

2014 Course 2 Khan Academy Video Correlations By SpringBoard Activity

SB Activity	Video(s)
Unit 1: Nur	nber Systems
Activity 1	Multiplying and Dividing Decimals
Operations on Positive Rational Numbers	Multiplying decimals example
1-1 Learning Targets:	Multiplying challenging decimals
 Solve problems with decimals, using addition and subtraction. 	Dividing by a multi-digit decimal
 Justify solutions with decimals, using 	Dividing a whole number by a decimal
addition and subtraction.Estimate decimal sums and differences.	Dividing a decimal by a whole number
1-2 Learning Targets:	Fractions
 Estimate decimal products and quotients. 	Adding, subtracting fractions
Solve problems involving multiplication	Multiplying negative and positive fractions
and division of decimals. 1-3 Learning Targets:	Dividing negative fractions
 Solve problems with fractions using 	Numbers in Different Forms
addition, subtraction, multiplication, and	Adding, subtracting numbers in different formats
division.	Adding, subtracting fractions, decimals, percentages
• Estimate with fractions.	Fraction to decimal
1-4 Learning Targets:Convert a fraction to a decimal.	Converting fractions to decimals
 Understand the difference between 	
terminating and repeating decimals.	
Activity 2	Adding and Subtracting Integers
Addition and Subtraction of Integers	Learn how to add and subtract negative numbers
2-1 Learning Targets:	Adding negative numbers
Add two or more integers.Identify and combine opposites.	Adding numbers with different signs
 Solve real-world problems by adding 	Subtracting a negative = adding a positive
integers.	Inverse property of addition
2-2 Learning Targets:	Absolute Value
Subtract integers.	Absolute value and number lines
 Find distances using absolute value 	Absolute value of integers
	Absolute value word problems
	Constructing and interpreting absolute value
Activity 3	Understanding Multiplication with Negative Numbers
Multiplication and Division of Integers	Why a negative times a negative is a positive
3-1 Learning Targets:	Why a negative times a negative makes intuitive sense
 Multiply two or more integers. 	



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•	Apply properties of operations to multiply	/
	integers.	

 Solve real-world problems by multiplying, adding, and subtracting integers.

3-2 Learning Targets:

- Divide integers.
- Solve real-world problems by dividing integers and possibly adding, subtracting, or multiplying integers as well.

Multiplying Integers

Multiplying positive and negative numbers

Multiplying numbers with different signs

Dividing Integers

Dividing positive and negative numbers

Activity 4

Operations on Rational Numbers

4-1 Learning Targets:

- Given a rational number, determine whether the number is a whole number, an integer, or a rational number that is not an integer.
- Describe relationships between sets of rational numbers.

4-2 Learning Targets:

- Add two or more rational numbers.
- Use properties of addition to add rational numbers.
- Solve real-world problems by adding two or more rational numbers.

4-3 Learning Targets:

- Subtract rational numbers.
- Apply the fact that for all rational numbers a and b, a - b = a + (-b), to add and subtract rational numbers.
- Solve real-world problems by subtracting rational numbers and possibly by adding rational numbers as well.

4-4 Learning Targets:

Activity 5

- Multiply and divide rational numbers.
- Apply properties of operations to multiply and divide rational numbers.
- Solve real-world problems involving the four operations with rational numbers.

Sets of Numbers

Number sets

Adding and Subtracting Rational Numbers

Adding, subtracting fractions

Multiplying and Dividing Rational Numbers

Multiplying negative and positive fractions

Dividing negative fractions

Unit 2: Expressio	ns and Equations
	Arithmetic Properties
	Commutative property for addition

Properties of Operations 5-1 Learning Targets:



