

Topic: The Number System

Key Learning: M06.A-N.1

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

CC.2.1.6.E.1

Unit Essential Question:

How do I solve real-world and mathematical problems involving division of fractions?

Assessment Anchor: M06.A-N.1.1.1 Concept: Dividing Fractions	Concept:	Concept:
Essential Question(s): How do I interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions?	Essential Question(s):	Essential Question(s):
Vocabulary: Fractions, mixed numbers, division, dividend, quotient, divisor	Vocabulary:	Vocabulary:

Concept:	Concept:	Concept:
Essential Question(s):	Essential Question(s):	Essential Question(s):
Vocabulary:	Vocabulary:	Vocabulary:

Additional Information:

Topic: The Number System

Key Learning: M06.A-N.2
 Identify and choose appropriate processes to compute fluently with multi-digit numbers.
 CC.2.1.6.E.2

Unit Essential Question:
 How do I compute with multi-digit numbers using the four arithmetic operations with or without a calculator?

Assessment Anchor: M06.A-N.2.1.1 Concept: Operations with Whole Numbers and Decimals	Concept:	Concept:
Essential Question(s): How do I solve problems involving operations (+, -, x, ÷) with whole numbers, decimals (through thousandths), straight computation, or word problems?	Essential Question(s):	Essential Question(s):
Vocabulary: Operations (+, -, x, ÷), decimals, place values, computation	Vocabulary:	Vocabulary:

Concept:	Concept:	Concept:
Essential Question(s):	Essential Question(s):	Essential Question(s):
Vocabulary:	Vocabulary:	Vocabulary:

Additional Information:

Topic: The Number System

Key Learning: M06.A-N.2
 Compute with multi-digit numbers and find common factors and multiples.
 CC.2.1.6.E.3

Unit Essential Question:
 How do I apply number theory concepts (specifically, factors and multiples)?

Assessment Anchor: M06.A-N.2.2.1 Concept: GCF	Assessment Anchor: M06.A-N.2.2.2 Concept: LCM	Assessment Anchor: M06.A-N.2.2.3 Concept: Distributive & Associative Property
Essential Question(s): How do I find the greatest common factor of two whole numbers less than or equal to 100?	Essential Question(s): How do I find the least common multiple of two whole numbers less than or equal to 100?	Essential Question(s): How do I apply the distributive and associative property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor?
Vocabulary: GCF	Vocabulary: LCM	Vocabulary: Distributive, associative properties

Concept:	Concept:	Concept:
Essential Question(s):	Essential Question(s):	Essential Question(s):
Vocabulary:	Vocabulary:	Vocabulary:

Additional Information:

Topic: The Number System

Key Learning: M06.A-N.3
 Apply and extend previous understandings of numbers to the system of rational numbers.
 CC.2.1.6.E.4

Unit Essential Question:
 How do I understand that positive and negative numbers are used together to describe quantities having opposite directions or values and locations on the number line and coordinate plane?

Assessment Anchor: M06.A-N.3.1.1 Concept: Positive & Negative Numbers	Assessment Anchor: M06.A-N.3.1.2 Concept: Opposite of a Number	Assessment Anchor: M06.A-N.3.1.3 Concept: Integers, Rational Numbers, Number Line
Essential Question(s): How do I represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge)?	Essential Question(s): How do I determine the opposite of a number and 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)?	Essential Question(s): How do I locate and plot integers and other rational numbers on a horizontal or vertical number line?
Vocabulary: Positive, negative numbers, temperature, seal level, integers	Vocabulary: opposite	Vocabulary: Horizontal and vertical number line, plotting, integers

Assessment Anchor: M06.A-N.3.1.4 Concept: Integers, Rational Numbers, Coordinate Plane	Concept:	Concept:
Essential Question(s): How do I locate and plot pairs of integers and other rational numbers on a coordinate plane?	Essential Question(s):	Essential Question(s):
Vocabulary: Horizontal and vertical number line, plotting, integers, coordinate plane	Vocabulary:	Vocabulary:

Additional Information:

Topic: The Number System

Key Learning: M06.A-N.3
 Apply and extend previous understandings of numbers to the system of rational numbers.
 CC.2.1.6.E.4

Unit Essential Question:
 How do I understand ordering and absolute value of rational numbers?

