

6th Grade Unit 2 Information

Rational Explorations: Numbers & Their Opposites

CRCT Domain & Weight: 19 %

[Flip Book for Unit 2](#)

[Overview: Unit 2](#)

[Prerequisites: Unit 2](#)

Unit Length: Approximately 15 days

[Checklist for Unit 2](#)

[Study Guide for Unit 2](#)

[Study Guide KEY for Unit 2](#)

Calculators are Not Allowed in This Unit.

Click on the links below for resources by Concept:

[Concept One: Opposites, Absolute Value, and Number Lines](#)

[Concept Two: Comparing and Ordering](#)

[Concept Three: Coordinate Plane](#)

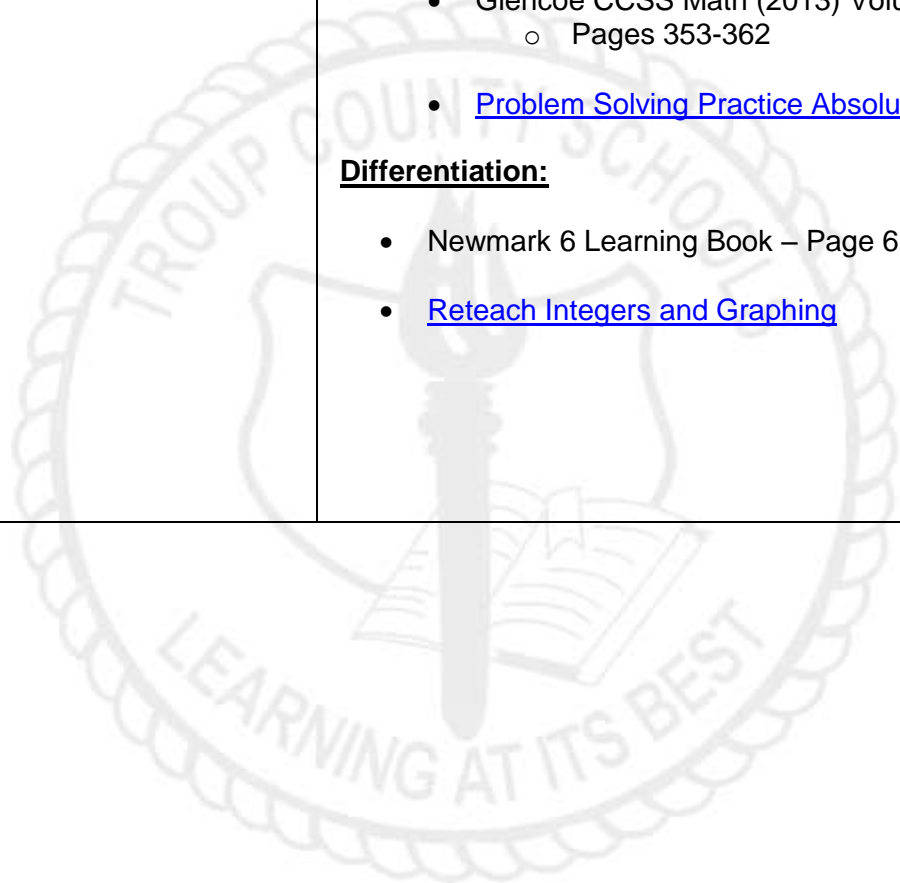
6th Grade Math Unit 2 – Numbers and Their Opposites

Concept One: Opposite, Absolute Value, and Number Lines			
Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.NS.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, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>E.Q. How do I use positive and negative numbers in everyday life?</p> <p>MGSE6.NS.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.</p> <p>E.Q. What are opposites, and how are opposites shown on a number line?</p>	<ul style="list-style-type: none"> Absolute value Integers Negative Numbers Opposite Numbers Positive Number Rational Number sign 	<p>Activator: ActivInspire Introduction to Integers</p> <ul style="list-style-type: none"> DO 2 Lessons of Eureka Math License More Eureka Math ~ TE SE <i>Four more good lessons that follow the 2 above.</i> <p>★ Excellent Resource: GSE Frameworks Lesson</p> <ul style="list-style-type: none"> What's Your Sign? 😊 <p>Encompasses NS.5, NS.6, NS7 Excellent lesson Excellent teacher notes Colored pencils</p> <p>NS.5 and NS.6a</p> <ul style="list-style-type: none"> Independent Practice Integers Glencoe CCSS Math (2013) Volume 1 <ul style="list-style-type: none"> Pages 339-352 CCGPS Frameworks Task Lesson <ul style="list-style-type: none"> Rational Numbers on Number Line <ul style="list-style-type: none"> Good practice <p>NS.7c(1)and NS.7c(2) Absolute Value</p> <ul style="list-style-type: none"> Station Activities on Absolute Value <ul style="list-style-type: none"> Station 1 – Plot Absolute Value Station 2 - Absolute Value <ul style="list-style-type: none"> Need dice & coin Station 3 – Order by Absolute Value <ul style="list-style-type: none"> Make a few cards Station 4 – NO 	<p><u>MGSE.6.NS.5</u></p> <p><u>[Back to Top]</u></p>

