

## RESOURCE FOR THE COURSE 2 CARNEGIE TEXTBOOK

Topics having Title Bars with a **Orange background** are not 7th Grade Standard Topics. These should be taught only if necessary for students to understand Topics which are 7th grade Standard.

Topics having Title Bars with a **Red background** should be skipped.

### SECTION and PAGE NUMBER

### TOPIC

The Number in front of each Lesson is used to reference the number of the Topics provided in the opposite column.

Topic names and numbers come from the Numbers and Names of the Summaries at the end of each chapter.

<b>1.1 Pages 3 - 14      Introduction to Ratios and Rates</b>	<b>1. Identifying Ratios, Rates and Unit Rates</b> <b>2. Using Ratios, Rates, and Unit Rates to Analyze Problems</b> <b>3. Scaling a Ratio to Write a Proportion</b>
<b>1. Classify ratios using a decision tree (4:09)</b>	<a href="http://learnzillion.com/lessons/582-classify-ratios-using-a-decision-tree">http://learnzillion.com/lessons/582-classify-ratios-using-a-decision-tree</a>
<b>1. Finding Unit Rates (2:30)</b>	<a href="http://www.khanacademy.org/math/arithmetic/rates-and-ratios/rates_tutorial/v/finding-unit-rates">http://www.khanacademy.org/math/arithmetic/rates-and-ratios/rates_tutorial/v/finding-unit-rates</a>
<b>2. Using ratios to solve percent problems (4:33)</b>	<a href="http://www.youtube.com/watch?v=uocsyPZhR0U">http://www.youtube.com/watch?v=uocsyPZhR0U</a>

2. Using Ratios (9:22 - Show only to 5:30)	<a href="http://www.youtube.com/watch?v=mL4ZgPKV7Dk">http://www.youtube.com/watch?v=mL4ZgPKV7Dk</a>
2. Using Unit Rates to Convert Meters to Feet (4:00)	<a href="http://www.youtube.com/watch?v=zDNJkyJDJ4Y">http://www.youtube.com/watch?v=zDNJkyJDJ4Y</a>
3. Writing Proportions (5:50)	<a href="http://www.youtube.com/watch?v=96ZEmUbnuU8">http://www.youtube.com/watch?v=96ZEmUbnuU8</a>
2. Finding unit rates in situations involving fractions (6:02)	<a href="http://learnzillion.com/lessons/867-find-unit-rates-in-situations-involving-fractions">http://learnzillion.com/lessons/867-find-unit-rates-in-situations-involving-fractions</a>
<b>1.2 Pages 15 - 23 Ratios, Rates, and Mixture Problems</b>	<b>1. Using Ratios to Make Comparisons 2. Using Rates and Proportions to Solve Mixture Problems</b>
1. Comparing with Ratios (7:30)	<a href="http://www.youtube.com/watch?v=gQka88LULY">http://www.youtube.com/watch?v=gQka88LULY</a>
2. Proportion Application - Scaling a Recipe (3:32)	<a href="http://www.youtube.com/watch?v=NRpK1-sUpLY">http://www.youtube.com/watch?v=NRpK1-sUpLY</a>
2. Scale recipes by applying unit rates (4:50)	<a href="http://learnzillion.com/lessons/647-scale-recipes-by-applying-unit-rates">http://learnzillion.com/lessons/647-scale-recipes-by-applying-unit-rates</a>
<b>1.3 Pages 24 - 30 Rates and Proportions</b>	<b>1. Comparing Rates with Different Unit of Measure</b>
1. Compare Unit Rates (6:47)	<a href="http://www.youtube.com/watch?v=GjYL0-BlejI">http://www.youtube.com/watch?v=GjYL0-BlejI</a>
1. Compute unit rates associated with ratios of fractions	<a href="http://www.youtube.com/watch?v=BnxcaR1XOW0">http://www.youtube.com/watch?v=BnxcaR1XOW0</a>
<b>1.4 Pages 31 - 36 Using Tables to Solve Problems</b>	<b>1. Using Tables to Represent Equivalent Ratios</b>
1. Using Tables to Explore Equivalent Ratios and Rates (5:46)	<a href="http://www.youtube.com/watch?v=rviOT4ONC6s">http://www.youtube.com/watch?v=rviOT4ONC6s</a>

1. Find equivalent ratios using ratio tables (3:56)	<a href="http://www.youtube.com/watch?v=dFJX3E98dwM">http://www.youtube.com/watch?v=dFJX3E98dwM</a>
1.5 Pages 37 - 50 Using Proportions to Solve Problems	<b>1. Solving Proportions Using the Scaling Method</b> <b>2. Solving Proportions Using the Unit Rate Method</b>
1.Solving Proportions using Scale Factor (10:55 - multiple examples, need not show the entire lesson)	<a href="http://www.youtube.com/watch?v=hRmkraWlq7o">http://www.youtube.com/watch?v=hRmkraWlq7o</a>
2. Unit Rates and Proportions Part 1 (8:04)	<a href="https://www.youtube.com/watch?v=IMfcd5nvCWc">https://www.youtube.com/watch?v=IMfcd5nvCWc</a>
1.5 Pages 37 - 50 Using Proportions to Solve Problems	<b>3. Solving Proportions Using the MEANS AND EXTREMES Method (also called CROSS PRODUCTS)</b>
<b>1.5 Continued on Next Page</b>	

1.5 Pages 37 - 50 Using Proportions to Solve Problems

### 3. Solving Proportions Using the MEANS AND EXTREMES Method (also called CROSS PRODUCTS)

The MEANS AND EXTREMES (*i.e.*, CROSS PRODUCTS) Method should only be used when X is in the denominator:

If X is in the numerator, MEANS AND EXTREMES (*i.e.*, CROSS PRODUCTS) should not be used

If cross products are used, X is first multiplied by B, placing B next to X. In order to remove B, the multiplication is reversed by dividing both sides by B (an unnecessary step):  $X/C = A/B$ , (1)  $X \cdot B = A \cdot C$ , (2)  $(X \cdot B)/B = (A \cdot C)/B$ , (3)  $X = (A \cdot C)/B$

Instead of using cross products, multiply both sides by C. This yields:  $X = (A/B) \cdot C$ .

If X is the denominator, the use of CROSS PRODUCTS is appropriate:

For example, if:  $B/A = C/X$ , X is moved to the numerator by using cross products: (1)  $X \cdot B = A \cdot C$ , (2)  $(X \cdot B)/B = (A \cdot C)/B$ , (3)  $X = (A \cdot C)/B$

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3. Solving Proportions Using Cross Products (Means and Extremes) (7:48)

<http://www.youtube.com/watch?v=n2FvNL4giKk>

3. Solving Proportions Using cross products (Means and Extremes) (7:16)

[http://www.youtube.com/watch?v=v5\\_vjBVNVhw](http://www.youtube.com/watch?v=v5_vjBVNVhw)  
[https://www.youtube.com/watch?v=v5\\_vjBVNVhw](https://www.youtube.com/watch?v=v5_vjBVNVhw)

2. Using Unit Rates to Solve Proportions

<http://www.youtube.com/watch?v=gQ9jug-Wj0c>

3. Solving Proportions Using cross products

<http://www.youtube.com/watch?v=bxYxN2kcyus>

<b>1.6 Pages 51 - 56 Using Unit Rates in Real World Applications</b>	<b>1. Estimate and Calculate Values Using Unit Rates</b>
<b>1. Determine the Best Buy Using Unit Rate (2:00)</b>	<a href="http://www.youtube.com/watch?v=Zl4WaviYNsk">http://www.youtube.com/watch?v=Zl4WaviYNsk</a>
<b>2.1 Pages 67 - 74 Introduction to Direct Variation</b>	<b>1. Using Multiple Representations to Explore Variation</b>
<b>Not a Common Core Standard</b>	
<b>1. Direct and inverse variation (9:54)</b>	<a href="http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-and-inverse-variation">http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-and-inverse-variation</a>
<b>1. Graph in Direct Variation (9:41)</b>	<a href="http://www.youtube.com/watch?v=UmkKfKtRlvc">http://www.youtube.com/watch?v=UmkKfKtRlvc</a>
1. Understanding Direct Variation by relating graphs and equations	<a href="http://learnzillion.com/lessons/1198-understand-proportional-relationships-by-relating-graphs-and-equations">http://learnzillion.com/lessons/1198-understand-proportional-relationships-by-relating-graphs-and-equations</a>
1. Compare proportional relationships	<a href="http://learnzillion.com/lessons/1199-compare-proportional-relationships">http://learnzillion.com/lessons/1199-compare-proportional-relationships</a>
<b>2.2 Pages 75 - 84 Determining Equivalent Ratios</b>	<b>1. Determining if Data Points Represent Equivalent Ratios</b>
<b>1. Graphing Equivalent Ratios (8:41)</b>	<a href="http://www.youtube.com/watch?v=HwLCoCFBL5g">http://www.youtube.com/watch?v=HwLCoCFBL5g</a>
<b>1. Determining if a relationship is proportional from a graph (4:57)</b>	<a href="http://www.youtube.com/watch?v=cEtdFWrvv8I">http://www.youtube.com/watch?v=cEtdFWrvv8I</a>
<b>2.3 Pages 85 - 98 Determining and Applying the Constant of Proportionality</b>	<b>1. Calculating Constants of Proportionality</b>
<b>1. Constant of Proportionality (3:42)</b>	<a href="http://www.youtube.com/watch?v=OY0bIHsu-wM">http://www.youtube.com/watch?v=OY0bIHsu-wM</a>
<b>1. Identify the constant of proportionality (unit rate) (2:19)</b>	<a href="http://www.youtube.com/watch?v=LvU1a3TvHr0">http://www.youtube.com/watch?v=LvU1a3TvHr0</a>

