# SD Common Core State Standards Disaggregated Math Template

| **Domain:** | Number System | **Cluster:** | Apply and extend previous understandings of multiplication and division to divide fractions by fractions | **Grade level:** | 6 |
|---|---|---|---|---|---|

| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.NF.3 - Interpret a fraction as division of the numerator by the denominator (a/b = a÷b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. e.g., by using visual fraction models or equations to represent the problem. For example, interpret 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?<br>5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. | 6.NS.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. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? | 7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.<br><br>7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers. |

**Student Friendly Language:**

When given real-life problems involving fractions, I can solve using division.
I can make a visual model and write an equation in order to solve the problem.

| Know<br>(Factual) | Understand<br>(Conceptual)<br>The students will understand that: | Do<br>(Procedural, Application, Extended Thinking) |
|---|---|---|
| • Quotients can be represented using visual fraction models<br>• Quotients can be computed using equations<br>• Key words and symbols that represent division | Dividing fractions is the same as multiplying by the reciprocal/multiplicative inverse.<br>Dividing a proper fraction by a proper fraction results in a quotient larger than the dividend or divisor.<br>Fractions can be a “part to whole” relationship.<br>Key words like “share” and “equal” indicate division.<br>Multiplication is the inverse of division. | Interpret the problem to identify and compute using the correct operation.<br>Explain the relationship between their model and equation.<br>Justify why the answer is a reasonable solution to the problem.<br>Explain an algorithm and use it to solve division problems.<br>Create a story context that will represent a real life problem that involves division of fractions by fractions. |

**Key Vocabulary:**

quotient product reciprocal/multiplicative inverse proper fraction numerator denominator
mixed number improper fraction equation divisor dividend

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question “why do I have to learn this”?

Recipes: Determine that if a recipe for a batch of cookies calls for 2/3 cup of sugar and you have 6 1/3 cups of sugar, how many batches of cookies could you make?
Dividing a recipe; Sharing a fractional amount of food with a part of a group: We have ¾ of a pizza to share with ½ the class. How much will the students receive?
How many ¾ cup servings are in 6 ½ cups of ice cream?
If you have a gallon and a half of weed killer, and you need 2/3 cup for every one hundred acres, how many acres could you spray?
How many quarter miles are in 2 ½ miles?
How many eighth notes (1/2 beat) are in a dotted half note (3 beats)?
In which jobs would you work with fractions?
In groups, students will cut up 6 candy bars to see how they can be divided into 1/3’s.

# SD Common Core State Standards Disaggregated Math Template

| **Domain:** | Number System | **Cluster:** | Compute fluently with multi-digit numbers and find common factors and multiples | **Grade level:** | 6 |
|---|---|---|---|---|---|

| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | 6.NS.2 Fluently divide multi-digit numbers using the standard algorithm. | 7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. |

| **Student Friendly Language:** |
|---|
| I can divide a number with two or more digits by another number with two or more digits using the standard algorithm. |

| **Know (Factual)** | **Understand (Conceptual) The students will understand that:** | **Do (Procedural, Application, Extended Thinking)** |
|---|---|---|
| • Standard division algorithm for single digit numbers is the same as multi-digit numbers<br>• Quotients are expressed in different forms<br>• Estimation strategies for division | The process of standard division algorithm calculates the quotient.<br><br>Quotients can be expressed as a whole number, mixed number, fraction, terminating decimal and/or repeating decimal.<br><br>Estimation strategies can be used to find reasonable digits in the quotient. | Use the standard division algorithm to divide multi-digit numbers fluently.<br><br>Apply the standard algorithm of division in a variety of real life situations.<br><br>Use estimation strategies throughout the division process.<br><br>Choose the appropriate quotient form for the situation. |

| **Key Vocabulary:** |
|---|
| standard division algorithm dividend divisor quotient<br>remainder terminating decimal repeating decimal/non-terminating decimal mixed number |
| **Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"? |
| Break something into equal sized groups or parts.<br><br>The school is having a fund drive for their local food pantry. There are 84 students in the participating classes. They raised a total of 756 items. How many items did each student bring?<br><br>Mike had to bring snacks for the Halloween party. There were 225 animal crackers in a jumbo pack. If there are 22 students in his classroom, how many crackers would each student receive? |

