discussion at department meetings.
Formative Assessments (teacher made)	
Summative Tests correlated to CCSS	
Teacher Observation	

The Number System

Contont	SI-:11a	Aggaggmant
	SKIIIS	Assessment
A. Describe situations in which opposites combine to make	A. Describe situations in which opposites combine to make	
zero	zero	
B. Understand sums of rational numbers as a distance on a	1. Define and understand terms	
number line	2. Understand relationship between opposites	
C. Understand the subtraction of rational numbers as adding	3. Use real-world contexts to show how the sum of	
the additive inverse	opposites equals zero.	
D. Use addition and subtraction properties for rational	B. Understand sums of rational numbers as a distance on a	
numbers	number line	
E. Use multiplication properties for signed rational numbers	1. Introduce absolute value as the distance from zero	
F. Understand signed fractional numbers as the division of	2. Apply absolute value to real-world contexts	
integers (with non-zero divisor)	3. Use a number line to demonstrate the sums of integers	
G. Use long division to teach concept of terminating and	4. Use two-color counters to demonstrate addition of	
repeating decimals	rational numbers	
H. Utilizing all four operations, solve real-world and	5. Interpret sums of rational numbers using real-world	
mathematical problems with rational numbers	contexts	
	C. Understand the subtraction of rational numbers as adding	
	the additive inverse	
	1. Develop concept of additive inverse, $ex: p-q =$	
	p+(-q) and inverse operations	
	2. Understand that the distance between two rational	
	numbers is the absolute value of their difference	
	3. Use two-color counters to demonstrate addition of	
	rational numbers	
	4. Apply these principles in real-world contexts	
	D. Use addition and subtraction properties for rational	
	numbers	
	1. Addition property of equality	
	2. Subtraction property of equality	
	E. Use multiplication properties for signed rational numbers	
	1. Develop understanding of multiplying signed fational	
	numbers infougn use of number lines, two-color counters and	
	algorithms	
	2. Identity property of multiplication	
	4. Inverse property of multiplication	
	 Inverse property of multiplication Distributive property 	
	6. Describe real world contexts when interpreting	
	b. Describe real-world contexts when interpreting	
	F. Understand signed fractional numbers as the division of	
	r. Understand signed fractional numbers as the division of	

integers (with non-zero divisor)	
1. Use real-world examples to develop understanding of	
non-zero divisor	
2. Describe real-world contexts when interpreting	
quotients of signed rational numbers	
G. Use long division to teach concept of terminating and	
repeating decimals	
1. Review algorithm for division	
2. Identify when a decimal terminates or repeats	
H. Utilizing all four operations, solve real-world and	
mathematical problems with rational numbers	
1. Use "rich, worthwhile tasks"	
	 integers (with non-zero divisor) Use real-world examples to develop understanding of non-zero divisor Describe real-world contexts when interpreting quotients of signed rational numbers Use long division to teach concept of terminating and repeating decimals Review algorithm for division Identify when a decimal terminates or repeats Utilizing all four operations, solve real-world and mathematical problems with rational numbers Use "rich, worthwhile tasks"