Cocalico School District
Year-at-a-Glance – Curriculum Overview

Department: Cocalico Connections Course: Math 8 Grade Level: 8

Outline for the course:

Real Number System

- Exploring Real Numbers Guided Notes
  - Warm-Up
    Get ready for the lesson.
  - Instruction
    What are irrational numbers?
  - Summary
    Review and connect what you learned.
  - Assignment
    Practice working with rational and irrational numbers.
  - Quiz Answers
- Estimating and Comparing Square Roots Guided Notes
  - Warm-Up
    Get ready for the lesson.
  - Instruction
    How can you estimate and compare square roots?
  - Summary
    Review and connect what you learned.
  - Assignment
    Explore square roots using the number line.
  - Assignment
    Practice estimating and comparing square roots.
  - Quiz Answers

Solving Equations

- Combining Like Terms to Solve Equations Guided Notes
  - Warm-Up
    Get ready for the lesson.
  - Instruction
    How can you solve linear equations by combining like terms?
  - Summary
    Review and connect what you learned.
  - Assignment
    Practice combining like terms and using inverse operations to solve equations.

Quiz Answers

Solving with the Distributive Property Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you solve linear equations using the distributive property?

Summary
Review and connect what you learned.

Assignment
Practice solving one-variable equations using the distributive property.

Quiz Answers

Solving Equations with Rational Numbers Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you solve linear equations that include rational numbers?

Summary
Review and connect what you learned.

Assignment
Practice solving equations with rational numbers.

Quiz Answers

Modeling with Variables on Both Sides Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can modeling be used to solve equations with variables on both sides?

Summary
Review and connect what you learned.

Assignment
Explore equations using algebra tiles.

Assignment
Practice modeling and solving equations using algebra tiles.

Quiz Answers

Solving with Variables on Both Sides Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you solve equations with variables on both sides of the equals sign?

Summary
Review and connect what you learned.

Assignment
Practice solving equations with variables on both sides.

Quiz Answers

Solving Real-World Multistep Equations Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you solve multistep equations that represent real-world scenarios?

Summary
Review and connect what you learned.

Assignment
Practice writing and solving real-world multistep equations.

Assignment
Practice applying given information to solve real-world multistep equations.

Quiz Answers

Analyzing Solutions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you identify the number of solutions of linear equations?

Summary
Review and connect what you learned.

Assignment
Practice identifying solutions to linear equations.

Quiz Answers

Working with Exponents

Powers and Exponents Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you use powers and exponents to express known quantities?

Summary
Review and connect what you learned.

Assignment
Practice evaluating expressions with exponents.

Quiz Answers

Powers with the Same Base Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you multiply and divide powers with the same base?

Summary
Review and connect what you learned.

Assignment
Practice multiplying and dividing powers with the same base.

Raising a Power to a Power Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What does it mean to raise a power to another power?

Summary
Review and connect what you learned.

Assignment
Practice simplifying expressions using the power of a power and the power of a product rules.

Zero and Negative Exponents Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you simplify and evaluate expressions with zero and negative exponents?

Summary
Review and connect what you learned.

Assignment
Practice simplifying and evaluating powers with zero and negative exponents.

Quiz Answers

Evaluating Expressions with Exponents Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you simplify and evaluate expressions with exponents?

Summary
Review and connect what you learned.

Assignment
Practice simplifying and evaluating expressions with exponents.

Pythagorean Theorem and Irrational Numbers

Exploring the Pythagorean Theorem Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What are properties of right triangles?

Summary
Review and connect what you learned.

Assignment
Practice using the Pythagorean theorem.

Quiz Answers

Finding the Hypotenuse in Right Triangles Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you find the length of the hypotenuse of a right triangle?

Summary
Review and connect what you learned.

Assignment
Practice using the Pythagorean theorem to solve problems.

Quiz Answers

Unknown Leg Lengths in Right Triangles Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you find the length of an unknown leg in a right triangle?

Summary
Review and connect what you learned.

Assignment
Practice using the Pythagorean theorem to find the missing leg in a right triangle.

Quiz Answers

Pythagorean Theorem in Three Dimensions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you find unknown side lengths of a right triangle within a cube?

Summary
Review and connect what you learned.

Assignment
Practice using the Pythagorean theorem in three dimensions.

Quiz Answers

Converse to the Pythagorean Theorem Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What is the converse of the Pythagorean theorem and how is it used?

Summary
Review and connect what you learned.

Assignment
Solve problems to determine right triangles and write about the solutions.

Quiz Answers

Finding Distance in the Coordinate Plane Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you find distance on the coordinate plane?

Summary
Review and connect what you learned.

Assignment
Practice finding distances on the coordinate plane.