<b>2.4 Pages 99 - 104 Using the Constant of Proportionality to Solve Proportions</b>	<b>1. Determining Whether a Relationship is Proportional</b> <b>2. Graphing a Directly Proportional Relationship</b>
<b>1. Graphing a relationship to see if it is proportional. (6:20)</b>	<a href="http://www.youtube.com/watch?v=IN99jRaCm_M">http://www.youtube.com/watch?v=IN99jRaCm_M</a>
<b>1. &amp; 2. Proportional relationships / Direct variation (11:54)</b>	<a href="http://www.youtube.com/watch?v=0xnWml69NK0">http://www.youtube.com/watch?v=0xnWml69NK0</a>
<b>1. Write an equation that expresses the relationship between distance and time</b>	<a href="http://learnzillion.com/lessons/1535-write-an-equation-that-expresses-the-relationship-between-distance-and-time">http://learnzillion.com/lessons/1535-write-an-equation-that-expresses-the-relationship-between-distance-and-time</a>
<b>2.5 Pages 105 - 118 Graphing Direct Proportions</b>	<b>1. Determining K From a Graph of Directly Proportional Relationship</b>
<b>1. Identify the constant of proportionality in graphs (4:06)</b>	<a href="http://learnzillion.com/lessons/874-identify-the-constant-of-proportionality-in-graphs">http://learnzillion.com/lessons/874-identify-the-constant-of-proportionality-in-graphs</a>
<b>1. Direct and inverse variation (9:54)</b>	<a href="http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-and-inverse-variation">http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-and-inverse-variation</a>
<b>2.6 Pages 119 - 126 Using Direct Proportions</b>	<b>1. Solving a Problem with a Direct Variation</b> <b>xxx Equation</b>
<b>1. Solving a Direct Variation Problem</b>	<a href="http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-variation-1">http://www.khanacademy.org/math/algebra/algebra-functions/direct_inverse_variation/v/direct-variation-1</a>
<b>1. How to Solve a Direct Variation Problem</b>	<a href="http://www.youtube.com/watch?v=RfTsEoGBdvg">http://www.youtube.com/watch?v=RfTsEoGBdvg</a>
<b>2.7 Pages 127 - 136 Interpreting Multiple Representations of Direct Proportions</b>	<b>1. Determining Whether a Graph Represents a Directly Proportional Relationship</b>
<b>1. Graphing a relationship to see if it is proportional. (3:39)</b>	<a href="http://www.youtube.com/watch?v=IN99jRaCm_M">http://www.youtube.com/watch?v=IN99jRaCm_M</a>
<b>1. Identifying proportional relationships by examining a graph (5:13)</b>	<a href="http://learnzillion.com/lessons/3210-identifying-proportional-relationships-by-examining-a-graph">http://learnzillion.com/lessons/3210-identifying-proportional-relationships-by-examining-a-graph</a>

<b>3.1 Pages 147 - 152 Estimating and Calculating with Percents and Rates</b>	<b>1. Calculating Values Using Rates or Percents 2. Estimating Values Using Rates or Percents</b>
<b>1. Percent of a Number (1:58)</b>	<a href="http://www.youtube.com/watch?v=2rr-lXlnEVc">http://www.youtube.com/watch?v=2rr-lXlnEVc</a>
<b>1. Finding A Percent Of A Number (7:31)</b>	<a href="http://www.youtube.com/watch?v=rR95Cbcjzus">http://www.youtube.com/watch?v=rR95Cbcjzus</a>
<b>2. Estimating the Percent of Another Number (1:12)</b>	<a href="http://www.youtube.com/watch?v=RerJTT06SoA">http://www.youtube.com/watch?v=RerJTT06SoA</a>
<b>2. Estimate with Percents using rounding; benchmark fractions and percents (13:10)</b>	<a href="http://www.youtube.com/watch?v=SwEXnT1g3D8">http://www.youtube.com/watch?v=SwEXnT1g3D8</a>
<b>3.2 Pages 153 - 160 Solving Percent Problems</b>	<b>1. Solving Percent Problems</b>
<b>1. Learn How To Solve Percent Problems (3:30)</b>	<a href="http://www.youtube.com/watch?v=hC6M60n01CQ">http://www.youtube.com/watch?v=hC6M60n01CQ</a>
<b>1. Solving Percent Problems (6:16)</b>	<a href="http://www.youtube.com/watch?v=TvSKeTFsaj4">http://www.youtube.com/watch?v=TvSKeTFsaj4</a>
<b>1. Solving Percent Problems - An Introduction (8:44)</b>	<a href="http://www.youtube.com/watch?v=qJ_HlpZJyA">http://www.youtube.com/watch?v=qJ_HlpZJyA</a>
<b>3.3 Pages 161 - 168 Using Proportion and Percent Equations</b>	<b>1. Solving Proportions Solving Percent Equations</b> <b>2.</b>
<b>1. Finding the Whole Given the Part &amp; Percent (5:19)</b>	<a href="http://www.youtube.com/watch?v=Kyk2j_Ecufc">http://www.youtube.com/watch?v=Kyk2j_Ecufc</a>
<b>2. Find the Part Given the Percent and the Whole (9:53)</b>	<a href="http://www.youtube.com/watch?v=KSxi3gE6AUs">http://www.youtube.com/watch?v=KSxi3gE6AUs</a>
<b>1. Percent Proportion 1 (2:47)</b>	<a href="http://www.youtube.com/watch?v=3VsTpD4tqPQ">http://www.youtube.com/watch?v=3VsTpD4tqPQ</a>
<b>1. Percent Proportion 2</b>	<a href="http://www.youtube.com/watch?v=43pb2vNXmM">http://www.youtube.com/watch?v=43pb2vNXmM</a>

<b>3.4 Pages 170 - 176 Using Percents</b>	<b>1. Calculating Simple Interest 2. Calculating Percent Increase and Decrease</b>
<b>1. Simple Interest Formula (2:07)</b>	<a href="http://www.youtube.com/watch?v=6AZijeJDmgY">http://www.youtube.com/watch?v=6AZijeJDmgY</a>
<b>2. Percent Increase or Decrease (7:05)</b>	<a href="http://www.youtube.com/watch?v=TDUVV7gc4Jo&amp;list=PLO5OtTxuf7cWTVcCliEe3IzkXXR8DZwxxM">http://www.youtube.com/watch?v=TDUVV7gc4Jo&amp;list=PLO5OtTxuf7cWTVcCliEe3IzkXXR8DZwxxM</a>
<b>2. Percent Increase or Decrease (2:16)</b>	<a href="http://www.youtube.com/watch?v=TpZXX-GsmB0">http://www.youtube.com/watch?v=TpZXX-GsmB0</a>
<b>2. Find the percent of decrease: using a proportion (4:58)</b>	<a href="http://learnzillion.com/lessons/365-find-the-percent-of-decrease-using-a-proportion">http://learnzillion.com/lessons/365-find-the-percent-of-decrease-using-a-proportion</a>
<b>2. Find the percent of increase: using a proportion (4:02)</b>	<a href="http://learnzillion.com/lessons/366-find-the-percent-of-increase-using-a-proportion">http://learnzillion.com/lessons/366-find-the-percent-of-increase-using-a-proportion</a>
<b>2. INTERACTIVE - Percent Change</b>	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/PercentChangeTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/PercentChangeTool.swf</a>
<b>3.5 Pages 177 - 186 Solving Percent Problem Involving Proportions</b>	<b>1. Solving Percent Problems Using Direct Variation</b>
<b>1. Proportionality Constant for Direct Variation (1:43)</b>	<a href="http://www.youtube.com/watch?v=c6-FJRda_Vc">http://www.youtube.com/watch?v=c6-FJRda_Vc</a>
<b>1. Translate Percents and Applications - Sales Tax (6:02)</b>	<a href="http://www.youtube.com/watch?v=x9VTQg8uw9Y">http://www.youtube.com/watch?v=x9VTQg8uw9Y</a>
<b>1. Solving Percent Problems Using The Percent Proportion (8:35)</b>	<a href="http://www.youtube.com/watch?v=yI0Rb6T09VM">http://www.youtube.com/watch?v=yI0Rb6T09VM</a>
<b>4.1 Pages 195 - 204 Using Models to Understand Integers</b>	<b>1. Writing Number Sentence to Represent the Sum of Positive and Negative Integers</b>
<b>1. Adding Positive and Negative Integers Without A Number Line (6:02)</b>	<a href="http://www.youtube.com/watch?v=d6W11u7IkyM">http://www.youtube.com/watch?v=d6W11u7IkyM</a>
<b>1. POSITIVE AND NEGATIVE INTEGERS (8:02)</b>	<a href="http://www.youtube.com/watch?v=Q2tdkWDFvfk">http://www.youtube.com/watch?v=Q2tdkWDFvfk</a>

<p><b>4.2 Pages 205 - 214</b></p> <p style="text-align: center;"><b>Adding Integers - Part 1</b></p>	<p><b>1. Modeling Integer Addition on a Number Line</b></p>
<p><b>1. Adding Integers Using a Number Line (3:51)</b></p>	<p><a href="http://www.youtube.com/watch?v=204uFu0DRWE">http://www.youtube.com/watch?v=204uFu0DRWE</a></p>
<p><b>1. INTERACTIVE - Add integers with different signs</b></p>	<p><a href="http://2012.carnegielearning.com/2012.03.72/dlc/SignedNumberOpsTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/SignedNumberOpsTool.swf</a></p>
<p><b>4.3 Pages 215 - 224</b></p> <p style="text-align: center;"><b>Adding Integers - Part 2</b></p>	<p><b>1. Modeling Integer Addition Using Two Color Counter</b>  <b>2. Adding Integers</b></p>
<p><b>1. Add integers using color counters (4:47)</b></p>	<p><a href="http://learnzillion.com/lessons/1023-add-integers-using-color-counters">http://learnzillion.com/lessons/1023-add-integers-using-color-counters</a></p>
<p><b>1. Adding Integers Using Counters (5:45)</b></p>	<p><a href="http://www.youtube.com/watch?v=v7ES0ZWE_7w">http://www.youtube.com/watch?v=v7ES0ZWE_7w</a></p>
<p><b>2. Adding Positive and Negative Integers Without A Number Line (6:02)</b></p>	<p><a href="http://www.youtube.com/watch?v=d6W11u7lkyM">http://www.youtube.com/watch?v=d6W11u7lkyM</a></p>
<p><b>4.4 Pages 225 - 238</b></p> <p style="text-align: center;"><b>Subtracting Integers</b></p>	<p><b>1. Model Integer Subtraction Using Two Color Counters</b>  <b>2. Model Integer Subtraction on a Number Line</b>  <b>3. Subtracting Integers</b></p>
<p><b>1. Subtract Integers using Color Chips (4:08)</b></p>	<p><a href="http://learnzillion.com/lessons/2990-subtract-integers-using-integer-chips">http://learnzillion.com/lessons/2990-subtract-integers-using-integer-chips</a></p>
<p><b>1. INTERACTIVE - Subtract Positive and Negative Numbers Using Counters</b></p>	<p><a href="http://www.glencoe.com/sites/common_assets/mathematics/mc2/cim/interactive_labs/M2_04/M2_04_dev_100.html">http://www.glencoe.com/sites/common_assets/mathematics/mc2/cim/interactive_labs/M2_04/M2_04_dev_100.html</a></p>
<p><b>2. Subtract integers using number lines (3:14)</b></p>	<p><a href="http://learnzillion.com/lessons/3082-subtract-integers-using-number-lines">http://learnzillion.com/lessons/3082-subtract-integers-using-number-lines</a></p>
<p><b>2. &amp; 3. Subtract integers using the "take away" definition of subtraction on a number line (4:12)</b></p>	<p><a href="http://learnzillion.com/lessons/676-subtract-integers-using-the-take-away-definition-of-subtraction-on-a-number-line">http://learnzillion.com/lessons/676-subtract-integers-using-the-take-away-definition-of-subtraction-on-a-number-line</a></p>

3. NEVER SUBTRACT - Add The Opposite (STOP at 9:37)	<a href="http://www.youtube.com/watch?v=c81Bg7ou6C4">http://www.youtube.com/watch?v=c81Bg7ou6C4</a>
<b>4.5 Pages 239 - 246 Adding and Subtracting Rational Numbers</b>	<b>1. Adding Rational Numbers 2. Subtracting Rational Numbers</b>
1. Add mixed fractions: regrouping (4:10)	<a href="http://learnzillion.com/lessons/218-add-mixed-fractions-regrouping">http://learnzillion.com/lessons/218-add-mixed-fractions-regrouping</a>
1. Subtract mixed fractions: regrouping (4:31)	<a href="http://learnzillion.com/lessons/345-subtract-mixed-fractions-regrouping">http://learnzillion.com/lessons/345-subtract-mixed-fractions-regrouping</a>
2. Add mixed fractions: using improper fractions (4:11)	<a href="http://learnzillion.com/lessons/346-add-mixed-fractions-using-improper-fractions">http://learnzillion.com/lessons/346-add-mixed-fractions-using-improper-fractions</a>
1. & 2. Add/Subtract Pos/Neg Decimals (10.33)	<a href="http://www.youtube.com/watch?v=qJzYcLE7_Mg">http://www.youtube.com/watch?v=qJzYcLE7_Mg</a>
<b>5.1 Pages 253 - 262 Multiplying and Dividing Integers</b>	<b>1. Multiplying Integers 2. Dividing Integers 3. Determining the Sign of a Product or Quotient</b>
1. & 3. Multiplying Positive and Negative Integers (5:45)	<a href="http://www.youtube.com/watch?v=Tp9Vdjem9Ok">http://www.youtube.com/watch?v=Tp9Vdjem9Ok</a>
2. & 3. Division of Integers - The Basics (3:04)	<a href="http://www.youtube.com/watch?v=o6zh558w8R4">http://www.youtube.com/watch?v=o6zh558w8R4</a>
1. Multiply a positive integer by a negative integer based on equal groups (4:47)	<a href="http://learnzillion.com/lessons/1645-multiply-a-positive-integer-by-a-negative-integer-by-thinking-about-equal-groups">http://learnzillion.com/lessons/1645-multiply-a-positive-integer-by-a-negative-integer-by-thinking-about-equal-groups</a>
1. Multiply a negative integer by a negative integer based on equal groups (4:49)	<a href="http://learnzillion.com/lessons/1647-multiply-a-negative-integer-by-a-negative-integer-by-thinking-about-equal-groups">http://learnzillion.com/lessons/1647-multiply-a-negative-integer-by-a-negative-integer-by-thinking-about-equal-groups</a>
1. Multiply a negative integer by a positive integer based on equal groups (4:56)	<a href="http://learnzillion.com/lessons/1646-multiply-a-negative-integer-by-a-positive-integer-by-thinking-about-equal-groups">http://learnzillion.com/lessons/1646-multiply-a-negative-integer-by-a-positive-integer-by-thinking-about-equal-groups</a>
<b>5.2 Pages 263 - 266 Multiplying and Dividing Rational Numbers</b>	<b>1. Multiplying and Dividing Rational Numbers</b>

<b>1. Multiplying Mixed Numbers (4:30)</b>	<a href="http://www.khanacademy.org/math/arithmetic/fractions/mixed_number_mult_div/v/multiplying--mixed-numbers">http://www.khanacademy.org/math/arithmetic/fractions/mixed_number_mult_div/v/multiplying--mixed-numbers</a>
<b>1. Dividing mixed numbers (4:51)</b>	<a href="http://www.youtube.com/watch?v=uMTqaEbXQ6k">http://www.youtube.com/watch?v=uMTqaEbXQ6k</a>
1. Divide mixed numbers by fractions: using models (5:02)	<a href="http://learnzillion.com/lessons/207-divide-mixed-numbers-by-fractions-using-models">http://learnzillion.com/lessons/207-divide-mixed-numbers-by-fractions-using-models</a>
1. Dividing Decimals (4:37)	<a href="http://www.youtube.com/watch?v=HIEx1TN-dqY">http://www.youtube.com/watch?v=HIEx1TN-dqY</a>
<b>5.3 Pages 257 - 272 Simplifying Arithmetic Expressions with Rational Numbers</b>	<b>1. Simplifying Expressions with Rational Numbers</b>
<b>1. Solve multiplication problems using the commutative and associative properties (3:23)</b>	<a href="http://learnzillion.com/lessons/701-solve-multiplication-problems-using-the-commutative-and-associative-properties">http://learnzillion.com/lessons/701-solve-multiplication-problems-using-the-commutative-and-associative-properties</a>
<b>1. Solve multiplication problems by using the distributive property (3:06)</b>	<a href="http://learnzillion.com/lessons/702-solve-multiplication-problems-by-using-the-distributive-property">http://learnzillion.com/lessons/702-solve-multiplication-problems-by-using-the-distributive-property</a>
<b>1. Simplifying Expressions Involving Mixed Numbers (2:52)</b>	<a href="http://www.youtube.com/watch?v=KmoGL-dWyDM">http://www.youtube.com/watch?v=KmoGL-dWyDM</a>
<b>1. Order of Operations Involving Mixed Numbers (8:39)</b>	<a href="http://www.youtube.com/watch?v=L7hbwOCfJlw">http://www.youtube.com/watch?v=L7hbwOCfJlw</a>
<b>5.4 Pages 273 - 282 Evaluating Expressions with Rational Numbers</b>	<b>1. Evaluating Expressions with Rational Numbers</b>
<b>1. Solving for an Unknown Variable of an Equation Containing Mixed Numbers and Fractions (4:45)</b>	<a href="http://www.youtube.com/watch?v=ETLkqz427O4">http://www.youtube.com/watch?v=ETLkqz427O4</a>
<b>5.5 Pages 283 - 288 Exact Decimal Representations of Fractions</b>	<b>1. Representing Fractions as Decimals</b>

1. Convert fractions and mixed numbers to decimals (5:12)	<a href="http://learnzillion.com/lessons/2718-convert-fractions-and-mixed-numbers-to-decimals">http://learnzillion.com/lessons/2718-convert-fractions-and-mixed-numbers-to-decimals</a>
1. Determine if a fraction will convert to a terminating or repeating decimal using proportional reasoning (5:12)	<a href="http://learnzillion.com/lessons/4439-determine-if-a-fraction-will-convert-to-a-terminating-or-repeating-decimal-using-proportional-reasoning">http://learnzillion.com/lessons/4439-determine-if-a-fraction-will-convert-to-a-terminating-or-repeating-decimal-using-proportional-reasoning</a>
1. Math Antics - Convert any Fraction to a Decimal (6:42)	<a href="http://www.youtube.com/watch?v=do_lbHld2Os">http://www.youtube.com/watch?v=do_lbHld2Os</a>
<b>6.1 Pages 295 - 302 Evaluating Algebraic Expressions</b>	<b>1. Writing Algebraic Expressions 2. Evaluating Algebraic Expressions</b>
1. & 2. Solve problems by writing and solving equations (4:00)	<a href="http://learnzillion.com/lessons/3278-solve-problems-by-writing-and-solving-equations">http://learnzillion.com/lessons/3278-solve-problems-by-writing-and-solving-equations</a>
1. Using substitution to solve algebraic expressions (2:56)	<a href="http://www.youtube.com/watch?v=dsx088QgDI">http://www.youtube.com/watch?v=dsx088QgDI</a>
<b>6.2 Pages 303 - 308 Simplifying Expressions Using Distributive Properties</b>	<b>1. Using the Distributive Property of Multiplication over Addition to Simplify Numerical Expressions</b> xxx <b>2. Using the Distributive Property to Simplify and Evaluate Algebraic Expressions</b>
1. The Distributive Property of Multiplication (5:03)	<a href="http://www.youtube.com/watch?v=QzwvSp-ZtBY">http://www.youtube.com/watch?v=QzwvSp-ZtBY</a>
2. Simplify an expression with a fraction using the distributive property (2:55)	<a href="http://learnzillion.com/lessons/811-simplify-an-expression-with-a-fraction-using-the-distributive-property">http://learnzillion.com/lessons/811-simplify-an-expression-with-a-fraction-using-the-distributive-property</a>
<b>6.3 Pages 309 - 316 Factoring Algebraic Expressions</b>	<b>1. Using the Distributive Properties to Factor Expressions 2. Combining Like Terms to Simplify Expressions</b>

1. Factoring and the Distributive Property (4:45)	<a href="http://www.youtube.com/watch?v=499MvHFrqUU">http://www.youtube.com/watch?v=499MvHFrqUU</a>
1. Factor an Expression (4:42)	<a href="http://learnzillion.com/lessons/809-factor-an-expression">http://learnzillion.com/lessons/809-factor-an-expression</a>
1. Factor linear Expressions (5:12)	<a href="http://learnzillion.com/lessons/1128-factor-linear-expressions">http://learnzillion.com/lessons/1128-factor-linear-expressions</a>
2. Simplify an expression with a fraction by adding or subtracting terms with fractions (4:41)	<a href="http://www.youtube.com/watch?v=CU84t8qXuY4">http://www.youtube.com/watch?v=CU84t8qXuY4</a>
2. Simplify expressions using distribution and combining like terms (3:59)	<a href="http://learnzillion.com/lessons/810-simplify-expressions-using-distribution-and-combining-like-terms">http://learnzillion.com/lessons/810-simplify-expressions-using-distribution-and-combining-like-terms</a>
<b>6.4 Pages 317 - 324 Verifying that Expressions are Equivalent</b>	
<b>1. Determining if Expressions are Equivalent by Evaluating 2. Determining if Expressions are Equivalent by Simplifying</b>	
1. Identify equivalent expressions using substitution (4:33)	<a href="http://learnzillion.com/lessons/816-identify-equivalent-expressions-using-substitution">http://learnzillion.com/lessons/816-identify-equivalent-expressions-using-substitution</a>
2. Add linear expressions by combining like terms (4:47)	<a href="http://learnzillion.com/lessons/1125-add-linear-expressions-by-combining-like-terms">http://learnzillion.com/lessons/1125-add-linear-expressions-by-combining-like-terms</a>
2. Simplifying Equivalent Expressions (3:35)	<a href="http://www.youtube.com/watch?v=x17hsJIAL-w">http://www.youtube.com/watch?v=x17hsJIAL-w</a>
2. Factor linear Expressions (5:12)	<a href="http://learnzillion.com/lessons/1128-factor-linear-expressions">http://learnzillion.com/lessons/1128-factor-linear-expressions</a>
<b>6.4 Pages 317 - 324 Verifying that Expressions are Equivalent</b>	
<b>3. Determining if Two Expressions are Equivalent by Graphing</b>	
<b>Not a Common Core Standard</b>	
3. Determine if two rates are equivalent by graphing (4:21)	<a href="http://learnzillion.com/lessons/870-determine-if-two-rates-are-equivalent-by-graphing">http://learnzillion.com/lessons/870-determine-if-two-rates-are-equivalent-by-graphing</a>

<b>6.5 Pages 325 - 332 Simplifying Algebraic Expressions Using Operations and Their Properties</b>	<b>1. Simplifying Algebraic Expressions Using Operations and Their Properties</b>
<b>1. Simplify Algebraic Expressions (6:16)</b>	<a href="http://www.youtube.com/watch?v=2lowqo2MoY">http://www.youtube.com/watch?v=2lowqo2MoY</a>
<b>1. Expand linear expressions with fractions using the distributive property (5:03)</b>	<a href="http://learnzillion.com/lessons/1127-expand-linear-expressions-with-fractions-using-the-distributive-property">http://learnzillion.com/lessons/1127-expand-linear-expressions-with-fractions-using-the-distributive-property</a>
<b>7.1 Pages 342 - 346 Picture Algebra</b>	<b>1. Representing Daily Life Situations using Picture Algebra</b>
<b>1. Solving an Equation Using Algebra Tiles (3:01)</b>	<a href="http://www.youtube.com/watch?v=YhuL_QlcQVA">http://www.youtube.com/watch?v=YhuL_QlcQVA</a>
<b>1. Solving 2 step equations with Algebra tiles (7:16)</b>	<a href="http://www.youtube.com/watch?v=7NoQENQELns">http://www.youtube.com/watch?v=7NoQENQELns</a>
<b>1. Use a bar model to write and solve equations (3:29)</b>	<a href="http://learnzillion.com/lessons/1509-use-a-bar-model-to-write-and-solve-equations">http://learnzillion.com/lessons/1509-use-a-bar-model-to-write-and-solve-equations</a>
<b>1. How to Use Algebra Tiles To Factor Equations Introduction (2:37)</b>	<a href="http://www.youtube.com/watch?v=wYYDk3wH2bg">http://www.youtube.com/watch?v=wYYDk3wH2bg</a>
<b>7.2 Pages 347 - 354 Solving Equations</b>	<b>1. Understanding Equality and Using a Balance Model 2. Solving Two-Step Equations</b>
<b>1. Solve an equation using a balance scale and check answer (5:54)</b>	<a href="http://learnzillion.com/lessons/2333-solve-an-equation-using-a-balance-scale-and-check-answer">http://learnzillion.com/lessons/2333-solve-an-equation-using-a-balance-scale-and-check-answer</a>
<b>1. MANIPULATIVE - Solving equations using a BALANCE SCALE model:</b>  <b>INSTRUCTIONS FOR USING THE BALANCE SCALE: (2:41)</b> <ul style="list-style-type: none"> <li>• Click on 2 STEP EQUATIONS.</li> </ul> <b>Set Tiles up on each side to match the equation, then Press CHECK.</b> <ul style="list-style-type: none"> <li>• Move tiles to solve for X, then Press CHECK.</li> </ul>	<a href="http://www.youtube.com/watch?v=pN3_M4p6aq4">http://www.youtube.com/watch?v=pN3_M4p6aq4</a>  <a href="http://www.mathplayground.com/AlgebraEquations.html">http://www.mathplayground.com/AlgebraEquations.html</a>
<b>2. Solve an equation using inverse operations (2:58)</b>	<a href="http://learnzillion.com/lessons/1510-solving-an-equation-using-inverse-operations">http://learnzillion.com/lessons/1510-solving-an-equation-using-inverse-operations</a>
<b>2. How to solve MULTI-STEP EQUATIONS (5:35)</b>	<a href="http://www.youtube.com/watch?v=iXY3yHwtVFc">http://www.youtube.com/watch?v=iXY3yHwtVFc</a>

<b>7.3</b> Pages 355 - 362	<b>Solving Two-Step Equations</b>	<b>1. Solving Two-Step Equations</b>
<b>Same as 7.2</b>		
<b>1. How to solve MULTI-STEP EQUATIONS (5:35)</b>		<a href="http://www.youtube.com/watch?v=iXY3yHwtVFc">http://www.youtube.com/watch?v=iXY3yHwtVFc</a>
<b>7.3</b> Pages 355 - 362	<b>Solving Two-Step Equations</b>	<b>2. Using Two-Step Equations to Solve a Problem</b>
<b>2. Problem Solving with Two Step Equations - Word Problem (6:50)</b>		<a href="http://www.youtube.com/watch?v=6OXRclSFe4A">http://www.youtube.com/watch?v=6OXRclSFe4A</a>
<b>7.4</b> Pages 363 - 372	<b>Using Two-Step Equations</b>	<b>1. Solving Two-Step Equations involving the Distributive Property.</b> <b>Using Two-Step and the Distributive Property to Solve a Problem with Decimals or Percent</b> <span style="float: right;"><b>2.</b></span>
<b>1. Solving Two-Step Equations involving the Distributive Property (5:02)</b>		<a href="http://www.youtube.com/watch?v=QUcYz6dpdXE">http://www.youtube.com/watch?v=QUcYz6dpdXE</a>
<b>2. Solving equations with fractions using the distributive property (4:49)</b>		<a href="http://www.youtube.com/watch?v=PL9UYj2awDc">http://www.youtube.com/watch?v=PL9UYj2awDc</a>
<b>2. Solving Multiple Step Equations Involving Decimals (8:29)</b>		<a href="http://www.youtube.com/watch?v=rVMctO1xroE">http://www.youtube.com/watch?v=rVMctO1xroE</a>
<b>1. Basic Algebra: Solving Equations using the Distributive Property (4:40)</b>		<a href="http://www.youtube.com/watch?v=e1feQCdq1Ec&amp;list=PLZSeArhUqNIBuP1QsepMbFyADrUzryyhC">http://www.youtube.com/watch?v=e1feQCdq1Ec&amp;list=PLZSeArhUqNIBuP1QsepMbFyADrUzryyhC</a>
<b>2. Solving Equations Involving Distributive Property and Decimals (4:37)</b>		<a href="http://www.youtube.com/watch?v=dotZYuGA0n8">http://www.youtube.com/watch?v=dotZYuGA0n8</a>

<b>7.5 Pages 373 - 378 Solving and Graphing Inequalities in One Variable</b>	<b>1. Graphing One Variable Inequalities Solving Simple Inequalities</b> <b>2.</b>
<b>1. Solve inequalities with 1 variable: graphing on a number line (4:39)</b>	<a href="http://learnzillion.com/lessons/238-solve-inequalities-with-1-variable-graphing-on-a-number-line">http://learnzillion.com/lessons/238-solve-inequalities-with-1-variable-graphing-on-a-number-line</a>
<b>1. Represent an inequality solution set on a number line (2:53)</b>	<a href="http://learnzillion.com/lessons/1662-represent-an-inequality-solution-set-on-a-number-line">http://learnzillion.com/lessons/1662-represent-an-inequality-solution-set-on-a-number-line</a>
<b>2A. Write an inequality from a word problem (3:19)</b>	<a href="http://learnzillion.com/lessons/1660-write-an-inequality-from-a-word-problem">http://learnzillion.com/lessons/1660-write-an-inequality-from-a-word-problem</a>
<b>2B. Solve inequalities with inverse operations (2:54)</b>	<a href="http://learnzillion.com/lessons/1661-solve-inequalities-with-inverse-operations">http://learnzillion.com/lessons/1661-solve-inequalities-with-inverse-operations</a>
<b>8.1 Pages 387 - 394 Multiple Representations of Problem Situations</b>	<b>1. Using a Table to Represent a Two-Step Problem Situation</b> <b>2. Using a Graph to Represent a Two-Step Problem Situation</b> <b>4. Using an Equation and Graph to Determine if a Solution is Correct</b>
<b>1. Use a Table to Write a Two-Step Equation (2:24)</b>	<a href="http://www.youtube.com/watch?v=QHwoFYisrMk">http://www.youtube.com/watch?v=QHwoFYisrMk</a>
<b>2. Graphs of linear equations. Plot Graph from X, Y Table ( 0:00 to 4:33); Plot graph from Word Problem (4:34 to 11:24)</b>	<a href="http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/v/graphs-of-linear-equations">http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/graphing_solutions2/v/graphs-of-linear-equations</a>
<b>4.The graph of an equation in two variables is the set of solutions plotted on a plane (4:10)</b>	<a href="http://www.youtube.com/watch?v=rjAqoohwWw">http://www.youtube.com/watch?v=rjAqoohwWw</a>
<b>4. Determine if an Ordered Pair is a Solution to a Linear Equation in two Variable (2:38)</b>	<a href="http://www.youtube.com/watch?v=o3Hb4t3leYY">http://www.youtube.com/watch?v=o3Hb4t3leYY</a>
<b>2. Solving Two-Step Equations using inverse operations (2:58)</b>	<a href="http://learnzillion.com/lessons/1510-solving-an-equation-using-inverse-operations">http://learnzillion.com/lessons/1510-solving-an-equation-using-inverse-operations</a>
<b>2. How to solve MULTI-STEP EQUATIONS (5:35)</b>	<a href="http://www.youtube.com/watch?v=iXY3yHwtVFc">http://www.youtube.com/watch?v=iXY3yHwtVFc</a>

