91281 The Number System: Real Numbers

Lesson Objective	CCSS	Page	Lesson Title
Identify a number as a rational or irrational number.	8.NS.A.1	1	Try to Be Rational
Rename a rational number as a decimal.	8.NS.A.1	2	Fractions as Decimals
Rename a rational number as a repeating decimal.	8.NS.A.1	3	Repeat After Me!
Rename a repeating decimal as a fraction.	8.NS.A.1	4	Repeating Decimals as Fractions
Find square roots of small perfect squares.	8.EE.A.2	5	Finding Square Roots
Find cube roots of small perfect cubes.	8.EE.A.2	6	Finding Cube Roots
Estimate the square root of a whole number.	8.NS.A.2	7	Not Your Perfect Square
Find the approximate location for an irrational number on a number line.	8.NS.A.2	8	Irrational Numbers on a Number Line
Estimate the value of an expression that includes an irrational number.	8.NS.A.2	9	Estimate Expressions with Irrational Numbers
Compare irrational numbers.	8.NS.A.2	10	Irrational Number Comparisons
Classify numbers.		11	Classify Numbers
Identify the coefficient, base, and exponent in an exponential expression.	8.EE.A.1	12	Parts of an Exponential Expression
Multiply powers with the same base.	8.EE.A.1	13	Multiply Powers
Divide powers with the same base.	8.EE.A.1	14	Divide Powers
Multiply or divide powers with the same base.	8.EE.A.1	15	Multiply and Divide Powers
Multiply powers with the same exponent but different bases.	8.EE.A.1	16	Multiply Powers with the Same Exponent
Divide powers with the same exponent but different bases.	8.EE.A.1	17	Divide Powers with the Same Exponent
Use the power of a product property to raise a product to a power.	8.EE.A.1	18	Raise a Product to a Power
Use the power of a quotient property to raise a quotient to a power.	8.EE.A.1	19	Raise a Quotient to a Power
Rewrite expressions with negative exponents using positive exponents.	8.EE.A.1	20	Expressions with Negative Exponents
Apply exponent properties for 0 and 1 to generate equivalent expressions.	8.EE.A.1	21	Using Exponent Properties for 0 and 1
Use properties of exponents to generate equivalent numerical expressions.	8.EE.A.1	22	Writing Equivalent Numerical Expressions
Estimate a very large number by writing it as a single digit times an integer power of 10.	8.EE.A.3	23	Estimate Very Large Numbers
Estimate a very small number by writing it as a single digit times an integer power of 10.	8.EE.A.3	24	Estimate Very Small Numbers
Use estimates of numbers written as a single digit times an integer power of 10 to express how many times as much one is than another.	8.EE.A.3	25	How Many Times Larger or Smaller?
Name a whole number using scientific notation.	8.EE.A.3	26	Name Whole Numbers Using Scientific Notation
Name a decimal using scientific notation.	8.EE.A.3	27	Name Decimals Using Scientific Notation
Add numbers expressed in scientific notation.	8.EE.A.4	28	Add Numbers in Scientific Notation
Subtract numbers expressed in scientific notation.	8.EE.A.4	29	Subtract Numbers in Scientific Notation
Multiply numbers expressed in scientific notation.	8.EE.A.4	30	Multiply Numbers in Scientific Notation
Divide numbers expressed in scientific notation.	8.EE.A.4	31	Divide Numbers in Scientific Notation
Calculate with numbers in both decimal and scientific notation.	8.EE.A.4	32	Calculate with Decimals and Scientific Notation

91282 Expressions and Equations: Write, Solve, and Analyze

Lesson Objective	CCSS	Page	Lesson Title
Represent linear proportional relationships with tables.		1	Proportional Relationships: Tables
Represent linear proportional relationships with graphs and equations.	8.EE.B.5	2–3	Proportional Relationships: Graphs and Equations
Represent linear proportional relationships with tables and equations.		4	Proportional Relationships: Tables and Equations