6th Grade Math Unit 2 – Numbers and Their Opposites

Concept One: Opposite, Absolute Value, and Number Lines

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.NS.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. <i>For example, for an account balance of –30 dollars, write $-30 = 30$ to describe the size of the debt in dollars.</i></p> <p>E.Q. Why is it useful for me to know the absolute value of a number?</p>		<ul style="list-style-type: none"> • Glencoe CCSS Math (2013) Volume 1 <ul style="list-style-type: none"> ○ Pages 353-362 • Problem Solving Practice Absolute Value <p><u>Differentiation:</u></p> <ul style="list-style-type: none"> • Newmark 6 Learning Book – Page 61-65 • Reteach Integers and Graphing 	



6th Grade Math Unit 2 – Numbers and Their Opposites

Concept Two: Comparing & Ordering

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.NS.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i></p> <p>E.Q. How do statements of inequality help me place numbers on a number line?</p> <p>MGSE6.NS.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i></p> <p>E.Q. How can statements of order help make rational numbers easier to understand?</p> <p>MGSE6.NS.7d Distinguish comparisons of absolute value from statements about order. <i>For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.</i></p> <p>E.Q. How is comparing the absolute values of numbers different than making statements about order?</p>	<ul style="list-style-type: none"> • Inequality • Inequalities 	<ul style="list-style-type: none"> • Eureka Math (2014 Common Core) License Concept Two ~ TE SE <p>NS.7a and NS.7b</p> <ul style="list-style-type: none"> • CCGPS Frameworks Learning Task <ul style="list-style-type: none"> ◦ Absolute Value & Ordering <ul style="list-style-type: none"> ▪ Differentiated into 2 versions • Station Activities ~ Ordering Rational Numbers <ul style="list-style-type: none"> ◦ Station 1 – decimals +/- <ul style="list-style-type: none"> ▪ Teacher prep 2 minutes ◦ Station 2 decimals +/- <ul style="list-style-type: none"> ▪ Need coins & dice ◦ Station 3 – decimals +/- <ul style="list-style-type: none"> ▪ Teacher-made cards ◦ Station 4 - fractions & decimals <ul style="list-style-type: none"> ▪ Teacher-made cards • Glencoe CCSS Math (2013) Volume 1 <ul style="list-style-type: none"> ◦ Pages 363-370 and 374-378 ◦ Pages 387-394 (ordering +/- fractions and decimals) <p><u>Differentiation:</u></p> <ul style="list-style-type: none"> • Newmark 6 Learning Book page 66-70 • Reteach Ordering and Comparing Integers 	<p style="text-align: center;"><u>MGSE.6.NS.7</u></p> <p style="text-align: right;"><u>[Back to Top]</u></p>

6th Grade Math Unit 2 – Numbers and Their Opposites

Concept Three: Coordinate Plane

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.NS.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. EQ: What combinations of numbers cause a point to lie in each quadrant?</p> <p>MGSE6.NS.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.</p> <p>MGSE6.NS.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>MGSE6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. E.Q. How can I use coordinates to find the distances between points?</p>	<ul style="list-style-type: none"> • Coordinate Plane • Coordinates • Ordered Pair • Origin • Polygon • Quadrant • x-axis • x coordinate • y-axis • y coordinate 	<ul style="list-style-type: none"> • Eureka Math (2014 Common Core) <i>License</i> Concept Three ~ TE SE ★ CCGPS Frameworks Learning Task <ul style="list-style-type: none"> ○ Graphing on the Coordinate Plane <ul style="list-style-type: none"> ▪ NS.6, NS.8, G.3 and more. ▪ Good learning task. • ActivInspire – Battleship! • Coordinate Practice <p>NS.6b and NS.6c Coordinate Plane</p> <ul style="list-style-type: none"> • Rate That Tune ~ Fun! <ul style="list-style-type: none"> ○ Need 20 songs from different genres ○ Lesson Plan & Task ○ Standards & EQs • Glencoe CCSS Math (2013) Volume 1 <ul style="list-style-type: none"> ○ Pages 395-402 <p>NS.8</p> <ul style="list-style-type: none"> • Glencoe CCSS Math (2013) Volume 1 <ul style="list-style-type: none"> ○ Pages 403-414 (411-414 ☺) • Distance Polygons Practice <p>G.3</p> <ul style="list-style-type: none"> • Glencoe CCSS Math (2013) Volume 2 <ul style="list-style-type: none"> ○ Pages 705-712 <p>Differentiation:</p> <ul style="list-style-type: none"> • Reteach Coordinate Plane • Newmark 6 Learning Book Pages 71-75 	<p>MGSE.6.NS.6 (coordinate plane)</p> <p>MGSE.6.NS.8</p> <p>MGSE.6.G.3</p> <p>[Back to Top]</p>