Assessment Anchor: M06.A-N.3.2.1 Concept: Order of Rational Numbers	Assessment Anchor: M06.A-N.3.2.2 Concept: Absolute Value	Assessment Anchor: M06.A-N.3.2.3 Concept: 4 Quadrants of Coordinate Plane
Essential Question(s): How do I write, interpret, and explain statements of order for rational numbers in real-world contexts?	Essential Question(s): How do I interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive quantity in a real-world situation?	Essential Question(s): How do I solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane including use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate?
Vocabulary: Rational numbers	Vocabulary: Absolute value, rational numbers	Vocabulary: Plotting points, four quadrants, coordinate plane

Concept:	Concept:	Concept:
Essential Question(s):	Essential Question(s):	Essential Question(s):
Vocabulary:	Vocabulary:	Vocabulary:

Additional Information:

Topic: Geometry

Key Learning: M06.C-G.1
 Solve real-world and mathematical problems involving area, surface area, and volume.
 CC.2.3.6.A.1

Unit Essential Question:
 How do I find area, surface area, and volume by applying formulas and using various strategies?

Assessment Anchor: M06.C-G.1.1.1 Concept: Area of Regular Shapes	Assessment Anchor: M06.C-G.1.1.2 Concept: Area of Irregular Shapes	Assessment Anchor: M06.C-G.1.1.3 Concept: Volume of Prisms
Essential Question(s): How do I determine the area triangles and special quadrilaterals (i.e. square, rectangle, parallelogram, and rhombus, trapezoid)?	Essential Question(s): How do I determine area of irregular or compound polygons?	Essential Question(s): How do I determine the volume of right rectangular prisms with fractional edge lengths?
Vocabulary: square, rectangle, parallelogram, and rhombus, trapezoid, area	Vocabulary: Polygons, area, irregular and compound polygons	Vocabulary: Volume, rectangular prisms

Assessment Anchor: M06.C-G.1.1.4 Concept: Polygon Sides (Length)	Assessment Anchor: M06.C-G.1.1.5 Concept: 3-D Figures	Assessment Anchor: M06.C-G.1.1.6 Concept: Surface Area
Essential Question(s): Given coordinates of the vertices of a polygon in the plane, how do I use the coordinates to find side lengths and area of the polygon?	Essential Question(s): How do I represent three-dimensional figures using nets made up of triangles and rectangles?	Essential Question(s): How do I determine the surface area of triangular and rectangular prisms?
Vocabulary: Vertex, vertices, polygon, coordinates	Vocabulary: 3-D figures	Vocabulary: Surface area

Additional Information:

Topic: Statistics and Probability

Key Learning: M06.D-S.1
 Demonstrate understanding of statistical variability by summarizing and describing distributions.
 CC.2.4.6.B.1

Unit Essential Question:
 How do I display, analyze, and summarize numerical data sets in relation to their context?

Assessment Anchor: M06.D-S.1.1.1 Concept: Display Data - Plots	Assessment Anchor: M06.D-S.1.1.2 Concept: Quantitative Measure	Assessment Anchor: M06.D-S.1.1.3 Concept: Data Patterns & Standard Deviation
Essential Question(s): How do I display numerical data in plots on a number line, including dot plots, histograms, and box-and-whisker plots?	Essential Question(s): How do I determine quantitative measures of center (e.g., median, mean, and/or mode) and variability (e.g. range, interquartile range, and/or mean absolute deviation)?	Essential Question(s): How do I describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered?
Vocabulary: Number line, dot plots, histograms, box-and-whisker plots	Vocabulary: median, mean, mode, range, interquartile range, absolute deviation	Vocabulary: Deviations

Assessment Anchor: M06.D-S.1.1.4 Concept: Data: Variability & Deviation	Concept:	Concept:
Essential Question(s): How do I relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered?	Essential Question(s):	Essential Question(s):
Vocabulary: Variability, measures of center	Vocabulary:	Vocabulary:

Additional Information:

Topic: Expressions and Equations

Key Learning: M06.B-E.1
 Apply and extend previous understandings of arithmetic to numerical and algebraic expressions.
 CC.2.2.6.B.1

Unit Essential Question:
 How do I identify, write, and evaluate numerical and algebraic expressions?

Assessment Anchor: M06.B-E.1.1.1 Concept: Whole-number Exponents	Assessment Anchor: M06.B-E.1.1.2 Concept: Algebraic Expressions	Assessment Anchor: M06.B-E.1.1.3 Concept: Parts of an Expression using Mathematical Terms
Essential Question(s): How do I write and evaluate numerical expressions involving whole-number exponents?	Essential Question(s): How do I write algebraic expressions from verbal descriptions?	Essential Question(s): How do I identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity)?
Vocabulary: numerical, exponents	Vocabulary: algebraic expression	Vocabulary: sum, term, product, factor, quotient, coefficient, quantity

Assessment Anchor: M06.B-E.1.1.4 Concept: Formulas	Assessment Anchor: M06.B-E.1.1.5 Concept: Properties of Operations	Concept:
Essential Question(s): How do I evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems?	Essential Question(s): How do I apply the properties of operations to generate equivalent expressions?	Essential Question(s):
Vocabulary: variable, formula	Vocabulary: equivalent	Vocabulary:

Additional Information:

Topic: Expressions and Equations

Key Learning: M06.B-E.2
 Interpret and solve one-variable equations and inequalities.
 CC.2.2.6.B.2

Unit Essential Question:
 How do I create, solve, and interpret one-variable equations in real-world and mathematical problems?