<b>8.1 Pages 387 - 394 Multiple Representations of Problem Situations</b>	<b>3. Using Two-Step Equation to Represent a Problem Situation</b>
<b>Same as 7.3 #1</b>	
<b>3. Converting Fahrenheit to Celsius (5:32) - No Graph</b>	<a href="http://www.youtube.com/watch?v=p7TtcisPQN4">http://www.youtube.com/watch?v=p7TtcisPQN4</a>
<b>3. Derive Formula to Convert Celsius to Fahrenheit (10:30; Can Stop at 5:15) - Includes Graph</b>	<a href="http://www.youtube.com/watch?v=wb3BvSq9VXU">http://www.youtube.com/watch?v=wb3BvSq9VXU</a>
<b>8.1 Pages 387 - 394 Multiple Representations of Problem Situations</b>	<b>5. Solving Two-Step Equations (same as 7.2 #2)</b>
<b>Same as 7.2 #2</b>	
<b>8.2 Pages 395 - 402 Using Two-Step Equations</b>	<b>1. Writing and Solving Two-Step Equations</b>
<b>Same as 7.2 #2 and 7.3 #2</b>	
<b>1. Writing and Solving Two-Step Equations (9:57)</b>	<a href="http://www.youtube.com/watch?v=YbmXGCsPy6g">http://www.youtube.com/watch?v=YbmXGCsPy6g</a>
<b>1. Solving Two - Step Linear Equations (2:13)</b>	<a href="http://www.youtube.com/watch?v=leNCHdO5Lec">http://www.youtube.com/watch?v=leNCHdO5Lec</a>
<b>8.2 Pages 395 - 402 Using Two-Step Equations</b>	<b>2. Comparing Two Problem Situations</b>
<b>2. See Problem 1 in Text pp. 396 - 397</b>	

<b>8.3 Pages 403 - 416 Solving More Complicated Equations</b>	<b>1. Solving Equations with Fractions</b> <b>Solving Equations with Variables on Both Sides</b> <b>Verify Solutions in a Problem Context</b>	<b>2.</b> <b>3.</b>
<b>1. Solving Multiple Step Equations Involving Decimals (8:29)</b>	<a href="http://www.youtube.com/watch?v=rVMctO1xroE">http://www.youtube.com/watch?v=rVMctO1xroE</a>	
<b>1. &amp; 2. Equations With Fractions (6:17)</b>	<a href="http://www.youtube.com/watch?v=gDXPC8e11bE">http://www.youtube.com/watch?v=gDXPC8e11bE</a>	
<b>2. Solving Equations With A Variable On Both Sides (4:02)</b>	<a href="http://www.youtube.com/watch?v=oLQmsajh-eQ">http://www.youtube.com/watch?v=oLQmsajh-eQ</a>	
<b>3. How to Show That Expressions Are Equal (1:47)</b>	<a href="http://www.youtube.com/watch?v=BOICCF07ZpU">http://www.youtube.com/watch?v=BOICCF07ZpU</a>	
<b>8.4 Pages 417 - 424 Making Sense of Negative Solutions</b>	<b>1. Identify Independent and Dependent Variables to Write and Solve Algebraic Equations</b>	
<p style="text-align: center;"><b>SKIP - A 6TH GRADE STANDARD</b></p>		
<b>8.4 Pages 417 - 424 Making Sense of Negative Solutions</b>	<b>2. Interpreting Negative Solutions</b>	
<b>2. Can time be negative?</b>	<p>Yes: Let's say an object has already been traveling for 30 seconds. If you start your watch at 30 seconds, then <b>t = 0 at 30 seconds</b>.</p> <p>To calculate the velocity of the object <b>3 seconds BEFORE</b> you start the watch, you would set the time to <b>t = -3</b>. The time at <b>t=3 is 3 seconds after you start the watch</b>, not when the object starts traveling.</p>	
<b>2. Understanding how positive and negative numbers describe quantities (3:16)</b>	<a href="http://www.youtube.com/watch?v=vnyLaXjFGd8">http://www.youtube.com/watch?v=vnyLaXjFGd8</a>	

<b>8.5 Pages 425 - 434</b>	<b>Rate of Change</b>	<b>1. Identify Rate of Change using Fractional Rates</b>
<b>1. Understand unit rates using fractional rates (4:04)</b>		<a href="http://learnzillion.com/lessons/2410-understand-unit-rates-using-fractional-rates">http://learnzillion.com/lessons/2410-understand-unit-rates-using-fractional-rates</a>
1. Using Unit Rate with Speed, Time and Distance Problems (3:43)		<a href="http://www.youtube.com/watch?v=44n0ZILzbnU">http://www.youtube.com/watch?v=44n0ZILzbnU</a>
<b>8.6 Pages 435 - 446 Using Multiple Representations to Solve Problems</b>	<b>1. Using Multiple Representations</b>	
<b>Not a Common Core Standard</b>		
<b>1. Solving real life problems using table, equation and graph (10:10)</b>		<a href="http://www.youtube.com/watch?v=85mx8xQTVDY">http://www.youtube.com/watch?v=85mx8xQTVDY</a>
<b>9.1 Pages 459 - 468 Introduction to Geometry and Geometric Constructions</b>	<b>1. Sketching and Drawing Geometric Figures</b> <b>2. Constructing Circles</b> <b>3. Constructing Arcs</b> <b>4. Constructing Duplicate Line Segments</b>	
<b>SKIP - Uses a compass which is not a Common Core Standard; Geometric Terms are introduced in earlier grades.</b>		
<b>9.2 Pages 469 - 482 Measuring and Contracting Angles</b>	<b>1. Drawing Angles with a Protractor</b>	
<b>1. Drawing Angles with a Protractor (2:04)</b>		<a href="http://www.youtube.com/watch?v=3RcNsg7-hXs">http://www.youtube.com/watch?v=3RcNsg7-hXs</a>

<b>9.2 Pages 469 - 482 Measuring and Contracting Angles</b>	<b>2. Constructing Duplicate Angles</b> <b>3. Constructing Angle Bisectors</b>
<b>Uses a compass which is not a Common Core Standard - Use a protractor</b>	
<b>2. Constructing Duplicate Angles (2:04)</b>	<a href="http://www.youtube.com/watch?v=3RcNsg7-hXs">http://www.youtube.com/watch?v=3RcNsg7-hXs</a>
<b>3. Constructing Angle Bisectors (stop at 3:58)</b>	<a href="http://www.youtube.com/watch?v=vETjQgyWpW0">http://www.youtube.com/watch?v=vETjQgyWpW0</a>
<b>9.3 Pages 484 - 495 Complements, Supplements, Midpoints, Perpendiculars and Perpendicular bisectors</b>	<b>1. Calculating the Complement of an Angle</b> <b>2. Calculating the Supplement of an Angle</b> <b>5. Classify Adjacent Angles, Linear Pairs, and Vertical Angles</b>
<b>1. &amp; 2. Find angle measurements using complementary and supplementary angles (3:11)</b>	<a href="http://learnzillion.com/lessons/2647-find-angle-measurements-using-complementary-and-supplementary-angles">http://learnzillion.com/lessons/2647-find-angle-measurements-using-complementary-and-supplementary-angles</a>
<b>5. Adjacent Angles, Linear Pairs, and Vertical Angles (10:22)</b>	<a href="http://www.youtube.com/watch?v=oiCmqUliWec">http://www.youtube.com/watch?v=oiCmqUliWec</a>
<b>9.3 Pages 484 - 495 Complements, Supplements, Midpoints, Perpendiculars and Perpendicular bisectors</b>	<b>3. Constructing a Perpendicular</b> <b>4. Constructing Perpendicular Bisectors and Midpoints</b>
<b>Uses a compass which is not a Common Core Standard - Use a protractor</b>	
<b>10.1 Pages 503 - 512 Triangle Sum, Exterior Angle, and Exterior Angle Inequality Theorems</b>	<b>1. Using the Triangle Sum Theorem</b> <b>Exploring the Relationship Between Interior Angle and Side Lengths in Triangles</b> <b>Exterior Angle Theorem</b>
<b>1. Triangle Sum Theorem - the sum of the angles of a triangle</b>	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/TriangleSumTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/TriangleSumTool.swf</a>

2. Angle-Side Relationships in Triangles (4:23 - Showing first minute is sufficient)	<a href="http://www.youtube.com/watch?v=KSwwdobVwVY">http://www.youtube.com/watch?v=KSwwdobVwVY</a>
3. Exterior Angle Theorem (3:39)	<a href="http://www.youtube.com/watch?v=Fzqt9kIOwM0">http://www.youtube.com/watch?v=Fzqt9kIOwM0</a>
3. Exterior Angle Theorem (4:56)	<a href="http://www.youtube.com/watch?v=jVikX3VGw4A">http://www.youtube.com/watch?v=jVikX3VGw4A</a>
<b>10.2 Pages 513 - 518 Constructing Triangles</b>	<b>1. Constructing Triangles</b>
<b>SKIP - Uses a compass which is not a Common Core Standard</b>	
<b>10.3 Pages 519 - 526 Congruent Figures and Constructing Congruent Triangles</b>	<b>1. Determining Whether Figures are Congruent Identifying Corresponding Sides and Angles given a Congruence Statement</b> <span style="float: right;"><b>2.</b></span>
1. & 2. Congruent Figures (3:19)	<a href="http://www.youtube.com/watch?v=qv8l2hY4a60">http://www.youtube.com/watch?v=qv8l2hY4a60</a>
<b>10.4 Pages 528 -536 Triangle Inequality Theorem</b>	<b>1. Using the Triangle Inequality Theorem</b>
1. Triangle inequality theorem (5:51)	<a href="http://www.khanacademy.org/math/geometry/basic-geometry/triangle_inequality_theorem/v/triangle-inequality-theorem">http://www.khanacademy.org/math/geometry/basic-geometry/triangle_inequality_theorem/v/triangle-inequality-theorem</a>
1. INTERACTIVE: Two sides of a Triangle must be Greater than the Third Side	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/TriangleAngleTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/TriangleAngleTool.swf</a>
<b>Factors</b>	<b>1. Dilating Scale Drawings 2. Using Scale Models to Calculate Measurements</b>
1. Scale Factor of Dilations Video #1 (1:53)	<a href="http://www.youtube.com/watch?v=8wKZ-y3tyqM">http://www.youtube.com/watch?v=8wKZ-y3tyqM</a>