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| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. | 6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. | 7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.<br>7.NS.2 Apply and extend previous understandings of multiplication and<br>division and of fractions to multiply and divide rational numbers.<br>7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers. |

| Student Friendly Language: |
|---|
| I can add multi-digit decimals using the standard algorithm.<br>I can subtract multi-digit decimals using the standard algorithm.<br>I can multiply multi-digit decimals using the standard algorithm.<br>I can divide multi-digit decimals using the standard algorithm. |

| Know<br>(Factual) | Understand<br>(Conceptual)<br>The students will understand that: | Do<br>(Procedural, Application, Extended Thinking) |
|---|---|---|
| • Decimal place value<br>• Standard algorithm for addition, subtraction, multiplication, and division of decimals<br>• Estimation strategies for addition, subtraction, multiplication, and division | Place value alignment is important when adding and subtracting multi-digit decimals.<br><br>Placement of the decimal point is important when multiplying and dividing multi-digit decimals.<br><br>Estimation strategies can be used to find reasonable answers. | Explain the process of adding and subtracting multi-digit decimals to the other students.<br>Create problems that involve adding or subtracting multi-digit decimals.<br>Explain the decimal point placement in the product of two multi-digit decimals.<br>Explain the movement of the decimal point when dividing two multi-digit decimals.<br>Create problems that involve multiplication or division of multi-digit decimals.<br>Calculate the sum, difference, product, and quotient of two multi-digit decimals<br>Estimate to determine if the answer is reasonable. |

| Key Vocabulary: | | | | |
|---|---|---|---|---|
| multiplication | product | division | quotient | subtraction |
| difference | addition | sum | decimal point | <u>decimal place value</u> |

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

At home/Real-World: Ask your family members to take their savings from their piggy banks and pool their money together to buy one family toy.
Calculate the amount of tax, when given the percentage in decimal form, on items for purchase at a local business.
Calculate the increases and decreases in temperature using decimals.
Calculate a store discount.
Calculate the total cost of multiple items purchased.

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|---|---|---|
| 5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7).* Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product. | 6.NS.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. For example, express 36 + 8 as 4 (9 + 2). | 7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.4a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where $p$, $q$, and $r$ are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where $p$, $q$, and $r$ are specific rational numbers. Graph the solution set of the |

| **Student Friendly Language:** |
|---|
| I can find the greatest common factor of two whole numbers from 1-100.<br>I can find the least common multiple of two whole numbers less than or equal to 12.<br>I can use the distributive property to rewrite expressions. |

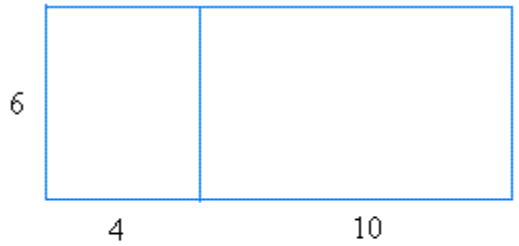
| Know | Understand (Conceptual) The students will understand that: | Do (Procedural, Application, Extended Thinking) |
|---|---|---|
| • greatest common factor (GCF)<br>• least common multiple( LCM)<br>• distributive property can be used to rewrite an addition expression<br>. | The distributive property can change one's perspective on an expression or situation.<br><br>The GCF and LCM can help us see patterns and structure between whole numbers.<br><br>The sum of any pair of whole numbers can be rewritten as the GCF multiplied by the sum of two whole numbers sharing only one as a factor.<br><br>The GCF of two prime numbers is 1<br><br>Common factors can help us solve rate and fraction problems.<br><br>Factors of two whole numbers less than or equal to 100 help to identify common factors | Identify GCF of two whole numbers less than or equal to 100.<br><br>Determine LCM of two whole numbers less than or equal to 12.<br><br>Use the distributive property to express a sum of two whole numbers as the GCF multiplied by the sum of two whole numbers.<br><br>Connect knowledge and explain the GCF and Distributive Property in an everyday situation. |

| **Key Vocabulary:** |
|---|
| multiples factors prime number composite number distributive property least common multiple <u>greatest common factor</u> |

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

Mental Math: The distributive property is important in real life because it makes complex problems easier to calculate mentally.

Earn money: If you work for 6 hours one day and 4 hours another day, how much would you earn if you made $2 per hour?
Cycles: Many things happen over and over again in fixed cycles, like the earth circling the sun, cicadas emerging from the earth, economies rising and falling. Scientists and researchers are interested in figuring out when events with different cycles can occur at the same time. The greatest common factor and least common multiple are both tools they may use to answer those questions.
Eliminating Waste
Suppose you run a small convenience store. You donate treats for school parties, but you don't want your donations to be wasted. Suppose you donated 120 cans of juice and 90 packs of cheese crackers for a class field trip. Each student is to receive the same number of cans of juice and the same number of packs of crackers. What is the greatest number of students who can go on the trip and share the donations with no waste? Knowledge of greatest common factors and least common multiples will answer these types of questions
Thanksgiving: You are making pumpkin pies for the bake sale. Pie crusts are sold in packages of 3. Pie filling is sold in 4-can packages. What is the least number of pie crusts and filling that you can buy to have the same number of each? How many packages of each should you buy?
Youth activities: Bridget has swimming lessons every fifth day and diving lessons every third day. If she had a swimming lesson and a diving lesson on May 5, what will be the next date on which she has both swimming and diving lessons
Wedding Banquet: Shannon is making identical balloon arrangements for a party. She has 32 maroon balloons, 24 white balloons, and 16 orange balloons. She wants each arrangement to have the same number of each color. What is the greatest number of arrangements that she can make if every balloon is used?
Building a garage: Look at the following illustration. How would you get the area?