Lesson Objective	CCSS	Page	Lesson Title
Identify the constant of proportionality, k, in a table, graph, or equation.		5	Constant of Proportionality
Find the slope of the graph of a proportional relationship and interpret the slope as the unit rate.	8.EE.B.5	6–7	Unit Rate
Compare the speed of two moving objects by comparing a distance-time graph to a distance-time equation.	8.EE.B.5	8–9	Comparing Speeds
Given an equation, determine whether the graph will be a line that passes through the origin.	8.EE.B.6	10	Appearance of the Graph of an Equation
Given an equation, determine the y-intercept.	8.EE.B.6	11	Identify the y-Intercept
Determine the slope of a line graphed in a coordinate plane.	8.EE.B.6	12–13	Finding Slope
Write the equation of a line that passes through the origin as $y = mx$.	8.EE.B.6	14–15	Linear Equations in the Form $y = mx$
Write the equation of a line that does not pass through the origin as $y = mx + b$.	8.EE.B.6	16–17	Linear Equations in the Form $y = mx + b$
Match real-world problems to one-variable equations with variables on both sides of the equal sign.		18–19	Represent Real-World Problems with Equations
Match real-world problems to one-variable inequalities with variables on both sides of the inequality sign.		20–21	Inequalities and Real-World Problems
Solve problems involving direct variation.		22–23	Direct Variation
Determine whether a table, graph, or equation shows a proportional or non-proportional relationship.		24	Proportional or Non-Proportional?
Transform a linear equation with one solution into the form x = a.	8.EE.C.7.A	25	Linear Equations with One Solution
Transform a linear equation with infinitely many solutions into the form a = a.	8.EE.C.7.A	26	Equations with Infinitely Many Solutions
Transform a linear equation with no solution into the form a = b.	8.EE.C.7.A	27	Linear Equations with No Solution
Determine if a linear equation in one variable has one solution, infinitely many solutions, or no solution.	8.EE.C.7.A	28	How Many Solutions?
Solve a 2-step equation involving whole numbers, decimals, fractions and/or mixed numbers.	8.EE.C.7.B	29	Two-Step Equations
Solve a 2-step equation involving integers.	8.EE.C.7.B	30	Two-Step Equations with Integers
Solve linear equations by first collecting like terms and simplifying.	8.EE.C.7.B	31	Solve Linear Equations by Collecting Terms
Solve linear equations by first expanding using the distributive property.	8.EE.C.7.B	32	Solve Using Distributive Property

91283 Expressions and Equations: Solve Systems of Equations

Lesson Objective	CCSS	Page	Lesson Title
Substitute a pair of coordinates to see if they are the solution to a system of equations.	8.EE.C.8.A	1	Systems of Equations
Identify the graph of a system of equations.	8.EE.C.8.A	2–3	Identify Systems of Equations in Graphs
Given a graph, identify the solution to a system of equations.	8.EE.C.8.A	4–5	Identify the Solution
Graph systems of equations; solve systems by graphing.	8.EE.C.8.A	6–7	Graphs and Solutions
Use the graph of a system of equations to determine if it has one solution, no solution, or infinitely many solutions.	8.EE.C.8.A	8–9	Determine the Solution
Graph systems of equations; solve systems by graphing.	8.EE.C.8.A	10–11	Systems of Equations and Their Solutions
Solve real-world problems by identifying the solution in the graph of a system of equations.	8.EE.C.8.C	12–13	Solutions in Graphs
Use inspection to determine whether a system of equations has no solution, one solution, or infinitely many solutions.	8.EE.C.8.B	14	Using Inspection to Solve Equations
Lesson Objective	CCSS	Page	Lesson Title