Quiz Answers

Volume

Introduction to the Volume of a Cylinder Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you find the volume of a cylinder?

Summary
Review and connect what you learned.

Assignment
Solve for volume of a cylinder and write about your answer.

Quiz Answers

Applications with the Volume of a Cylinder Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you apply the formula for the volume of a cylinder to solve problems?

Assignment
Explore possible volumes when changing the dimensions of a cylinder.

Instruction
How can you apply the formula for the volume of a cylinder to solve problems?

Summary
Review and connect what you learned.

Assignment
Practice applying the volume formula of a cylinder to solve problems.

Quiz Answers

Cocalico School District
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Introduction to the Volume of a Cone Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you find the volume of a cone?

Summary
Review and connect what you learned.

Assignment
Practice determining volumes of cones.

Quiz Answers

Applications with the Volume of a Cone Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you use the formula for the volume of a cone to solve problems?

Summary
Review and connect what you learned.

Assignment
Practice solving problems by applying the formula for the volume of a cone.

Quiz Answers

Introduction to the Volume of a Sphere Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you find the volume of a sphere?

Summary
Review and connect what you learned.

Assignment
Practice finding the volume of a sphere.

Quiz Answers

Spherical and Cubic Volume Applications Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you apply the formulas for volume of a cube and a sphere to solve problems?

Summary
Review and connect what you learned.

Assignment
Practice applying the formulas for volume of a cube and a sphere.

Quiz Answers

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Linear Equations

Rate of Change and Introduction to Slope Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you find the slope of a line and use it to solve problems?

Summary
Review and connect what you learned.

Assignment
Practice determining slope in tables and graphs.

Quiz Answers

Exploring Slope Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How are slopes different from each other?

Summary
Review and connect what you learned.

Assignment
Practice finding the value of slope from tables and graphs.

Quiz Answers

Applying Linear Functions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you represent a real-world situation with a linear function?

Summary
Review and connect what you learned.

Assignment
Solve problems by representing real-world situations with linear equations.

Quiz Answers

Constructing Linear Functions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What can a set of points tell you about a linear relationship?

Summary
Review and connect what you learned.

Assignment
Practice constructing linear functions using data from tables and graphs.

Quiz Answers

Slope-Intercept Form Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How does knowing the slope and y-intercept help you graph and write the equation of a line?

Summary
Review and connect what you learned.

Assignment
Solve problems using slope-intercept form, and write about your solutions.

Quiz Answers

Comparing Slopes and Intercepts Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you determine the characteristics of linear functions that are represented in different ways?

Summary
Review and connect what you learned.

Assignment
Compare the different representations of linear functions.

Quiz Answers

Writing Linear Functions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you write a linear equation given the slope and a point that is not the y-intercept?

Summary
Review and connect what you learned.

Assignment
Practice writing equations given the slope and a point.

Quiz Answers

Writing Linear Equations Given Two Points Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you write an equation of a linear function using two points?

Summary
Review and connect what you learned.

Assignment
Explore writing linear equations.

Assignment
Practice writing linear equations given two points.

Quiz Answers

Graphing in a Variety of Contexts Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What information do you need to graph a linear function?

Summary
Review and connect what you learned.

Assignment
Explore the graphs of linear functions.

Assignment
Practice graphing linear functions.

Quiz Answers

Standard Form Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can the standard form of a linear function be used to model real-world scenarios?

Summary
Review and connect what you learned.

Assignment
Find intercepts and interpret their meaning.

Assignment
Solve and write about an assembly line.

Quiz Answers

Functions

Introduction to Functions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What is a function and how can I identify one?

Summary
Review and connect what you learned.

Assignment
Identify functions from different representations.

Quiz Answers

Comparing Functions in the Real World Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you use linear relationships to compare real-world situations?

Summary
Review and connect what you learned.

Assignment
Solve problems comparing functions and write about the conclusions.

Assignment
Practice comparing linear functions of real-world scenarios.

Quiz Answers

Linear vs. Nonlinear Functions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What is the difference between linear and nonlinear functions?

Summary
Review and connect what you learned.

Assignment
Practice identifying linear and nonlinear functions.

Quiz Answers

Linear Systems

Using Graphs to Solve Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you use graphs to solve a system of two linear equations?

Summary
Review and connect what you learned.

Assignment
Practice using graphs to solve systems of linear equations.

Quiz Answers

Estimating Solutions of Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you estimate a solution of a system of linear equations graphically?

Summary
Review and connect what you learned.

Assignment

Practice estimating solutions using graphs.

Quiz Answers

Writing and Solving Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you create and solve a system of two linear equations using graphs?

Summary
Review and connect what you learned.

Assignment
Practice creating a system of equations to find the solution.