$$\text{Area} = 6*(4+10) = 6*4+6*10$$

Distributive property

Area = width × length
Since width = 6 and length = 4 + 10, area = 6 × (4 + 10)
You can do the math two ways.
You can add 4 and 10 and multiply what you get by 6.
Otherwise, you can use the distributive property illustrated above by multiplying 6 by 4 and 6 by 10 and adding the results.

Shopping: You go to the supermarket. 1 bag of apples costs 4 dollars. 1 gallon of olive oil costs 10 dollars. You get 6 bags of apples and 6 gallons of olive oil.
How much money do you pay the cashier?
Total cost = # of items you purchased × (cost for apples + cost for olive oil)
Total cost = 6 × (4 + 10) = (6 × 4) + (6 × 10) = 24 + 60 = 84 dollars.

# SD Common Core State Standards Disaggregated Math Template

| **Domain:** | Number System | **Cluster:** | Apply and extend previous understandings of numbers to the system of rational numbers | **Grade level:** | 6 |
|---|---|---|---|---|---|

| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret values of points in the context of the situation | 6.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. | 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. |

| **Student Friendly Language:** |
|---|
| I can use positive and negative numbers to describe situations in real life such as temperatures, elevations, saving or owing money, and positive/negative electrical charges.<br><br>I can explain the concept of zero in different situations. |

| Know (Factual) | Understand (Conceptual) The students will understand that: | Do (Procedural, Application, Extended Thinking) |
|---|---|---|
| • Positive and negative numbers<br><br>• Value of zero | Positive and negative numbers are used together to describe quantities.<br><br>Zero has a role in real world contexts when positive and negative numbers are used together. | Use positive and negative numbers to represent real-life quantities.<br><br>Explain a number's relationship to zero in various situations. |

| **Key Vocabulary:** | | | | | | | |
|---|---|---|---|---|---|---|---|
| positive numbers | negative numbers | zero | quantities | value | direction | integers | opposite |

| **Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"? |
|---|
| What integers would represent various real world situations?<br>For example; a loss of 6 yards, 200 feet above sea level, $25 deposit, $75 withdrawal, a decrease in temperature of 9 degrees. |

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|---|---|---|---|---|---|

| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, which the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). | 6.NS.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.<br>a. 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.<br>b. 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.<br>c. 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. | 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.<br>a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*<br>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.<br>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.<br>d. Apply properties of operations as strategies to add and subtract rational numbers. |

**Student Friendly Language:**

I can locate positive and negative rational numbers and their opposites on a horizontal or vertical number line.
I can plot positive and negative rational numbers and their opposites on a horizontal or vertical number line.
I can locate ordered pairs on a coordinate plane.
I can plot ordered pairs on a coordinate plane.
I can identify the quadrant in which the ordered pair is located.
I can reflect an ordered pair across one or both axes.

| Know (Factual) | Understand (Conceptual) The students will understand that: | Do (Procedural, Application, Extended Thinking) |
|---|---|---|
| • Integers and their opposites<br>• Four quadrants in a coordinate plane<br>• Reflection over x and/or y-axis | All rational numbers can be placed on a number line.<br>Number's sign will determine its placement on a number line or in a specific quadrant.<br>Numbers and their opposites are equally distant from 0.<br>The opposite of an ordered pair is a reflection across one or both axes.<br>Number lines can be horizontal or vertical.<br>Zero is its own opposite. | Locate and plot rational numbers and their opposites on a number line.<br>Identify the value of a number based on its location on a number line.<br>Locate and plot ordered pairs on a coordinate plane.<br>Identify the coordinates of plotted points.<br>Given an ordered pair, graph the reflection. |

**Key Vocabulary:**

integers opposites coordinate plane ordered pairs quadrants rational numbers
number lines reflection positive negative horizontal axis (x-axis)
vertical axis (y-axis) origin coordinate x-coordinate y-coordinate

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

Temperature/thermometer – "The temperature was 5º below zero when I left for school in the morning. When I came home it was 5º above zero. Plot both of these temperatures on a vertical number line."
Banking – credits and debits
Sports – football and golf
Stock market - increase and decrease
Elevation - below and above sea level