Solve systems of equations by setting them equal.	8.EE.C.8.B	15	Solving Equations Equal to Each Other
Solve systems of equations using substitution.	8.EE.C.8.B	16	Using Substitution to Find the Solution
Solve systems of equations by first solving for one variable and then using substitution.	8.EE.C.8.B	17	Solving Systems of Equations with Substitution
Solve systems of equations using substitution.	8.EE.C.8.B	18	Solving by Substitution
Solve systems of equations using substitution.	8.EE.C.8.B	19	Substitution Practice
Solve systems of equations by adding.	8.EE.C.8.B	20	Adding Systems of Equations
Solve systems of equations by subtracting.	8.EE.C.8.B	21	Subtracting Systems of Equations
Solve systems of equations using elimination (equations that are ready to add or subtract).	8.EE.C.8.B	22	Elimination
Make a multiple of one or both equations before solving a system using elimination.	8.EE.C.8.B	23	Multiply To Eliminate
Solve systems of equations using elimination (by making multiples of one or both equations).	8.EE.C.8.B	24	More Elimination
Solve systems algebraically.	8.EE.C.8.B	25	Solve Systems Algebraically
Match a system of equations to a real-world problem.	8.EE.C.8.C	26–27	Identify the Solution
Solve a real-world problem by writing and solving a system of equations.	8.EE.C.8.C	28–29	Real-World Problems
Write and solve systems of equations to solve problems.	8.EE.C.8.C	30–31	Write and Solve
Determine whether two pairs of two points define intersecting lines.	8.EE.C.8.C	32	Plot Points

91284 Functions: Problem Solving

Lesson Objective	CCSS	Page	Lesson Title
Complete a function table.	8.F.A.1	1	What's Its Function?
Determine if a given relation is a function.	8.F.A.1	2–3	Does It Function?
Given the graph of a function, identify the function.	8.F.A.1	4–5	Identify the Function
Name the rule for a function table.	8.F.A.1	6	Function Rules
Given the graph of a function, identify the function.	8.F.A.1	7	Graphs of Function Rules
Recognize whether an equation is linear.	8.F.A.3	8	To Be Linear or Not Linear!
Given an equation, identify the y-intercept.		9	The y-Intercept Is Just the Beginning
Given an equation, identify the slope.		10	Don't Say Nope to Slope!
Identify a function, given the graph.	8.F.A.3	11	Find the Function
Given an equation, identify the slope; find the y-intercept of a function; graph linear equations.	8.F.A.3	12–13	Linear Functions
Choose the function that models a linear relationship between two	8.F.A.4	14–15	Slope-Intercept Form
Determine the initial value of a function from a description, table, or graph.	8.F.A.4	16–17	Every Function Has to Start Somewhere
Determine the rate of change of a function.	8.F.A.4	18	Rate of Change from a Description
Determine the rate of change of a function from a table.	8.F.A.4	19	Rate of Change from a Table
Determine the rate of change of a function from a graph.		20	Rate of Change from a Graph
Describe where a graphed function is increasing or decreasing.	8.F.A.5	21	Graphing Roller Coasters
Interpret the rate of change and initial value of a function from a description, table, or graph.	8.F.A.4	22–23	Linear Models in the Real World
Compare the rate of change of two functions represented in different ways.	8.F.A.2	24–25	Functions Grow at Different Rates
Compare the initial value of two functions represented in different ways.	8.F.A.2	26–27	Functions Start at Different Places
Compare y-values for the same x-values of two functions represented in different ways.	8.F.A.2	28–29	Same Input, Different Output
Choose a graph that matches a description.	8.F.A.5	30–31	Say It with Graphs!
Describe where a graphed function is linear or non-linear.	8.F.A.5	32	To Be a Linear Graph or Not to Be!