Assessment Anchor: M06.B-E.2.1.1 Concept: Equation Inequalities	Assessment Anchor: M06.B-E.2.1.2 Concept: Real-world Algebra	Assessment Anchor: M06.B-E.2.1.3 Concept: Writing & Solving Equations with Variables
Essential Question(s): How do I use substitution to determine whether a given number in a specified set makes an equation or inequality true?	Essential Question(s): How do I write algebraic expressions to represent real-world or mathematical problems?	Essential Question(s): How do I 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 non-negative rational numbers?
Vocabulary: substitute, inequality, equation	Vocabulary: algebraic expression	Vocabulary: rational numbers

Assessment Anchor: M06.B-E.2.1.4 Concept: Inequalities	Concept:	Concept:
Essential Question(s): How do I write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem and/or represent solutions of such inequalities on number lines?	Essential Question(s):	Essential Question(s):
Vocabulary: inequality	Vocabulary:	Vocabulary:

Additional Information:

Topic: Expressions and Equations

Key Learning: M06.B-E.3
 Represent and analyze quantitative relationships between dependent and independent variables.
 CC.2.2.6.B.3

Unit Essential Question:
 How do I use variables to represent two quantities in a real-world problem that change in relationship to one another?

Assessment Anchor: M06.B-E.3.1.1 Concept: Dependent & Independent Variables	Assessment Anchor: M06.B-E.3.1.2 Concept: Analyze Relationships between Dependent & Independent Variables	Concept:
Essential Question(s): How do I write an equation to express the relationship between the dependent and independent variables?	Essential Question(s): How do I analyze the relationship between the dependent and independent variables using graphs and tables, and/or relate these to an equation?	Essential Question(s):
Vocabulary: dependent variable, independent variable	Vocabulary: dependent variable, independent variable	Vocabulary:

Concept:	Concept:	Concept:
Essential Question(s):	Essential Question(s):	Essential Question(s):
Vocabulary:	Vocabulary:	Vocabulary:

Additional Information:

Topic: Ratios and Proportional Relationships

Key Learning: M06.A-R.1
 Understand ratio concepts and use ratio reasoning to solve problems.
 CC.2.1.6.D.1

Unit Essential Question:
 How are real-world mathematical problems represented and/or solved using rates, ratios, and/or percents?

Assessment Anchor: M06.A-R.1.1.1 Concept: Ratios	Assessment Anchor: M06.A-R.1.1.2 Concept: Unit Rate	Assessment Anchor: M06.A-R.1.1.3 Concept: Equivalent Ratios
Essential Question(s): How do I describe a ratio relationship between two quantities using ratio language and notation (such as 3 to 4, 3:4, $\frac{3}{4}$)?	Essential Question(s): How do I find the unit rate a/b associated with a ratio $a:b$ (with $b \neq 0$), and use rate language in the context of a ratio relationship?	Essential Question(s): How do I construct tables of equivalent ratios relating quantities with whole-number measurements, find missing values in tables, and/or plot the pairs of values on the coordinate plane?
Vocabulary: ratio	Vocabulary: ratio, rate, unit rate	Vocabulary: table, coordinates, coordinate plane

Assessment Anchor: M06.A-R.1.1.4 Concept: Tables to Compare Ratios	Assessment Anchor: M06.A-R.1.1.5 Concept: Unit Rate Problems	Assessment Anchor: M06.A-R.1.1.6 Concept: Percent of a Quantity
Essential Question(s): How do I use tables to compare ratios?	Essential Question(s): How do I solve unit rate problems including those involving unit pricing and constant speed?	Essential Question(s): How do I find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $\frac{30}{100}$ times the quantity)?
Vocabulary: table, ratio	Vocabulary: unit rate, unit price, speed	Vocabulary: percent, rate, of (means multiply)

Assessment Anchor: M06.A-R.1.1.7 Concept: Percentage of a Whole	Assessment Anchor: Concept:	Concept:
Essential Question(s): How do I solve problems involving finding the whole, given a part and the percent?	Essential Question(s):	Essential Question(s):
Vocabulary: percent, whole (means 100%), of (means multiply)	Vocabulary:	Vocabulary:

Additional Information: