

## Solve Problems Involving Proportions

### Overall Expectation

Students will:

- Solve problems involving whole numbers, decimal numbers, [and] fractions, and integers, using a variety of computational strategies(8m9)
- Solve problems by using proportional reasoning in a variety of meaningful contexts (8m10)
- Develop geometric relationships involving lines, triangles, and polyhedra, and solve problems involving lines and triangles (8m41)
- Apply a variety of data management tools and strategies to make convincing arguments about data (8m66)

### Specific Expectations

Students will:

- Translate between equivalent forms of a number (i.e., decimals, fractions, percents) (8m14)
- Solve problems involving percents expressed to one decimal place and whole-number percents greater than 100 (8m17)
- Use estimation when solving problems involving operations with whole numbers, decimals, percents, integers, and fractions, to help judge the reasonableness of a solution (8m18)
- Identify and describe real-life situations involving two quantities that are directly proportional (8m26)
- Solve problems involving proportions, using concrete materials, drawings, and variables (8m27)
- Solve problems involving percent that arise from real-life contexts (8m28)
- Solve problems involving rates (8m29)
- Determine, through investigation using a variety of tools, relationships among area, perimeter, corresponding side lengths, and corresponding angles of similar shapes (8m46)
- Compare two attributes or characteristics, using a scatter plot, and determine whether or not the scatter plot suggests a relationship (8m76)
- Compare two attributes or characteristics, using a variety of data management tools and strategies (i.e., pose a relevant question, then design an experiment or survey, collect and analyse the data, and draw conclusions) (8m79)

Lesson	Learning Focus	Specific Expectations
Proportions in Real Life	<ul style="list-style-type: none"> <li>• Solve simple proportions that involve a scale factor and real-life contexts</li> </ul>	8m26
Ratio Tables	<ul style="list-style-type: none"> <li>• Use ratio tables to solve proportions that involve real-life contexts</li> </ul>	8m26
Solving Proportions Practice	<ul style="list-style-type: none"> <li>• Use scale factors, ratio tables, solving for the unit, and equivalent ratios to solve proportions</li> </ul>	8m27
Exploring Direct Proportion	<ul style="list-style-type: none"> <li>• Hypothesize examples of direct proportions and pose relevant questions</li> <li>• Compare two attributes or characteristics using a variety of data management tools and strategies</li> <li>• Design an experiment or survey to test proportionality, collect and analyse the data (using a scatter plot), and draw conclusions</li> </ul>	8m79

## Solve Problems Involving Proportions (continued)

Lesson	Learning Focus	Specific Expectations
Rate Problems	<ul style="list-style-type: none"> <li>Solve problems involving rates including comparison questions</li> </ul>	8m29
Percent Problems: Up to 100%	<ul style="list-style-type: none"> <li>Translate between decimals, fractions and percents up to 100%</li> <li>Solve problems involving percent up to 100%, expressed to one decimal place, that arise from real-life contexts (e.g., discount, sales tax, simple interest) using a variety of strategies (e.g., using decimal operations, using proportion)</li> <li>Use estimation to judge for reasonableness of solutions</li> </ul>	8m14 8m18 8m28
Percent Problems: Over 100%	<ul style="list-style-type: none"> <li>Translate between decimals, fractions and percents over 100%</li> <li>Solve problems involving percent greater than 100%, that arise from real-life contexts (e.g., inflation, including sales tax or interest) using a variety of strategies (e.g., using decimal operations, using proportion)</li> <li>Use estimation to judge for reasonableness of solutions</li> </ul>	8m14 8m17 8m18
Investigate Similar Shapes	<ul style="list-style-type: none"> <li>Through investigation using a variety of tools (e.g., dynamic geometry software, concrete materials, geoboards) determine relationships among perimeter, corresponding side lengths, and corresponding angles of similar shapes</li> </ul>	8m46 8m76
Solve for Missing Lengths in Similar Shapes	<ul style="list-style-type: none"> <li>Write out similarity statements</li> <li>Set up proportions that relate corresponding lengths</li> <li>Solve proportions to determine missing lengths</li> </ul>	8m46
Solve for Area in Similar Shapes	<ul style="list-style-type: none"> <li>Through investigation using a variety of tools (e.g., dynamic geometry software, concrete materials, geoboards) determine the relationship between area and, corresponding side lengths of similar shapes</li> <li>Use the length proportion to determine the area proportion</li> <li>Solve proportions to determine area</li> </ul>	8m46
Consolidation and Summative Tasks		

## Proportions in Real Life

Specific Expectations: 8m26

	Learning Focus	Blended Learning	Other Resources
		<p><a href="#">Teacher Guide</a> Unit 1, Activity 5: Proportional Reasoning OERB ID: ELO1477240</p>	<p><a href="#">TIPS4RM Grade 8 Unit 8: Proportional Reasoning</a></p> <ul style="list-style-type: none"> <li>Day 1: Size It Up</li> <li>Day 2: Interpreting Proportional Relationships</li> </ul>
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Describe and identify examples of proportions in real life</li> </ul>	<p><a href="#">Unit 1 Activity 5 Part A: Minds On</a> OERB ID: ELO1476900</p> <ul style="list-style-type: none"> <li>Discussion               <ul style="list-style-type: none"> <li>which tree grew more</li> <li>additive versus multiplicative thinking</li> </ul> </li> <li>Anchor Chart</li> </ul>	<p>mathies</p> <ul style="list-style-type: none"> <li><a href="#">Set Tool</a></li> <li><a href="#">Colour Tiles</a></li> <li><a href="#">Pattern Blocks</a></li> <li><a href="#">Relational Rods</a></li> <li><a href="#">Money</a></li> <li><a href="#">Number Line</a></li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>Solve simple proportions that involve a scale factor and real-life contexts</li> </ul>	<p><a href="#">Unit 1 Activity 5 Part A: Action</a></p> <ul style="list-style-type: none"> <li>Group Work               <ul style="list-style-type: none"> <li>problem solving</li> </ul> </li> <li>Whole Class               <ul style="list-style-type: none"> <li>share solutions to Samir and Jill km problem</li> </ul> </li> <li><a href="#">How to Interpret a Ratio [2:47]</a> <ul style="list-style-type: none"> <li>part-to-part, part-to-whole</li> <li>written forms</li> </ul> </li> <li><a href="#">What is a Ratio [7:24]</a> <ul style="list-style-type: none"> <li>part-to-part, part-to-whole</li> <li>equivalent ratios</li> <li>simplest forms</li> </ul> </li> <li><a href="#">Interactive Mathematics Glossary</a> <ul style="list-style-type: none"> <li>example of ratios</li> </ul> </li> </ul> <p><i>Note: supplementation required for scale factors</i></p>	<p>Gizmos</p> <ul style="list-style-type: none"> <li><a href="#">Proportions and Common Multipliers</a></li> </ul> <p>Learn Alberta Interactives</p> <ul style="list-style-type: none"> <li><a href="#">3-Term Ratios</a></li> <li><a href="#">Exploring Rate, Ratio and Proportion</a></li> </ul> <p>Youtube</p> <p><a href="#">Math Snacks: Atlantean Dodgeball</a></p> <p><a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 18 – 23</p> <p><a href="#">Gap Closing I/S Facilitator's Guide: Proportional Reasoning</a> pp 21 – 26</p>
<b>Consolidation</b>		<p>Unit 1 Activity 5 Part A: Consolidation</p> <ul style="list-style-type: none"> <li><a href="#">Assignment 1: Ratios and Proportions</a> <ul style="list-style-type: none"> <li>worksheet</li> </ul> </li> </ul>	

## Ratio Tables

Specific Expectations: 8m26

	Learning Focus	Blended Learning	Other Resources
<b>Minds On</b>	<ul style="list-style-type: none"> <li>• Determine equivalent ratios</li> </ul>		OERB <ul style="list-style-type: none"> <li>• <a href="#">Ratio Tables</a> <ul style="list-style-type: none"> <li>o OERB ID: ELO1465840</li> </ul> </li> </ul> Gizmos <ul style="list-style-type: none"> <li>• <a href="#">Beam to Moon (Ratios and Proportions)</a></li> <li>• <a href="#">Percents and Proportions</a></li> </ul> Youtube <ul style="list-style-type: none"> <li>• <a href="#">Finding Missing Values Using a Ratio Table</a></li> <li>• <a href="#">Using a Ratio Table to Solving a Percent Problem</a></li> </ul> <a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 6 – 17  <a href="#">Gap Closing I/S Facilitator’s Guide: Proportional Reasoning</a> pp 9 – 20
<b>Action</b>	<ul style="list-style-type: none"> <li>• Use ratio tables to solve proportions that involve real-life contexts</li> </ul>		
<b>Consolidation</b>			