1. Scale Factor of Dilations Video #2 (4:21)	<a href="http://www.youtube.com/watch?v=Z4bX-JWhrwA">http://www.youtube.com/watch?v=Z4bX-JWhrwA</a>
2. Scale Drawings - Find the Measurement (6:53)	<a href="http://www.youtube.com/watch?v=cNckwwb9aIQ">http://www.youtube.com/watch?v=cNckwwb9aIQ</a>
2. Scale Factor (5:09)	<a href="http://www.youtube.com/watch?v=XtkU4VkJWh8I">http://www.youtube.com/watch?v=XtkU4VkJWh8I</a>
2. Using Scale Maps Distance (6:14)	<a href="http://www.youtube.com/watch?v=wzncwjKrz5Y">http://www.youtube.com/watch?v=wzncwjKrz5Y</a>

11.2 Pages 553 - 562	Applications of Ratios	1. Exploring Aspect Ratio
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Not a Common Core Standard

1. Aspect Ratio Video (2:42)	<a href="http://www.youtube.com/watch?v=8R-MWZvfXbU">http://www.youtube.com/watch?v=8R-MWZvfXbU</a>
1. Aspect Ratio & Proportion ( 6:48 - Can Stop at 2:28)	<a href="http://www.youtube.com/watch?v=7tkLtqYrAgl">http://www.youtube.com/watch?v=7tkLtqYrAgl</a>

**11.3 Pages 563 -576 Exploring Scale Drawings - Definitions**

**Scale:** The ratio between two sets of measurements. A Scale contains measurement units.  $\times$  Example - 1 cm : 5 mi .  
 A scale can be shown in three ways: colon: 1 cm : 5 mi, equation: 1 cm = 5 mi, or Fraction: 1 cm / 5 mi

Scale

**Factor:** The ratio used to enlarge or reduce similar figures. A Scale Factor does not have any measurement units.  
 Example : The comparison of the size of an object on a drawing to the actual size of the object = 1 : 500  
**NOTE: Scale Factor is not a 7th grade standard**

**Unit Rate:** The ratio between one quantity compared to a single unit of another quantity.  
 A Unit Rate contains Measurement Units Examples - 30 mile per gallon , 12 inches per foot

<p><b>11.3 Pages 563 -576 Exploring Scale Drawings</b></p>	<p><b>1. Exploring Scale Drawings</b></p>
<p><b>1. Make a new scale drawing from a given one (5:14)</b></p>	<p><a href="http://learnzillion.com/lessons/1133-make-a-new-scale-drawing-from-a-given-one">http://learnzillion.com/lessons/1133-make-a-new-scale-drawing-from-a-given-one</a></p>
<p><b>1. Scale Drawings (8:57)</b></p>	<p><a href="http://www.youtube.com/watch?v=65NNqghwrtU">http://www.youtube.com/watch?v=65NNqghwrtU</a></p>
<p><b>11.3 Pages 563 -576 Exploring Scale Drawings</b></p>	
<p><b>2. Interpreting Scales (basically Scale Factor)</b></p>	
<p><b>Scale Factor is not a 7th grade Common Core topic</b></p>	
<p><b>11.4 Pages 577 - 580 Creating Blueprints</b></p>	<p><b>1. Drawing a Blueprint Given an Illustration of an Object</b></p>
<p><b>1. Blueprint for a doghouse</b></p>	<p><b>1. See Textbook page 585</b> - shows a Scale Factor with the legend: 1" : 32" This is confusing since it should not contain units (especially the same units). It should be 1 : 32 , since the drawing shows actual dimensions. Specifying a scale is not necessary.</p>
<p><b>12.1 Pages 589 - 594 Circle, Radius and Diameter</b></p>	<p><b>1. Defining a Circle and Its Properties</b></p>
<p><b>1. Define a circle (6:59)</b></p>	<p><a href="http://learnzillion.com/lessons/3962-define-a-circle">http://learnzillion.com/lessons/3962-define-a-circle</a></p>

<p><b>12.2</b>    Pages 595 - 604                      <b>Circumference of a Circle</b></p>	<p><b>1. Evaluating the Relationship between the Diameter and ... the Circumference of a Circle</b>                      <b>2. Calculating the Circumference of a Circles</b></p>
<p><b>1. &amp; 2. Find the relationship between the diameter and circumference of a circle and calculate the circumference given the radius or diameter (4.21)</b></p>	<p><a href="http://learnzillion.com/lessons/818-find-the-circumference-of-a-circle">http://learnzillion.com/lessons/818-find-the-circumference-of-a-circle</a></p>
<p style="text-align: center;"><b>12.3</b>    Pages 605 614                      <b>Area of a Circle</b></p>	
<p style="text-align: center;"><b>1. Using Circles Inscribed in Regular Polygons to Explore Area and Perimeter)</b></p>	
<p style="text-align: center;"><b>This is a High School Common Core topic</b></p>	
<p><b>1. Using Circles Inscribed in Regular Polygons to Explore Area and Perimeter</b></p>	<p><b>See Textbook Page 627</b></p>
<p style="text-align: center;"><b>12.3</b>    Pages 605 614                      <b>Area of a Circle</b></p>	
<p><b>2. Exploring the Relationship Between the Circumference ... and Area of a Circle</b></p>	
<p><b>2. INTERACTIVE: Approximating the area and area formula of a circle from the radius and circumference</b></p>	<p><a href="http://2012.carnegielearning.com/2012.03.72/dlc/CirclesTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/CirclesTool.swf</a></p>
<p><b>2. Find the area of a circle (5:07)</b></p>	<p><a href="http://learnzillion.com/lessons/819-find-the-area-of-a-circle">http://learnzillion.com/lessons/819-find-the-area-of-a-circle</a></p>
<p style="text-align: center;"><b>12.4</b>    Pages 615 - 628                      <b>Unknown Measurements</b></p>	
<p><b>1. Using Area and Circumference Formulas to Solve for Unknown Measurements</b></p>	
<p><b>1. Use area of a circle to solve for circumference (4:02)</b></p>	<p><a href="http://learnzillion.com/lessons/821-use-area-of-a-circle-to-solve-for-circumference">http://learnzillion.com/lessons/821-use-area-of-a-circle-to-solve-for-circumference</a></p>

<b>12.4 Pages 615 - 628</b> <b>Unknown Measurements</b>	<b>2. Using Composite Figures to Solve for Unknown Measurements -</b>
<b>This is a High School Common Core topic (requires trigonometry)</b>	
<b>2. Area and Perimeter of Regular Polygons (Chart)</b>	<a href="http://jwilson.coe.uga.edu/emat6680/parsons/mvp6690/unit/Nsides/nsides.html">http://jwilson.coe.uga.edu/emat6680/parsons/mvp6690/unit/Nsides/nsides.html</a>
2. Areas of common shapes	<a href="http://www.coolmath.com/reference/areas.html#The_area_of_a_circle">http://www.coolmath.com/reference/areas.html#The_area_of_a_circle</a>
<b>13.1 Pages 633 - 646</b> <b>Slicing Through a Cube</b>	<b>1. Sketching Modeling and Describing Models of a Cube</b>
<b>1. INTERACTIVE (Excellent) - Slices through a solid</b>	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf</a>
<b>1. INTERACTIVE - Cross sections of a cube (click on Rotate, then Cut to slice the cube)</b>	<a href="http://www.learner.org/courses/learningmath/geometry/session9/part_c/">http://www.learner.org/courses/learningmath/geometry/session9/part_c/</a>
<b>1. INTERACTIVE - Cubes Sliced at 3 different angles: Shows 3 different slices through a cube - parallel, on edge, on corner. Use QuickTime or GIF to show movie; use JPEG with inner arrows on the left to move slice by slice.</b>	<a href="http://www.math.union.edu/~dpvc/math/4d/cube-flatland/welcome.html">http://www.math.union.edu/~dpvc/math/4d/cube-flatland/welcome.html</a>
1. Cross Sections of a Cube	<a href="http://www.shodor.org/interactivate/discussions/CrossSections/">http://www.shodor.org/interactivate/discussions/CrossSections/</a>
<b>13.2 Pages 647 - 660</b> <b>Slicing Through Right Rectangular Prisms</b>	<b>1. Sketching Modeling and Describing Models of a Right Rectangular Prism</b>
<b>1. INTERACTIVE - Cross Sections of a Cube and other solids (cone, pyramid and cylinder)</b>	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf</a>
<b>1. Describe 2-dimensional cross sections of right rectangular prisms (4:31)</b>	<a href="http://learnzillion.com/lessons/1134-describe-2dimensional-cross-sections-of-right-rectangular-prisms">http://learnzillion.com/lessons/1134-describe-2dimensional-cross-sections-of-right-rectangular-prisms</a>
<b>1. Visualize cross-sections of prisms (3:59)</b>	<a href="http://learnzillion.com/lessons/3469-visualize-crosssections-of-prisms">http://learnzillion.com/lessons/3469-visualize-crosssections-of-prisms</a>

<b>13.3 Pages 661 -674 Slicing Through Right Rectangular Pyramids</b>	<b>1. Sketching Modeling and Describing Models of a Right Rectangular Pyramid</b>
1. Visualize cross-sections of pyramids (3:53)	<a href="http://learnzillion.com/lessons/3386-visualize-crosssections-of-pyramids">http://learnzillion.com/lessons/3386-visualize-crosssections-of-pyramids</a>
1. INTERACTIVE - Cross Sections of a Pyramid and other Solids	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/CrossSectionsTool.swf</a>
1. Describe 2-dimensional cross sections of right rectangular pyramids (5:06)	<a href="http://learnzillion.com/lessons/1135-describe-2dimensional-cross-sections-of-right-rectangular-pyramids">http://learnzillion.com/lessons/1135-describe-2dimensional-cross-sections-of-right-rectangular-pyramids</a>
1. Cross Section of a right Rectangular Pyramid (chart)	<a href="http://intermath.coe.uga.edu/dictionary/descript.asp?termID=95">http://intermath.coe.uga.edu/dictionary/descript.asp?termID=95</a>
<b>13.4 Pages 875 - 882 Introduction to Volume and Surface Area</b>	<b>1. Exploring the Volume and Surface Area of a Solid</b>
1. INTERACTIVE - Calculate the volume of right rectangular prisms using unit blocks	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/PrismsTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/PrismsTool.swf</a>
1. Find surface area of cubes and prisms by pulling them apart (4:57)	<a href="http://learnzillion.com/lessons/3423-find-surface-area-of-cubes-and-prisms-by-pulling-them-apart">http://learnzillion.com/lessons/3423-find-surface-area-of-cubes-and-prisms-by-pulling-them-apart</a>
1. Find surface area of cubes of prisms using formulas (3:12)	<a href="http://learnzillion.com/lessons/3446-find-surface-area-of-cubes-of-prisms-using-formulas">http://learnzillion.com/lessons/3446-find-surface-area-of-cubes-of-prisms-using-formulas</a>
<b>13.5 Pages 686 -689 Applying Volume and Surface Area Formulas</b>	<b>1. Exploring the Volume and Surface Area of Pyramids</b>
1. Exploring the Volume and Surface Area of Pyramids (9:56)	<a href="http://www.youtube.com/watch?v=mP8-F_JbnG4">http://www.youtube.com/watch?v=mP8-F_JbnG4</a>
1. Net, Surface Area and Volume of a Pyramid (7:35)	<a href="http://www.youtube.com/watch?v=z_wQ4LNw9v0">http://www.youtube.com/watch?v=z_wQ4LNw9v0</a>

<b>14.1 Pages 697 - 706 Formulating Questions and Collecting Data</b>	<b>1. Differentiating between a Census (Use Population) and a Sample</b> <b>3. Differentiating between a Random and Non-Random Sample</b>
<b>1. &amp; 3. Identify a representative sample (5:04)</b>	<a href="http://learnzillion.com/lessons/1845-identify-a-representative-sample">http://learnzillion.com/lessons/1845-identify-a-representative-sample</a>
<b>1. Defining a Census and Sample (8:46 - can stop after 2:49)</b>	<a href="http://www.youtube.com/watch?v=kuyt0u_tFi4">http://www.youtube.com/watch?v=kuyt0u_tFi4</a>
<b>3. Identify a random sample (4:36)</b>	<a href="http://learnzillion.com/lessons/1844-identify-a-random-sample">http://learnzillion.com/lessons/1844-identify-a-random-sample</a>
<b>14.1 Pages 697 - 706 Formulating Questions and Collecting Data</b>	<b>2. Differentiating between a Parameter and a Statistic</b>
<b>Not a Common Core Standard</b>	
<b>14.2 Pages 707 - 718 Collecting Data Through Random Sampling</b>	<b>1. Obtaining Random Numbers to Select a Random Sample</b>
<b>1. INTERACTIVE (Excellent) - Generate and compare multiple samples from a population</b>	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/SamplingTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/SamplingTool.swf</a>
<b>1. INTERACTIVE - Random number generator</b>	<a href="http://www.randomizer.org/form.htm">http://www.randomizer.org/form.htm</a>
<b>14.3 Pages 719 - 730 Random Sampling</b>	<b>1. Using Random Sampling</b> <b>2. Use Sampling and Proportional Reasoning</b>
<b>1. Generate a representative sample (3:31)</b>	<a href="http://learnzillion.com/lessons/1846-generate-a-representative-sample">http://learnzillion.com/lessons/1846-generate-a-representative-sample</a>
<b>1. Identify a representative sample (5:04)</b>	<a href="http://learnzillion.com/lessons/1845-identify-a-representative-sample">http://learnzillion.com/lessons/1845-identify-a-representative-sample</a>

2. Make inferences about a population by analyzing random samples (5:30)	<a href="http://learnzillion.com/lessons/1848-make-inferences-about-a-population-by-analyzing-random-samples">http://learnzillion.com/lessons/1848-make-inferences-about-a-population-by-analyzing-random-samples</a>
2. Use proportional reasoning to make estimates about a population (4:00)	<a href="http://learnzillion.com/lessons/1849-use-proportional-reasoning-to-make-estimates-about-a-population">http://learnzillion.com/lessons/1849-use-proportional-reasoning-to-make-estimates-about-a-population</a>
1. Understanding biased samples	<a href="http://learnzillion.com/lessons/1847-understanding-biased-samples">http://learnzillion.com/lessons/1847-understanding-biased-samples</a>
2. Assess whether an inference is valid by analyzing data	<a href="http://learnzillion.com/lessons/1850-assess-whether-an-inference-is-valid-by-analyzing-data">http://learnzillion.com/lessons/1850-assess-whether-an-inference-is-valid-by-analyzing-data</a>
<b>14.4 Pages 731 - 750 Using Samples, Centers, and Spreads to Describe Data</b>	<b>1. Analyze Measures of Center for Samples from a Population 2. Analyze Measures of Variation for Samples from a Population</b>
1. Compare inferences using the mean (3:53)	<a href="http://learnzillion.com/lessons/1445-compare-inferences-using-the-mean">http://learnzillion.com/lessons/1445-compare-inferences-using-the-mean</a>
1. Compare two populations using the median (5:00)	<a href="http://learnzillion.com/lessons/1450-compare-two-populations-using-the-median">http://learnzillion.com/lessons/1450-compare-two-populations-using-the-median</a>
1. What is the best measure of center: The Mean, Median or Mode? (4:56)	<a href="http://learnzillion.com/lessons/538-summarize-the-center-of-data-with-a-single-number-using-mean-median-and-mode">http://learnzillion.com/lessons/538-summarize-the-center-of-data-with-a-single-number-using-mean-median-and-mode</a>
2. Compare two populations using mean absolute deviation (5:37)	<a href="http://learnzillion.com/lessons/3578-compare-two-populations-using-mean-absolute-deviation">http://learnzillion.com/lessons/3578-compare-two-populations-using-mean-absolute-deviation</a>
<b>14.4 Pages 731 - 750 Using Samples, Centers, and Spreads to Describe Data</b>	<b>3. Analyze Samples from a Population Using the Five Number Summary</b>
<b>Box and Whisker Plots are not a Common Core Standard</b>	
3. Box and Whisker Plots (13:13) Kahn Academy - long but worth it.	<a href="http://www.youtube.com/watch?v=BXq5TFLvsVw">http://www.youtube.com/watch?v=BXq5TFLvsVw</a>
3. Box Plots - Simple explanation. (5:25)	<a href="http://www.youtube.com/watch?v=CoVf1jLxgj4">http://www.youtube.com/watch?v=CoVf1jLxgj4</a>

3. Compare two populations using range and interquartile range (4:59)	<a href="http://learnzillion.com/lessons/1453-compare-two-populations-using-range-and-interquartile-range">http://learnzillion.com/lessons/1453-compare-two-populations-using-range-and-interquartile-range</a>
<b>14.5 Pages 751 - 764 Using Sample Size</b>	<b>1. Understanding the Effect of Sample Size on Statistics</b>
1. Reduce variation by increasing sample size (4:47)	<a href="http://learnzillion.com/lessons/2960-reduce-variation-by-increasing-sample-size">http://learnzillion.com/lessons/2960-reduce-variation-by-increasing-sample-size</a>
1. Make estimates about a population using the mean of multiple samples (6:17)	<a href="http://learnzillion.com/lessons/1851-make-estimates-about-a-population-using-the-mean-of-multiple-samples">http://learnzillion.com/lessons/1851-make-estimates-about-a-population-using-the-mean-of-multiple-samples</a>
<b>15.1 Pages 775 -784 Comparing Measures of Two Populations</b>	<b>1. Comparing Measures of Center and Measures of Variability from Two Populations</b>
<b>Boxplots &amp; Stem and Leaf Plots are not in the Common Core Standard</b>	
1. Comparing Boxplots (4:22)	<a href="http://www.youtube.com/watch?v=eUkgf-2NVO8">http://www.youtube.com/watch?v=eUkgf-2NVO8</a>
1. Back-to-back stem and leaf plots (1:08)	<a href="http://www.youtube.com/watch?v=G-kXDofrj3I">http://www.youtube.com/watch?v=G-kXDofrj3I</a>
1. Back to Back Stem Plots (5:33)	<a href="http://www.youtube.com/watch?v=84JyTh7tZo">http://www.youtube.com/watch?v=84JyTh7tZo</a>
1. Compare two populations using range and interquartile range (4:59)	<a href="http://learnzillion.com/lessons/1453-compare-two-populations-using-range-and-interquartile-range">http://learnzillion.com/lessons/1453-compare-two-populations-using-range-and-interquartile-range</a>
<b>15.2 Pages 785 - 798 Comparing Measures of Center of Two Populations</b>	<b>1. Comparing the Measures of Centers from Random Samples to Draw Conclusions About Two Populations</b>
1. Compare two populations using measures of center and variability (4:00)	<a href="http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/comparing-swim-times-at-the-olympics">http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/comparing-swim-times-at-the-olympics</a>

1. Compare two populations using the median (4:40)	<a href="http://learnzillion.com/lessons/3577-compare-populations-using-median">http://learnzillion.com/lessons/3577-compare-populations-using-median</a>
1. Compare populations using mean (3:36)	<a href="http://learnzillion.com/lessons/3601-compare-populations-using-mean">http://learnzillion.com/lessons/3601-compare-populations-using-mean</a>
1. Learn which measure of central tendency to use (4:54)	<a href="http://learnzillion.com/lessons/371-learn-which-measure-of-central-tendency-to-use">http://learnzillion.com/lessons/371-learn-which-measure-of-central-tendency-to-use</a>
<b>15.3 Pages 799 - 825 Drawing Conclusions about Two Populations</b>	<b>1. Comparing the Measures of Variability from Random Samples to Draw Conclusions About Two Populations</b> <b>2. Histograms</b> <b>3. Box and Whisker Plots</b>
<b>Box Plots &amp; Stem and Leaf Plots are not Common Core Standard; Histograms &amp; Box and Whisker Plots are a 6th grade Common Core Standard</b>	
1. Comparing Boxplots (4:22)	<a href="http://www.youtube.com/watch?v=eUkgf-2NVO8">http://www.youtube.com/watch?v=eUkgf-2NVO8</a>
1. Back-to-back stem and leaf plots (16.27)	<a href="https://www.youtube.com/watch?v=lsFP259bkQY">https://www.youtube.com/watch?v=lsFP259bkQY</a>
2. Construct a histogram (4:13)	<a href="https://learnzillion.com/lessons/3791-construct-a-histogram">https://learnzillion.com/lessons/3791-construct-a-histogram</a>
3. Outliers in a Box & Whiskers Plot (7:16)	<a href="http://www.youtube.com/watch?v=haGaPUamYAg">http://www.youtube.com/watch?v=haGaPUamYAg</a>
<b>16.1 Pages 829 - 838 Defining and Representing Probability</b>	<b>1. Determining Sample Space</b> <b>2. Listing Outcomes for an Event</b> <b>3. Estimating the Probability of an Event</b> <b>4. Calculating the Probability of Event</b> <b>5. Estimating the Probability of an Every Day Event</b>
1., 2., 3. & 4. Describe a sample space by organizing outcomes (7:42)	<a href="http://learnzillion.com/lessons/2549-describe-a-sample-space-by-organizing-outcomes">http://learnzillion.com/lessons/2549-describe-a-sample-space-by-organizing-outcomes</a>

3. Estimating the probability of rolling 7 (:58)	<a href="http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-estimating-probability/v/probability-of-rolling-7">http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-estimating-probability/v/probability-of-rolling-7</a>
4. Calculate the probability of an event by creating a ratio (4:31)	<a href="http://learnzillion.com/lessons/1206-calculate-the-probability-of-an-event-by-creating-a-ratio">http://learnzillion.com/lessons/1206-calculate-the-probability-of-an-event-by-creating-a-ratio</a>
5. Estimating the Probability of Every Day Events (2:51)	<a href="http://www.youtube.com/watch?v=v1biWcXQsWw">http://www.youtube.com/watch?v=v1biWcXQsWw</a>
6. How to Understand a Long-Range Weather Forecast	<a href="http://www.youtube.com/watch?v=mCtYVwPPAWM">http://www.youtube.com/watch?v=mCtYVwPPAWM</a>
<b>16.2 Pages 839 - 850 Determining Experimental Probability</b>	<b>1. Calculating an Experimental Probability 2. Using Proportional Reasoning to Predict the Probability of Random Events</b>
1. Compare experimental and theoretical probability to interpret data (4:46)	<a href="http://learnzillion.com/lessons/1371-compare-experimental-and-theoretical-probability-to-interpret-data">http://learnzillion.com/lessons/1371-compare-experimental-and-theoretical-probability-to-interpret-data</a>
1. INTERACTIVE: Percentage of Heads and Tails as a Function of the Number of Trials	<a href="http://nlvm.usu.edu/en/nav/frames_asid_305_g_4_t_5.html?from=grade_g_4.html">http://nlvm.usu.edu/en/nav/frames_asid_305_g_4_t_5.html?from=grade_g_4.html</a>
2. Theoretical Probability and Predictions (3:50)	<a href="http://www.youtube.com/watch?v=Lo1WA7i77Jk">http://www.youtube.com/watch?v=Lo1WA7i77Jk</a>
2. Making Predictions (3:16)	<a href="http://www.youtube.com/watch?v=cn0pKhCFysk">http://www.youtube.com/watch?v=cn0pKhCFysk</a>
1. Understand the law of large numbers by comparing experimental result to the theoretical probability (5:02)	<a href="http://learnzillion.com/lessons/1588-understand-the-law-of-large-numbers-by-comparing-experimental-results-to-the-theoretical-probability">http://learnzillion.com/lessons/1588-understand-the-law-of-large-numbers-by-comparing-experimental-results-to-the-theoretical-probability</a>
<b>16.3 Pages 851 - 860 Determining Theoretical Probability</b>	<b>1. Determining the Type of Probability to Use in a Situation 2. Using a Number Array to Calculate a Theoretical Probability</b>
1. When Experimental Probability must be used - Example 1: Estimating the Probability of Every Day Events [e.g., Determining the Probability of a weather event ] (2:51)	<a href="http://www.youtube.com/watch?v=v1biWcXQsWw">http://www.youtube.com/watch?v=v1biWcXQsWw</a>

1. When Experimental Probability must be used - Example 2: The Probability of Basketball Free Throws (2:27)	<a href="https://www.youtube.com/watch?v=85WB8jcw2KM">https://www.youtube.com/watch?v=85WB8jcw2KM</a>
2. INTERACTIVE (Excellent) - Calculate the probability of winning a car on the "Monty Hall" Show by examining all possible outcomes using a table (Do all 3 steps: Try, Simulation, Secret Revealed )	<a href="http://2012.carnegielearning.com/2012.03.72/dlc/MontyHallProblemTool.swf">http://2012.carnegielearning.com/2012.03.72/dlc/MontyHallProblemTool.swf</a>
2. Grids (aka Arrays, Two-way tables) (5:36)	<a href="http://www.youtube.com/watch?v=gpfhRZC9F_g">http://www.youtube.com/watch?v=gpfhRZC9F_g</a>
1. Probability - Theoretical Probability versus Experimental Probability (5:36)	<a href="http://www.youtube.com/watch?v=yxYReJ1yjuE">http://www.youtube.com/watch?v=yxYReJ1yjuE</a>
16.4 Pages 861 - 870 Simulating Experiments	<p>1. Determining an Appropriate Model to Simulate an Experiment</p> <p>2. Conducting a Simulation to Determine an Experimental Probability</p>
	1. Setting up different experiments to determine experimental probability (11:11)
2. Theoretical and Experimental Probability (4:41)	<a href="https://www.youtube.com/watch?v=7m2fKiThesk">https://www.youtube.com/watch?v=7m2fKiThesk</a>
16.5 Pages 871 -902 Using Technology for Simulations	<p>1. Using a Spreadsheet to Perform Simulations</p> <p>2. Use a Random Number Generator on a Graphing Calculator to Perform a Simulation</p> <p>3a. Use the Probability Simulation App on a Graphing Calculator</p>
	Simulations using an Excel spreadsheet or a Math Calculator are likely out of bounds for this course
1. Using a Spreadsheet.	Must use Excel. See Help for instructions to use RANDBETWEEN and add it to list of functions if it is not an existing function.

2. Use TI-83 or similar.	Press MATH; Move to PRB; Select randInt ( ) . Within the parenthesis, put in 3 numbers separated by commas: use randInt (lowest number, highest number, how numbers many to display)
3a. Use the Probability Simulation App on a Graphing Calculator	Press APPS key on TI-83 or similar; Scroll down to Prob Sim; Select among 5 simulation or random numbers.
<b>16.5 Pages 871 -902 Using Technology for Simulations</b>	<b>3b. Use an Online Simulation Program</b>
<p><b>3b. INTERACTIVE - Experimental Probability Simulator:</b></p> <p>Select <b>Leaner Tab</b></p> <p>2. Select <b>Coin Toss</b></p> <p>3. Put <b>1000</b> in Number of Tosses box</p> <p>4. Select <b>YES</b> for Cummulative Stats</p> <p>5. Select <b>Ratio</b></p> <p>6. Press <b>Toss 'em!</b></p> <p>7. <b>Keep pressing Toss 'em without clearing.</b> Observe ratios get nearer to .5</p> <p>8. When done with simulation press <b>Clear Results.</b></p> <p>Try simulation with <b>100 tosses</b> at a time; with <b>10 tosses</b> at a time.</p>	<p>1.</p> <p><a href="http://www.shodor.org/interactivate/activities/ExpProbability/">http://www.shodor.org/interactivate/activities/ExpProbability/</a></p> <p>9.</p>
<b>17.1 Pages 909 - 916 Using Models for Probability</b>	<b>1. Constructing and Interpreting Probability Models</b>
1. <b>Uniform Probability: Assigning equal probability to all outcomes (4:34)</b>	<a href="http://learnzillion.com/lessons/1586-analyze-the-probability-of-an-event-by-assigning-equal-probability-to-all-outcomes">http://learnzillion.com/lessons/1586-analyze-the-probability-of-an-event-by-assigning-equal-probability-to-all-outcomes</a>
1. <b>Non-Uniform Probability: Outcomes of events with different probabilities (4:08)</b>	<a href="http://learnzillion.com/lessons/1587-find-the-probability-of-events-with-multiple-possibilities">http://learnzillion.com/lessons/1587-find-the-probability-of-events-with-multiple-possibilities</a>
1. <b>Invalid Probability Models (1:32)</b>	<a href="http://www.youtube.com/watch?v=BWHKx-z2gMo">http://www.youtube.com/watch?v=BWHKx-z2gMo</a>

<b>17.2 Pages 917 - 926 Creating and Using Probability Models</b>	<b>1. Using Tree Diagrams to Determine Probabilities</b>
1. Compound events example with tree diagram (2:23)	<a href="http://www.youtube.com/watch?v=hoerxyy3744">http://www.youtube.com/watch?v=hoerxyy3744</a>
1. Find the probability of a compound event by creating a tree diagram (4:15)	<a href="http://learnzillion.com/lessons/1861-find-the-probability-of-a-compound-event-by-creating-a-tree-diagram">http://learnzillion.com/lessons/1861-find-the-probability-of-a-compound-event-by-creating-a-tree-diagram</a>
1. Make Tree Diagrams for Probability (4:59)	<a href="http://www.youtube.com/watch?v=p3ei75oizmY">http://www.youtube.com/watch?v=p3ei75oizmY</a>
<b>17.3 Pages 927 - 938 Determining Compound Probability</b>	<b>1. Calculating Compound Probability</b>
1. Compound probability of independent events (5:59)	<a href="http://www.khanacademy.org/math/probability/independent-dependent-probability/independent_events/v/compound-probability-of-independent-events">http://www.khanacademy.org/math/probability/independent-dependent-probability/independent_events/v/compound-probability-of-independent-events</a>
1. Addition Rule for Probability (10:42)	<a href="http://www.youtube.com/watch?v=QE2uR6Z-NcU">http://www.youtube.com/watch?v=QE2uR6Z-NcU</a>
1. Find the probability of a compound event by creating a table (4:14)	<a href="http://learnzillion.com/lessons/1862-find-the-probability-of-a-compound-event-by-creating-a-table">http://learnzillion.com/lessons/1862-find-the-probability-of-a-compound-event-by-creating-a-table</a>
1. Probability of Multiple Events (9:42)	<a href="http://www.youtube.com/watch?v=lxFOEkdlyl">http://www.youtube.com/watch?v=lxFOEkdlyl</a>
<b>17.4 Pages 939 - 950 Simulating Probability of Compound Events</b>	<b>1. Using Simulation to Estimate Compound Probabilities</b>
1. Theoretical and Experimental Probability (4:11)	<a href="http://www.youtube.com/watch?v=7m2fKiThesk">http://www.youtube.com/watch?v=7m2fKiThesk</a>
1. Probability and Dice Roll Simulations in Spreadsheets (6:53)	<a href="http://www.youtube.com/watch?v=w0R9q8lupPI">http://www.youtube.com/watch?v=w0R9q8lupPI</a>