91285 Geometry: Problem Solving

Lesson Objective	CCSS	Page	Lesson Title
Find the missing angle measure in a triangle.	8.G.A.5	1	They're All 180<insert degree symbol>
Find the measures of the exterior angles of a triangle.	8.G.A.5	2	The Exterior Depends on the Interior
Identify the relationships between angles formed when parallel lines are cut by a transversal.	8.G.A.5	3	Cutting Up
Identify similar triangles using the angle-angle criterion.	8.G.A.5	4–5	Similar Triangles
Identify Pythagorean triples.	8.G.B.6	6	Triple the Pythagorean
Use the Pythagorean theorem to find the length of the hypotenuse of a right triangle to the nearest tenth.	8.G.B.7	7	Always Right!
Use the Pythagorean theorem to find the length of the side of a right triangle to the nearest tenth.	8.G.B.7	8	Pythagorean Theorem
Use the Pythagorean theorem to find the distance between two points in a coordinate plane to the nearest tenth.	8.G.B.8	9	From a Distance
Use the Pythagorean theorem to solve problems.	8.G.B.7	10–11	Using Measures
Solve a problem involving indirect measurement using the Pythagorean theorem.	8.G.B.8	12–13	Using Indirect Measurement
Identify the image of a reflected figure.	8.G.A.1	14–15	You Say Mirror, I Say Reflection!
Identify the image of a figure under a given translation.	8.G.A.1	16–17	Move It!
Identify the image of a figure after rotation.	8.G.A.1	18–19	Around and Around We Go!
Identify preserved properties of a figure after transformations.	8.G.A.1	20–21	We Must Preserve in Transformations
Identify and perform transformations in the plane and use transformations to decide if shapes are congruent.	8.G.A.2	22–23	Moving Around
Choose the sequence that exhibits the congruence between two figures.	8.G.A.2	24–25	How Did We Get Here?
Use coordinates to describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures.	8.G.A.3	26	What's the Point in Transformations
Find the volume of a cone.	8.G.B.9	27	One Scoop or Two?
Find the volume of a cylinder.	8.G.B.9	28	Volumes of Cylinders
Find the volume of a sphere.	8.G.B.9	29	It's What's Inside the Moon That Counts!
Find the surface area of a rectangular prism.		30	Block Party
Find the surface area of a triangular prism.		31	Tent Material
Find the surface area of a cylinder.		32	Rolling Along

91286 Statistics and Probability: Variability and Displays

Lesson Objective	CCSS	Page	Lesson Title
Given a set of data, identify the locations of points in a scatterplot of the	8.SP.A.1	1	Points on a Scatterplot
Match a scatterplot to a data set.	8.SP.A.1	2–3	Represent a Data Set with a Scatterplot
Identify clusters in a scatterplot.	8.SP.A.1	4–5	Clusters in Scatterplots
Identify outliers in a scatterplot.	8.SP.A.1	6–7	Outliers in Scatterplots
Identify whether a scatterplot shows positive, negative, or no association.	8.SP.A.1	8–9	Associations in Scatterplots
Identify whether a scatterplot shows linear or nonlinear association.	8.SP.A.1	10–11	Linear or Nonlinear Association
Describe patterns in bivariate measurement data.	8.SP.A.1	12–13	Patterns in Bivariate Measurement Data
Identify informally whether a line through a scatterplot is a line of best fit.	8.SP.A.2	14–15	Is it a Line of Best Fit?
Identify a line of best fit for data in a scatterplot.	8.SP.A.2	16–17	Find the Line of Best Fit
Choose the equation of a line of best fit for data in a scatterplot.	8.SP.A.2	18–19	Equation of the Line of Best Fit
Interpret the slope of a linear model.	8.SP.A.3	20–21	Slope of a Linear Model
Interpret the intercept of a linear model.	8.SP.A.3	22–23	Intercept of a Linear Model
Lesson Objective	CCSS	Page	Lesson Title

Complete a two-way table for bivariate categorical data.	8.SP.A.4	24–25	Construct a Two-Way Table
Use a two-way table to find frequencies.	8.SP.A.4	26–27	Find Frequencies Given a Two-Way Table
Use a two-way table to find relative frequencies.	8.SP.A.4	28–29	Find Relative Frequencies Given a Two-Way Table
Describe possible associations between variables in a two-way table.	8.SP.A.4	30–31	Associations in a Two-Way Table
Use a two-way table to find frequencies.	8.SP.A.4	32	Find Frequencies (More Practice)