 Identify properties of operations. 	Commutative law of addition
 Apply properties of operations to simplify 	Commutative law of multiplication
linear expressions.	Associative law of addition
5-2 Learning Targets:	Associative law of multiplication
 Apply properties to factor and expand linear expressions. 	Properties of numbers 1
Rewrite expressions to see how the	Number properties terminology 1
problem and quantities are related.	Identity property of 1
	Identity property of 1 (second example)
	Identity property of 0
	Inverse property of addition
	Inverse property of multiplication
	Properties of numbers 2
Activity 6	Understanding Terminology
Writing and Solving Equations	What is a variable?
6-1 Learning Targets:	Expression terms, factors and coefficients
Use variables to represent quantities in	Solving Two-Step Equations
real-world problems.	Why we do the same thing to both sides: Simple
 Model and write two-step equations to represent real-world problems. 	equations
represent real world problems.	Solving two-step equations
6-2 Learning Targets:	Solving a more complicated equation
Solve two-step equations. Solve real world are blores by writing an	
 Solve real-world problems by writing an equation of the form px+ q =r. 	
equation of the form px. q =1.	
Activity 7	Solving Two-Step Inequalities
Solving and Graphing Inequalities	Solving a two-step inequality
7-1 Learning Targets: • Represent quantities in a real-world	Constructing and solving a two-step inequality
problem.	Constructing, solving two-step inequality example
Construct two-step inequalities to solve	
problems.	
7-2 Learning Targets:	
 Solve two-step inequalities. 	
 Construct two-step inequalities to solve 	
problems.	
Unit 3: Ratio	and Proportion
Activity 8	Ratios and Unit Rates
Ratio and Unit Rates	Solving unit rates problem
8-1 Learning Targets:	Identifying and Solving Proportions
 Express relationships using ratios. 	



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Find unit rates.

8-2 Learning Targets:

- Determine whether quantities are in a proportional relationship.
- Solve problems involving proportional relationships.

8-3 Learning Targets:

Convert between measurement. Use unit rates and proportions for conversions.

Activity 9

Proportional Reasoning

9-1 Learning Targets:

- Given representations of proportional relationships, represent constant rates of change with equations of the form y = kx.
- Determine the meaning of points on a graph of a proportional relationship.
- Solve problems involving proportional relationships.

9-2 Learning Targets:

Determine the constant of proportionality from a table, graph, equation, or verbal description of a proportional relationship.

Activity 10

Proportional Relationships and Scale

10-1 Learning Targets:

- Represent proportional relationships by equations.
- Determine the constant of proportionality from a table, graph, equation, or verbal description of a proportional relationship.
- Solve problems using scale drawings.

10-2 Learning Targets:

- Given the scale of a map and a distance on a map, find the actual distance.
- Convert scale factors with units to scale factors without units.

10-3 Learning Targets:

Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing.

Writing proportions

Solve a proportion with an unknown variable

Solve a proportion with unknown variable word problem

Analyzing proportional relationships from a table

Analyzing Proportional Relationships

Analyzing proportional relationships from a table

Constructing and Solving Proportional Relationships

Constructing an equation for a proportional relationship

Solve a proportion with an unknown variable

Constructing and Solving Proportional Relationships

Constructing an equation for a proportional relationship

Construction proportions to solve application problems

Solve a proportion with an unknown variable

Using Scale Drawings

How to make a scale drawing

Interpreting a scale drawing

Solve a scale drawing word problem



	Reproduce a scale drawing at a different	
	scale.	
	scare.	
Activit	y 11	Finding Percent
Percen	t Problems	Finding a percentage
11-1 Le	earning Targets:	Percent Problems
•	Find a percent of a number.	Solving percent problems
•	Find the percent that one number is of	Percent word problem example 1
	another.	
•	Given the percent and the whole, find the	Percent word problem example 2
	part.	Percent word problem example 3
11-2	Learning Targets:	Percent word problem example 4
•	Solve problems about sales tax, tips, and commissions.	Percent word problem example 5
	601111113310113.	Percent and Decimals
		Converting percents to decimals
		Converting percents to decimals example 2
		Converting percent to decimal and fraction
		Converting decimals to percents
		Converting decimals to percents example 2
Activit	ry 12	Percent Problems
More I	Percent Problems	Growing by a percentage
12-1 Le	earning Targets:	Solving percent problems
•	Solve problems about percent increase,	
	percent decrease, markups, and discounts.	
12-2 Le	earning Targets:	
•	Solve problems about percent increase,	
1221	percent decrease, markups, and discounts.	
12-3 L6	earning Targets: Solve problems about interest.	
12-/14	earning Targets:	
12-4 Lt	Solve problems about percent error.	
	Solve problems about percent ciron	