Quiz Answers

Using Addition to Solve Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you use addition to solve systems of linear equations?

Summary
Review and connect what you learned.

Assignment
Practice solving systems of equations with addition.

Quiz Answers

Multiplying One Equation to Solve Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you use the linear combination method to solve a system of equations?

Summary
Review and connect what you learned.

Assignment
Practice using equivalent equations to solve systems of equations.

Quiz Answers

Using Substitution to Solve Systems Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you solve a system of equations using the substitution method?

Summary
Review and connect what you learned.

Assignment

Practice solving by using the substitution method.

Quiz Answers

Rewriting Equations to Use Substitution Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you prepare equations to be solved using substitution?

Summary
Review and connect what you learned.

Assignment
Practice solving systems that are not in slope-intercept form.

Quiz Answers

Patterns in Bivariate Data

Constructing Scatterplots Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
What is a scatterplot and what does it represent?

Summary
Review and connect what you learned.

Assignment
Solve problems of bivariate data and write about creating scatterplots.

Quiz Answers

Interpreting Clusters and Outliers Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you interpret clusters and outliers in a scatterplot?

Summary
Review and connect what you learned.

Assignment
Practice identifying clusters and outliers.

Quiz Answers

Exploring Association Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How are data associated with each other in a scatterplot?

Summary
Review and connect what you learned.

Assignment
Practice analyzing scatterplots.

Quiz Answers

Drawing Trend Lines Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you use a trend line to describe the relationship of data in a scatterplot?

Summary
Review and connect what you learned.

Assignment
Solve and write about drawing trend lines on scatterplots.

Quiz Answers

Using Equations to Represent Trend Lines Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you write the equation for a trend line?

Summary
Review and connect what you learned.

Assignment
Solve and write about equations of trend lines.

Quiz Answers

Making Predictions Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do you use a trend line to make a prediction?

Summary
Review and connect what you learned.

Assignment
Explore making predictions from a scatterplot.

Assignment
Practice making predictions.

Quiz Answers

Comparing Data Sets Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you compare data sets?

Summary
Review and connect what you learned.

Assignment
Practice comparing data sets.

Assignment
Solve a problem comparing data sets and write about the solution.

Quiz Answers

Making Two-Way Tables Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you represent data that relates to two different categories?

Summary
Review and connect what you learned.

Assignment
Practice making two-way tables.

Quiz Answers

Interpreting Two-Way Tables Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you recognize and interpret associations in two-way tables?

Summary
Review and connect what you learned.

Assignment
Practice finding and analyzing relative frequencies.

Quiz Answers

Transformations

Congruence Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can you determine if two figures are identical?

Summary
Review and connect what you learned.

Assignment
Practice finding congruent figures.

Quiz Answers

Overview of Transformations Guided Notes

Warm-Up
Get ready for the lesson.

Assignment
Explore the movement of figures.

Instruction
How do we describe the movement of figures?

Summary
Review and connect what you learned.

Assignment
Practice identifying transformations and their images.

Quiz Answers

Translations Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How does a translation move a figure?

Summary
Review and connect what you learned.

Assignment
Practice identifying translations on a plane.

Quiz Answers

Reflections Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How does a reflection change a figure?

Summary
Review and connect what you learned.

Assignment
Practice finding reflections.

Quiz Answers

Rotations in the Coordinate Plane Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do figures rotate in the coordinate plane?

Summary
Review and connect what you learned.

Assignment
Practice finding images of rotations.

Quiz Answers

Congruence and Transformations Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How can transformations show that two images are congruent?

Summary
Review and connect what you learned.

Assignment
Practice solving problems involving congruence and transformations.

Quiz Answers

Dilations Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How does a dilation change a figure?

Summary
Review and connect what you learned.

Assignment
Practice with dilations and scale factors.

Quiz Answers

Similarity and Transformations Guided Notes

Warm-Up
Get ready for the lesson.

Instruction
How do transformations result in similar figures?

Summary
Review and connect what you learned.

Assignment
Practice with transformations resulting in similar figures.

Quiz Answers

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% of Course Time: Self-paced, to cover all topics in the outline from above
Textbooks & Supplemental Materials: Edgenuity lessons, supplemented by Cocalico Teachers of Record
Assessments: Edgenuity quizzes and tests, performance tasks
Standards Addressed: Contact the Online Learning Facilitator for a supplemental document from Edgenuity outlining any applicable PA Standards address in the course topics. Note that for some courses, there are no PA Standards which may exist.

Eagle P.A.C.T. Course Connections:

Online Learning courses help to prepare students for the diverse ways in which they will learn outside of school. The self-paced, independent nature of virtual courses also helps to develop important skills such as self-advocacy, time management, organization, study skills, and self-discipline. Such skills are needed for a successful future.