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| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
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| 5.NF.5 Interpret multiplication as scaling (resizing), by:<br><br>a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.<br><br>b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying $a/b$ by 1.<br><br>5.NBT.3 Read, write, and compare decimals to thousandths.<br><br>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).<br><br>b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. | 6.NS.7 Understand ordering and absolute value of rational numbers.<br><br>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *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.*<br><br>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. (*for example, write -3 degrees Celsius > -7 degrees Celsius to express the fact that -3 is warmer than -7 degrees)*<br><br>c. 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. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.*<br><br>d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.* | 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.<br><br>a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*<br><br>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 context.<br><br>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.<br><br>d. Apply properties of operations as strategies to add and subtract rational numbers. |

| **Student Friendly Language:** |
|---|
| I can write inequalities to compare rational numbers.<br><br>I can use inequality symbols to compare rational numbers.<br><br>I can use a number line to compare negative and positive numbers.<br><br>I can write positive and negative numbers in real life situations.<br>(For example: temperatures, money, golf scores)<br><br>I can use positive and negative numbers in real life situations.<br><br>I can use absolute value to help me find the distance of positive and negative numbers from 0.<br><br>I can tell the difference between comparing negative numbers and the absolute value of negative numbers. |

| Know<br>(Factual) | Understand<br>(Conceptual)<br>The students will understand that: | Do<br>(Procedural, Application, Extended Thinking) |
|---|---|---|
| • Integers are rational numbers<br>• Absolute value is the distance from zero<br>• Symbols for greater than and less than (inequalities) | There is a relationship between positive and negative numbers and between two negative numbers.<br><br>Positive and negative numbers occur in the real world.<br><br>Absolute value is a number's distance from 0 on a number line.<br><br>Absolute value has real world applications.<br><br>Number lines with rational numbers plotted on them can aid in interpreting inequality statements. | Interpret an inequality with negative and positive numbers using a number line.<br><br>Explain how the order of rational numbers is used in real life.<br><br>Interpret the absolute value as a distance from 0.<br><br>Explain the difference between the order of negative numbers and the order of the absolute value of negative numbers.<br><br>Plot rational numbers on a number line.<br><br>Explain how absolute value is used in real life situations. |

| **Key Vocabulary:** | | | |
|---|---|---|---|
| inequality<br>number line | integers<br>magnitude | rational numbers<br>negative | absolute value<br>positive |

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

The temperature today is -1 degree and the temperature yesterday was -5 degrees. Is it warmer or colder today?

In a golf tournament, Annika Sorenstam shot 5 under par on Thursday and 2 under par on Friday. Using comparisons of absolute value, determine which day she golfed the best (in golf, the lower the number, the better the score).

If you add $42.98 to your savings account, would you describe that as a debit or credit?

At a pizza party, three large pizzas were ordered. After the meal, there was 2/3 of the supreme, 1/8 of the pepperoni, and 3/16 of the cheese pizzas remaining. Which kind of pizza had the greatest portion left?

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|---|---|---|---|---|---|

| Correlating Standard in Previous Year | Number Sequence & Standard | Correlating Standard in Following Year |
|---|---|---|
| 5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in a plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate.<br><br>5.G.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. | 6.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. | 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. |

**Student Friendly Language:**

I can graph ordered pairs in all four quadrants of a coordinate plane.
I am able to determine which quadrant an ordered pair would be plotted by reading the coordinates alone.
I can find the distance between points with the same first coordinate or second coordinate.
I can use absolute value to find distance between points anywhere on a coordinate plane.

| Know (Factual) | Understand (Conceptual) The students will understand that: | Do (Procedural, Application, Extended Thinking) |
|---|---|---|
| • Four quadrants in a coordinate plane<br>• Integers and their opposes | Distance between points on a coordinate plane can be calculated by using absolute value.<br><br>Real world problems can be solved by graphing points on a coordinate plane. | Calculate the distance between points on a coordinate plane.<br><br>Plot points to solve real world problems.<br><br>Explain how to calculate distance between points on a coordinate plane. |

**Key Vocabulary:**

| | | | | |
|---|---|---|---|---|
| absolute value | ordered pair | coordinate plane | horizontal axis (x-axis) | x-coordinate |
| vertical axis (y-axis) | y-coordinate | quadrant | integer | opposite |
| positive | negative | origin | | |

**Relevance and Applications:** How might the grade level expectation be applied at home, on the job or in a real-world, relevant context? Include at least one example stem for the conversation with students to answer the question "why do I have to learn this"?

Using a map on a coordinate plane, calculate the distance from one landmark to another. (The landmarks share the same first coordinate or same second coordinate.)

Draw the Big Dipper constellation on a coordinate plane and list the plotted ordered pairs.