Unit 4:	Geometry
Activity 13	Measures of Angles
Angle Pairs	Complementary and supplementary angles
13-1 Learning Targets:Use facts about complementary,	Find measure of complementary angles
supplementary, and adjacent angles to	Find measure of supplementary angles
write equations.	Introduction to vertical angles
 Solve simple equations for an unknown angle in a figure. 	Find measure of vertical angles
diffic in a figure.	Find measure of angles in a word problem
13-2 Learning Targets:	



 Write and solve equations using geometry 	Solving for an angle
concepts.	
 Solve problems involving the sum of the 	
measures of the angles in a triangle.	
 Solve equations involving angle 	
relationships.	
Activity 14	Constructing Triangles
Triangle Measurements	Construct a triangle with constraints
14-1 Learning Targets:	
 Decide if three side lengths determine a 	
triangle.	
 Draw a triangle given measures of sides. 	
14-2 Learning Targets:	
 Draw a triangle given measures of angles 	
and/or sides.	
 Recognize when given conditions 	
determine a unique triangle, more than	
one triangle, or no triangle.	
Activity 15	Similar Triangles
Similar Figures	Similar triangle basics
15-1 Learning Targets:	Similar triangles
 Identify whether or not polygons are 	
similar.	Similar triangles (part 2)
 Find a common ratio for corresponding 	
side lengths of similar polygons.	
15-2 Learning Targets:	
Apply properties of similar figures to	
determine missing lengths.	
 Solve problems using similar figures. 	
Activity 16	Circle Basics
Circles: Circumference and Area	Circles: radius, diameter, circumference and Pi
16-1 Learning Targets:	Labeling parts of a circle
Investigate the ratio of the circumference	Laneing parts of a circle
of a circle to its diameter.	
 Apply the formula to find the 	Circumference of a Circle
circumference of a circle.	Circumference of a circle
16-2 Learning Targets:	Area of a Circle
Approximate the area of a circle.	Area of a circle
Apply the formula to find the area of a	
circle.	
Activity 17	Area of Polygons



Composite Area	Perimeter and area: the basics
17-1 Learning Targets:	
 Determine the area of geometric figures. 	Area of a parallelogram
 Determine the area of composite figures. 	Area of a trapezoid
17.2 Learning Targets:	Area of a kite
17-2 Learning Targets:Determine the area of composite figures.	Finding area by breaking up the shape
 Solve problems involving area. 	Finding area by rearranging parts
	Area of strange quadrilateral
Activity 18	Nets of Three-dimensional Figures
Sketching Solids	Nets of polyhedra
18-1 Learning Targets:Draw different views of three-dimensional	Finding surface area: nets of polyhedra
solids.Identify cross sections and other views of pyramids and prisms.	
 18-2 Learning Targets: Calculate the lateral and total surface area of prisms. 18-3 Learning Targets: Calculate the lateral and total surface area of puramids. 	
of pyramids. Activity 19	Volume of Three-dimensional Figures
Volume	Volume of a rectangular prism: fractional dimensions
19-1 Learning Targets:	Volume of a rectangular prism: fractional cubes
 Calculate the volume of prisms. 	
19-2 Learning Targets:	Volume of a rectangular prism: word problem
 Calculate the volume of pyramids. 	Find the volume of a triangular prism and cube
 Calculate the volume of complex solids. 	
 Understand the relationship between the 	
volume of a prism and the volume of a	
pyramid.	
Unit 5: P	Probability
Unit 5: P	Basic Probability
Unit 5: P Activity 20 Exploring Probability	•
Unit 5: P Activity 20 Exploring Probability 20-1 Learning Targets:	Basic Probability
Unit 5: P Activity 20 Exploring Probability	Basic Probability Probability explained
Unit 5: P Activity 20 Exploring Probability 20-1 Learning Targets: Reason about the likelihood of winning a game based on a probability experiment. Provide support for winning strategies of a	Basic Probability Probability explained Determining probability
Unit 5: P Activity 20 Exploring Probability 20-1 Learning Targets: Reason about the likelihood of winning a game based on a probability experiment.	Basic Probability Probability explained Determining probability Finding probability example
Unit 5: P Activity 20 Exploring Probability 20-1 Learning Targets: Reason about the likelihood of winning a game based on a probability experiment. Provide support for winning strategies of a	Basic Probability Probability explained Determining probability Finding probability example Finding probability example 2
Activity 20 Exploring Probability 20-1 Learning Targets: Reason about the likelihood of winning a game based on a probability experiment. Provide support for winning strategies of a game based on a probability experiment.	Basic Probability Probability explained Determining probability Finding probability example Finding probability example 2



22-1 Learning Targets:

probabilities.

