

Learning Targets

Linear Relationships

Lesson 1: Understanding Proportional Relationships

- I can graph a proportional relationship from a story.
- I can use the constant of proportionality to compare the pace of different animals.

Lesson 2: Representing Proportional Relationships

- I can graph a proportional relationship from an equation.
- I can scale and label a coordinate axes in order to graph a proportional relationship.
- I can tell when two graphs are of the same proportional relationship even if the scales are different.

Lesson 3: Comparing Proportional Relationships

- I can compare proportional relationships represented in different ways.

Lesson 4: Introduction to Linear Relationships

- I can find the rate of change of a linear relationship by figuring out the slope of the line representing the relationship.

Lesson 5: More Linear Relationships

- I can interpret the vertical intercept of a graph of a real-world situation.
- I can match graphs to the real-world situations they represent by identifying the slope and the vertical intercept.

Lesson 6: Representations of Linear Relationships

- I can use patterns to write a linear equation to represent a situation.
- I can write an equation for the relationship between the total volume in a graduated cylinder and the number of objects added to the graduated cylinder.

Lesson 7: Translating to $y = mx + b$

- I can explain where to find the slope and vertical intercept in both an equation and its graph.
- I can write equations of lines using $y=mx+b$.

Lesson 8: Slopes Don't Have to be Positive

- I can give an example of a situation that would have a negative slope when graphed.
- I can look at a graph and tell if the slope is positive or negative and explain how I know.

Lesson 9: Slopes and Equations for All Kinds of Lines

- I can calculate positive and negative slopes given two points on the line.
- I can write equations of vertical and horizontal lines.

Lesson 10: Solutions to Linear Equations

- I know that the graph of an equation is a visual representation of all the solutions to the equation.
- I understand what the solution to an equation in two variables is.

Lesson 11: More Solutions to Linear Equations

- I can find solutions (x, y) to linear equations given either the x - or the y -value to start from.

Lesson 12: On Both of the Lines

- I can use graphs to find an ordered pair that two real-world situations have in common.

Lesson 13: Systems of Equations

- I can explain the solution to a system of equations in a real-world context.
- I can explain what a system of equations is.
- I can make graphs to find an ordered pair that two real-world situations have in common.

Lesson 14: Solving Systems of Equations

- I can graph a system of equations.
- I can solve systems of equations using algebra.

Lesson 15: Solving More Systems

- I can use the structure of equations to help me figure out how many solutions a system of equations has.

Lesson 16: Writing Systems of Equations

- I can write a system of equations from a real-world situation.

Lesson 17: Organizing Data

- I can organize data to see patterns more clearly.

Lesson 18: What a Point in a Scatter Plot Means

- I can describe the meaning of a point in a scatter plot in context.

Lesson 19: Fitting a Line to Data

- I can pick out outliers on a scatter plot.
- I can use a model to predict values for data.

Lesson 20: Describing Trends in Scatter Plots

- I can draw a line to fit data in a scatter plot.
- I can say whether data in a scatter plot has a positive or negative association (or neither).

Lesson 21: The Slope of a Fitted Line

- I can use the slope of a line fit to data in a scatter plot to say how the variables are connected in real-world situations.

Lesson 22: Observing More Patterns in Scatter Plots

- I can analyze a set of data to determine associations between two variables.
- I can pick out clusters in data from a scatter plot.
- I can use a scatter plot to decide if two variables have a linear association.

Lesson 23: Looking for Associations

- I can identify the same data represented in a bar graph, a segmented bar graph, and a two-way table.
- I can use a two-way frequency table or relative frequency table to find associations among variables.

Lesson 24: Using Data Displays to Find Associations

- I can create relative frequency tables, bar graphs, and segmented bar graphs from frequency tables to find associations among variables.

Lesson 25: Using Linear Relations to Solve Problems

- I can write linear equations to reason about real-world situations.

Lesson 26: Solving Problems with Systems of Equations

- I can use a system of equations to represent a real-world situation and answer questions about the situation.

Lesson 27: Gone In 30 Seconds

- I can collect data and analyze it for associations using scatter plots, two-way tables, and segmented bar graphs.