Use observed outcomes to estimate

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Determine probabilities for outcomes in a probability experiment. Describe the results of an investigation and support the conclusions. 20-3 Learning Targets: • Interpret a probability as the fraction of the number of times that an outcome occurs when a probability experiment is repeated many times. Estimate probabilities of outcomes in probability experiments. 20-4 Learning Targets: Make decisions based on probabilities. • Expect variation in results from chance processes. Write about chance processes and justify conclusions based on probability experiments. **Comparing Probabilities Activity 21 Probability** 21-1 Learning Targets: • Recognize when a probability experiment has outcomes that are equally likely. • Calculate probabilities for a probability experiment with equally likely outcomes. Know what "selected at random" means. 21-2 Learning Targets: Calculate theoretical probabilities for a probability experiment. Estimate probabilities by observing outcomes of a probability experiment. 21-3 Learning Targets: Compare theoretical probabilities and estimated probabilities. **Activity 22 Constructing Probability Models** Games and Probability



compound event.

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 Use tables to represent the possible outcomes of a probability experiment. 	
 22-2 Learning Targets: Use tables to represent the possible outcomes of a probability experiment. Assign probabilities to outcomes in a sample space. Use probabilities assigned to outcomes in a sample space to compute event probabilities. 	
 22-3 Learning Targets: Use observed outcomes to estimate probabilities. Use tables and tree diagrams to represent the possible outcomes of a probability experiment. Calculate the probabilities of events for a probability experiment with equally likely outcomes. 22-4 Learning Targets: Use observed outcomes to estimate probabilities. Use tables and tree diagrams to represent the possible outcomes of a probability experiment. 	
Activity 23 Probability 23-1 Learning Targets: Use artificial processes to simulate outcomes. Assign random digits to outcomes. Carry out a simulation using random digits. 23-2 Learning Targets: Design and carry out a simulation. Use a simulation to estimate a probability. 23-3 Learning Targets: Design and carry out the simulation of a compound event. Use a simulation to estimate the probability of a compound event.	
23-4 Learning Targets:Design and carry out the simulation of a	



Use a simulation to estimate the	
probability of a compound event.	
Unit 6:	Statistics
Activity 24	Sampling
Statistics	Reasonable samples
 24-1 Learning Targets: Determine from what population data have been collected. Determine if a data collection is a census. Distinguish between a population and a sample. 24-2 Learning Targets: Understand that the way a sample is selected is important. Understand that random sampling is a fair method for selecting a sample. Use the random-number digit table to 	Inferring population mean from sample mean
select a random sample. Activity 25	Sampling
Exploring Sampling Variability	Reasonable samples
 25-1 Learning Targets: Understand the difference between variability in a population and sampling variability. Know that increasing the sample size decreases sampling variability. 25-2 Learning Targets: Use data from a random sample to estimate a population characteristic. Understand the implications of sampling variability when estimating a population characteristic. Use data from a random sample to draw a conclusion about a population. 	Inferring population mean from sample mean
Activity 26	Comparative Statistics
 Comparative Statistics 26-1 Learning Targets: Compare the means of two numerical samples. Understand that a meaningful difference between two sample means is one that is greater than would have been expected due to sampling variability alone. 	



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•	Use data from random samples to
	compare populations
26-2	Learning Targets:
•	Compare population means for
	populations with approximately the same
	amount of variability.
	Express the difference in the sample
	means in terms of mean absolute
	deviation (MAD).
•	Draw differences based on sample size and
	the difference in sample means relative to
	the MAD
26-3 Le	earning Targets:
•	Calculate the mean absolute deviation
	(MAD)
•	Use two random samples to compare
	population means.
•	Draw conclusions about populations with
	• •
	similar amounts of variability based on the
	difference of two sample means

.Unit 7: Personal Financial Literacy

Probability explained

Activity 27

Determining probability

Finding probability example

Finding probability example 2

Budgeting and Money Management

Finding probability example 3