## Solving Proportions Practice

Specific Expectations: 8m27

	Learning Focus	Blended Learning	Other Resources
		<p><b><a href="#">Teacher Guide</a></b>            Unit 1, Activity 5: Proportional Reasoning            OERB ID: ELO1477240</p>	<p><b><a href="#">TIPS 4RM Grade 8 Unit 8: Proportional Reasoning</a></b></p> <ul style="list-style-type: none"> <li>• Day 3: Around the World in Eight Days</li> <li>• Day 4: Go Fish</li> <li>• Day 5: Just Graph It</li> <li>• Day 6: Do you Agree</li> </ul>
<b>Minds On</b>	<ul style="list-style-type: none"> <li>• Discuss how proportional reasoning is used in real-life contexts</li> <li>• Verify solutions to a proportion</li> </ul>	<p><b><a href="#">Unit 1 Activity 5 Part B: Minds On</a></b>            OERB ID: ELO1476900</p> <ul style="list-style-type: none"> <li>• Discussion               <ul style="list-style-type: none"> <li>o where have you used proportional reasoning?</li> </ul> </li> </ul>	<p>mathies</p> <ul style="list-style-type: none"> <li>• <a href="#">Set Tool</a></li> <li>• <a href="#">Colour Tiles</a></li> <li>• <a href="#">Pattern Blocks</a></li> <li>• <a href="#">Relational Rods</a></li> <li>• <a href="#">Money</a></li> <li>• <a href="#">Number Line</a></li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>• Use scale factors, ratio tables, solving for the unit, and equivalent ratios to solve proportions</li> </ul>	<p><b><a href="#">Unit 1 Activity 5 Part B: Action</a></b></p> <ul style="list-style-type: none"> <li>• Discussion               <ul style="list-style-type: none"> <li>o problem-solving</li> <li>o Su Mei making cereal mix</li> <li>o 3-2-1 proportions</li> </ul> </li> <li>• <a href="#">Which is the Better Deal?</a>                OERB ID: ELO1411780               <ul style="list-style-type: none"> <li>o comparing unit rates of grocery store items</li> </ul> </li> </ul>	<p>Gizmos</p> <ul style="list-style-type: none"> <li>• <a href="#">Proportions and Common Multipliers</a></li> </ul>
<b>Consolidation</b>		<p>Unit 1 Activity 5 Part B: Consolidation</p> <ul style="list-style-type: none"> <li>• <a href="#">Assignment 2: Proportional Progress</a> <ul style="list-style-type: none"> <li>o 3 contextual problems; 1 fill in the chart, fraction, ratio, simplest form</li> </ul> </li> </ul>	<p>Three Acts Math Task</p> <ul style="list-style-type: none"> <li>• <a href="#">Nana's Chocolate Milk</a></li> </ul> <p>Tap Into Teen Minds</p> <ul style="list-style-type: none"> <li>• <a href="#">Gas Guzzler</a></li> <li>• <a href="#">Super-Bear</a></li> <li>• <a href="#">Eiffel Tower Trek</a></li> </ul> <p>Math is Fun</p> <ul style="list-style-type: none"> <li>• <a href="#">Ratio</a></li> </ul> <p>Math Playground</p> <ul style="list-style-type: none"> <li>• <a href="#">Ratio Stadium</a></li> </ul>

## Solving Proportions Practice (Continued)

Specific Expectations: 8m27

	Learning Focus	Blended Learning	Other Resources
<b>Consolidation</b>			<a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 7 – 17  <a href="#">Gap Closing I/S Facilitator's Guide: Proportional Reasoning</a> pp 9 – 20

## Exploring Direct Proportion

Specific Expectations: 8m79

	Learning Focus	Blended Learning	Other Resources
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Develop an understanding of what a direct proportion is</li> </ul>		
<b>Action</b>	<ul style="list-style-type: none"> <li>Hypothesize examples of direct proportions and pose relevant questions</li> <li>Compare two attributes or characteristics using a variety of data management tools and strategies</li> <li>Design an experiment or survey to test proportionality, collect and analyse the data (using a scatter plot), and draw conclusions</li> </ul>		
<b>Consolidation</b>			

## Rate Problems

Specific Expectations: 8m29

	Learning Focus	Blended Learning	Other Resources
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Distinguish between ratios and rates</li> </ul>		<p><a href="#">TIPS 4RM Grade 8 Unit 8: Proportional Reasoning</a></p> <ul style="list-style-type: none"> <li>Day 7: Just for One</li> <li>Day 8: Best Buy</li> </ul> <p>Homework Help</p> <ul style="list-style-type: none"> <li><a href="#">Ratio, Rates and Proportion</a></li> </ul> <p>OERB</p> <ul style="list-style-type: none"> <li><a href="#">Which is the Better Deal?</a> <ul style="list-style-type: none"> <li>OERB ID: ELO1411780</li> </ul> </li> <li><a href="#">Rate My Groceries</a> <ul style="list-style-type: none"> <li>OERB ID: ELO1414380</li> </ul> </li> </ul> <p>Gizmos</p> <ul style="list-style-type: none"> <li><a href="#">Part-to-Part and Part-to-Whole Ratios</a></li> </ul> <p>Desmos</p> <ul style="list-style-type: none"> <li><a href="#">Intro to Unit Rate</a></li> </ul> <p>Youtube</p> <ul style="list-style-type: none"> <li><a href="#">Math Antics – Ratios and Rates</a></li> </ul> <p>Math is Fun</p> <ul style="list-style-type: none"> <li><a href="#">Unit Price</a></li> </ul> <p><a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 19 – 23</p> <p><a href="#">Gap Closing I/S Facilitator’s Guide: Proportional Reasoning</a> pp 21 – 26</p>
<b>Action</b>	<ul style="list-style-type: none"> <li>Solve problems involving rates including comparison questions</li> </ul>		
<b>Consolidation</b>			

## Percent Problems: Up to 100%

Specific Expectations: 8m14, 8m18, 8m28

	Learning Focus	Blended Learning	Other Resources
		<p><a href="#">Teacher Guide</a> Unit 1, Activity 4: Percent, Decimals and Fractions OERB ID: ELO1477240</p>	<p><a href="#">TIPS4RM Grade 8 Unit 5: Fractions and Percents</a></p> <ul style="list-style-type: none"> <li>Day 13: Part of a Whole</li> <li>Day 16: Everybody Pays Tax</li> <li>Day 17: Many Paths to Take</li> </ul>
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Translate between decimals, fractions and percents up to 100%</li> <li>Explore real-life examples of percent and review its meaning</li> <li>Review how to convert fractions, decimals and percents</li> </ul>	<p><a href="#">Unit 1 Activity 4: Minds On</a> OERB ID: ELO1476890</p> <ul style="list-style-type: none"> <li><a href="#">Comparing Fractions</a></li> <li>Journal               <ul style="list-style-type: none"> <li>record strategies used in comparing fractions</li> </ul> </li> <li><a href="#">Converting Percent to Decimal and Fraction</a> [3:32]               <ul style="list-style-type: none"> <li>convert percent to fractions and decimals</li> <li>fraction to simplest form</li> </ul> </li> </ul>	<p>Homework Help</p> <ul style="list-style-type: none"> <li><a href="#">Percentages</a></li> </ul> <p>mathies</p> <ul style="list-style-type: none"> <li><a href="#">Set Tool</a></li> <li><a href="#">Colour Tiles</a></li> <li><a href="#">Money</a></li> <li><a href="#">Number Line</a></li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>Translate between decimals, fractions and percents up to 100%</li> <li>Solve problems involving percent up to 100%, expressed to one decimal place, that arise from real-life contexts (e.g., discount, sales tax, simple interest) using a variety of strategies (e.g., using decimal operations, using proportion)</li> <li>Use estimation to judge for reasonableness of solutions</li> </ul>	<p>Unit 1 Activity 4: Action</p> <ul style="list-style-type: none"> <li><a href="#">Math is Fun - Decimals, Fractions and Percentages</a> <ul style="list-style-type: none"> <li>converting from one to another</li> </ul> </li> <li>Purposeful Practice – Practising Percent               <ul style="list-style-type: none"> <li>converting fractions to decimals and percents</li> </ul> </li> </ul> <p><i>Note: supplementation required for solving problems involving percent up to 100% and estimation</i></p>	<p>Gizmos</p> <ul style="list-style-type: none"> <li><a href="#">Percent, Fraction, Decimals</a></li> <li><a href="#">Percents and Proportions</a></li> <li><a href="#">Percent of Change</a></li> <li><a href="#">Fractions, Decimals, Percent (Area and Grid Models)</a></li> </ul> <p>NCTM Illuminations</p> <ul style="list-style-type: none"> <li><a href="#">Fraction Models</a></li> </ul> <p>GeoGebra</p> <ul style="list-style-type: none"> <li><a href="#">Locating Fractions and Decimals on a Number Line</a></li> </ul>



**Percent Problems: Up to 100% (Continued)**

Specific Expectations: 8m14, 8m18, 8m28

	<b>Learning Focus</b>	<b>Blended Learning</b>	<b>Other Resources</b>
<b>Consolidation</b>		Unit 1 Activity 4: Consolidation <ul style="list-style-type: none"><li>• <a href="#">Assignment 1: Percents, Fractions and Decimals</a><ul style="list-style-type: none"><li>o area model</li></ul></li><li>• <a href="#">Assignment 2: Comparing Fractions</a><ul style="list-style-type: none"><li>o worksheet</li></ul></li><li>• <a href="#">Assignment 3: Lottery Win</a><ul style="list-style-type: none"><li>o application of percent</li><li>o spending \$1000 + discounts and tax</li></ul></li></ul>	

## Percent Problems: Over 100%

Specific Expectations: 8m14, 8m17, 8m18

	Learning Focus	Blended Learning	Other Resources
		<b><u>Teacher Guide</u></b> Unit 1, Activity 4: Percent, Decimals and Fractions OERB ID: ELO1477240	<u>TIPS 4RM Grade 8 Unit 5: Fractions and Percents</u> <ul style="list-style-type: none"> <li>Day 14, 15: What Does 110% Mean?</li> </ul>
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Explore real-life examples of percent greater than 100</li> </ul>		mathies <ul style="list-style-type: none"> <li><a href="#">Set Tool</a></li> <li><a href="#">Colour Tiles</a></li> <li><a href="#">Money</a></li> <li><a href="#">Number Line</a></li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>Translate between decimals, fractions and percents over 100%</li> <li>Solve problems involving percent greater than 100%, that arise from real-life contexts (e.g., inflation, including sales tax or interest) using a variety of strategies (e.g., using decimal operations, using proportion)</li> <li>Use estimation to judge for reasonableness of solutions</li> </ul>	Unit 1 Activity 4: Action <ul style="list-style-type: none"> <li><a href="#">Guitar Star Part 1: Percents Greater Than 100</a> OERB ID: ELO1413860               <ul style="list-style-type: none"> <li>write percents as decimals</li> <li>percent of a number</li> </ul> </li> <li><a href="#">Guitar Star Part 2: Problem Solving with Percent</a> OERB ID: ELO1413870               <ul style="list-style-type: none"> <li>discount</li> <li>sale price</li> <li>HST and total cost</li> </ul> </li> </ul> <p><i>Note: supplementation required for translating and solving problems involving percent greater than 100% and estimation</i></p>	Gizmos <ul style="list-style-type: none"> <li><a href="#">Percent, Fraction, Decimals</a></li> </ul> Khan Academy <ul style="list-style-type: none"> <li><a href="#">Percent To Decimal &amp; Fraction</a></li> </ul>
<b>Consolidation</b>			

## Investigate Similar Shapes

Specific Expectations: 8m46, 8m76

	Learning Focus	Blended Learning	Other Resources
<b>Minds On</b>	<ul style="list-style-type: none"> <li>• Explore examples of similar shapes and relate to real-life examples</li> </ul>		<p><a href="#">TIPS4RM Grade 8 Unit 4: Lines, Angles, Triangles, and Quadrilaterals</a></p> <ul style="list-style-type: none"> <li>• Day 1, 2: Ancient Structures</li> <li>• Day 3, 4: That Proves It!</li> <li>• Day 5: Living with Quadrilaterals</li> </ul> <p>Homework Help</p> <ul style="list-style-type: none"> <li>• <a href="#">Similar Triangles</a></li> </ul> <p>Gizmos</p> <ul style="list-style-type: none"> <li>• <a href="#">Similar Figures</a></li> </ul> <p>Learn Alberta Interactives</p> <ul style="list-style-type: none"> <li>• <a href="#">Similarity and Congruence</a></li> </ul> <p>YouTube</p> <ul style="list-style-type: none"> <li>• <a href="#">Math Snacks: Scale Ella</a></li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>• Through investigation using a variety of tools</li> <li>• (e.g., dynamic geometry software, concrete materials, geoboards) determine relationships among perimeter, corresponding side lengths, and corresponding angles of similar shapes</li> </ul>		
<b>Consolidation</b>			

## Solve for Missing Lengths in Similar Shapes

Specific Expectations: 8m46

	Learning Focus	Blended Learning	Other Resources
<b>Minds On</b>	<ul style="list-style-type: none"> <li>Review solving proportions</li> </ul>		<a href="#">TIPS4RM Grade 8 Unit 9: Similar Figures</a> <ul style="list-style-type: none"> <li>Day 2 – 5: Alike, But Different Sizes</li> </ul>
<b>Action</b>	<ul style="list-style-type: none"> <li>Write out similarity statements</li> <li>Set up proportions that relate corresponding lengths</li> <li>Solve proportions to determine missing lengths</li> </ul>		Homework Help <ul style="list-style-type: none"> <li><a href="#">Similar Triangles: How Do You Use Similar Triangles to Solve Problems?</a></li> <li><a href="#">Rectangle – Area and Perimeter</a></li> </ul>
<b>Consolidation</b>			Gizmos <ul style="list-style-type: none"> <li><a href="#">Perimeters and Areas of Similar Figures</a></li> </ul> Geometer's Sketchpad <ul style="list-style-type: none"> <li><a href="#">Ratio Relationships</a></li> </ul> GeoGebra <ul style="list-style-type: none"> <li><a href="#">Length Ratio and Area Ratio of 2 Similar Figures</a></li> </ul>

## Solve for Area in Similar Shapes

Specific Expectations: 8m46

	Learning Focus	Blended Learning	Other Resources
		<p><a href="#">Teacher Guide</a> Unit 3, Activity 4: Similar and Congruent Shapes OERB ID: ELO1477270</p>	<p>Homework Help</p> <ul style="list-style-type: none"> <li>• <a href="#">Rectangle – Area and Perimeter</a></li> </ul> <p>OERB</p> <ul style="list-style-type: none"> <li>• <a href="#">Rocket Race Rectangles</a> <ul style="list-style-type: none"> <li>o OERB ID: ELO1415350</li> </ul> </li> </ul> <p>Gizmos</p> <ul style="list-style-type: none"> <li>• <a href="#">Perimeters and Areas of Similar Figures</a></li> <li>• <a href="#">Area of Parallelograms</a></li> <li>• <a href="#">Area of Triangles</a></li> </ul>
<b>Minds On</b>	<ul style="list-style-type: none"> <li>• Hypothesize about area relationship between similar shapes</li> </ul>	<p><a href="#">Unit 3 Activity 4: Minds On</a> OERB ID: ELO1477060</p> <ul style="list-style-type: none"> <li>• Relationships in Similar Shapes           <ul style="list-style-type: none"> <li>o make 3 similar rectangles on a geoboard</li> <li>o calculate perimeter and area</li> <li>o repeat with two congruent rectangles</li> </ul> </li> <li>• Discussion           <ul style="list-style-type: none"> <li>o share patterns noticed</li> </ul> </li> </ul>	<p>GeoGebra</p> <ul style="list-style-type: none"> <li>• <a href="#">Areas of Similar Pentagons</a></li> <li>• <a href="#">Length Ratio and Area Ratio of 2 Similar Figures</a></li> </ul> <p>Desmos</p> <ul style="list-style-type: none"> <li>• <a href="#">Tile Pile</a></li> </ul> <p><a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 6 – 17</p>
<b>Action</b>	<ul style="list-style-type: none"> <li>• Through investigation using a variety of tools</li> <li>• (e.g., dynamic geometry software, concrete materials, geoboards) determine the relationship between area and, corresponding side lengths of similar shapes</li> <li>• Use the length proportion to determine the area proportion</li> <li>• Solve proportions to determine area</li> </ul>	<p>Unit 3 Activity 4: Action OERB ID: ELO1477060</p> <ul style="list-style-type: none"> <li>• <a href="#">Rocket Race Rectangles</a> OERB ID: ELO1415350           <ul style="list-style-type: none"> <li>o investigate connections between area and perimeter and corresponding sides of similar shapes</li> </ul> </li> <li>• Group Work           <ul style="list-style-type: none"> <li>o investigate relationships of area and perimeter of other similar shapes</li> </ul> </li> </ul>	<p><a href="#">Gap Closing I/S Student Book: Proportional Reasoning</a> pp 6 – 17</p>
<b>Consolidation</b>		<p>Unit 3 Activity 4: Consolidation</p> <ul style="list-style-type: none"> <li>• <a href="#">Assignment 1: Area and Perimeter of Reflections and Dilatations</a> <ul style="list-style-type: none"> <li>o Discussion</li> <li>o application of transformations (reflection and dilatation) on shape</li> </ul> </li> </ul>	<p><a href="#">Gap Closing I/S Facilitator's Guide: Proportional Reasoning</a> pp 8 – 20</p>

**Consolidation and Summative Tasks**

Specific Expectations: 8m14, 8m17, 8m18, 8m26, 8m27, 8m28, 8m29, 8m46, 8m76, 8m79

**Blended Learning****Other Resources**

## Proportions in Real Life

Resource	URL
Teacher Guide: Unit 1, Activity 5: Proportional Reasoning	<a href="https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_5.html">https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_5.html</a>
Unit 1 Activity 5 Part A: Minds On	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content.html</a>
Unit 1 Activity 5 Part A: Action	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_2.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_2.html</a>
How to Interpret a Ratio	<a href="http://www.mathplayground.com/howto_ratios.html">http://www.mathplayground.com/howto_ratios.html</a>
What is a Ratio	<a href="https://www.youtube.com/watch?v=lkf5Bjgup6s">https://www.youtube.com/watch?v=lkf5Bjgup6s</a>
Interactive Mathematics: Glossary	<a href="http://www.learnalberta.ca/content/memg/division03/ratio/index.html">http://www.learnalberta.ca/content/memg/division03/ratio/index.html</a>
Assignment 1: Ratios and Proportions	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/assignment.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/assignment.html</a>
TIPS 4RM Grade 8 Unit 8: Proportional Reasoning	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf</a>
mathies: Set Tool	<a href="http://mathies.ca/learningTools.php#Ss1">http://mathies.ca/learningTools.php#Ss1</a>
mathies: Colour Tiles	<a href="http://mathies.ca/learningTools.php">http://mathies.ca/learningTools.php</a>
mathies: Pattern Blocks	<a href="http://mathies.ca/learningTools.php#Pp0">http://mathies.ca/learningTools.php#Pp0</a>
mathies: Relational Rods	<a href="http://mathies.ca/learningTools.php#Rr0">http://mathies.ca/learningTools.php#Rr0</a>
mathies: Money	<a href="http://mathies.ca/learningTools.php#Mm0">http://mathies.ca/learningTools.php#Mm0</a>
mathies: Number Line	<a href="http://mathies.ca/learningTools.php#Nn0">http://mathies.ca/learningTools.php#Nn0</a>
Gizmos: Proportions and Common Multipliers	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=268">https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=268</a>
Learn Alberta Interactives: 3-Term Ratios	<a href="http://www.learnalberta.ca/content/mejhm/index.html?l=0&amp;ID1=AB.MATH.JR.NUM-B&amp;ID2=AB.MATH.JR.NUMB.RATE&amp;lesson=html/object_interactives/3_term_ratio/use_it.html">http://www.learnalberta.ca/content/mejhm/index.html?l=0&amp;ID1=AB.MATH.JR.NUM-B&amp;ID2=AB.MATH.JR.NUMB.RATE&amp;lesson=html/object_interactives/3_term_ratio/use_it.html</a>

**Proportions in Real Life (continued)**

Resource	URL
Learn Alberta Interactives: Exploring Rate, Ratio and Proportion	<a href="http://www.learnalberta.ca/content/mejhm/index.html?ID1=AB.MATH.JR.NUMB&amp;ID2=AB.MATH.JR.NUMB.RATE&amp;lesson=html/video_interactives/rateRatioProportions/rateRatioProportionsInteractive.html">http://www.learnalberta.ca/content/mejhm/index.html?ID1=AB.MATH.JR.NUMB&amp;ID2=AB.MATH.JR.NUMB.RATE&amp;lesson=html/video_interactives/rateRatioProportions/rateRatioProportionsInteractive.html</a>
Youtube: Math Snacks: Atlantean Dodgeball	<a href="https://www.youtube.com/watch?v=7nnxHYHgEuw">https://www.youtube.com/watch?v=7nnxHYHgEuw</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf</a>
Gap Closing I/S Facilitator's Guide: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf</a>

**Ratio Tables**

Resource	URL
OERB: Ratio Tables	<a href="https://download.elearningontario.ca/repository/14/1465840000/MFM1PPU04A03/overview.html">https://download.elearningontario.ca/repository/14/1465840000/MFM1PPU04A03/overview.html</a>
Gizmos: Beam to Moon (Ratios and Proportions)	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=628">https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=628</a>
Gizmos: Percents and Proportions	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=628">https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=628</a>
Youtube: Finding Missing Values Using a Ratio Table	<a href="https://www.youtube.com/watch?v=vBAhrgwP0k">https://www.youtube.com/watch?v=vBAhrgwP0k</a>
Youtube: Using a Ratio Table to Solving a Percent Problem	<a href="https://www.youtube.com/watch?v=gfCVLBNgTQY">https://www.youtube.com/watch?v=gfCVLBNgTQY</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf</a>
Gap Closing I/S Facilitator's Guide: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf</a>



## Solving Proportions Practice

Resource	URL
Teacher Guide: Unit 1, Activity 5: Proportional Reasoning	<a href="https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_5.html">https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_5.html</a>
Unit 1 Activity 5 Part B: Minds On	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_4.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_4.html</a>
Unit 1 Activity 5 Part B: Action	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_5.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/content_5.html</a>
Which is the Better Deal?	<a href="https://download.elearningontario.ca/repository/14/1411780000/LO1150.html">https://download.elearningontario.ca/repository/14/1411780000/LO1150.html</a>
Assignment 2: Proportional Progress	<a href="https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/assignment.html">https://download.elearningontario.ca/repository/14/1476900000/GRD8MTHEU01A05/assignment.html</a>
TIPS4RM Grade 8 Unit 8: Proportional Reasoning	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf</a>
mathies: Set Tool	<a href="http://mathies.ca/learningTools.php#Ss1">http://mathies.ca/learningTools.php#Ss1</a>
mathies: Colour Tiles	<a href="http://mathies.ca/learningTools.php">http://mathies.ca/learningTools.php</a>
mathies: Pattern Blocks	<a href="http://mathies.ca/learningTools.php#Pp0">http://mathies.ca/learningTools.php#Pp0</a>
mathies: Relational Rods	<a href="http://mathies.ca/learningTools.php#Rr0">http://mathies.ca/learningTools.php#Rr0</a>
mathies: Money	<a href="http://mathies.ca/learningTools.php#Mm0">http://mathies.ca/learningTools.php#Mm0</a>
mathies: Number Line	<a href="http://mathies.ca/learningTools.php#Nn0">http://mathies.ca/learningTools.php#Nn0</a>
Gizmos: Proportions and Common Multipliers	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=268">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=268</a>
Three Acts Math Task: Nana's Chocolate Milk	<a href="http://threeacts.mrmeyer.com/nana/">http://threeacts.mrmeyer.com/nana/</a>
Tap Into Teen Minds: Gas Guzzler	<a href="https://tapintoteenminds.com/3act-math/gas-guzzler/">https://tapintoteenminds.com/3act-math/gas-guzzler/</a>

**Solving Proportions Practice (continued)**

Resource	URL
Tap Into Teen Minds: Super-Bear	<a href="https://tapintoteenminds.com/3act-math/super-bear/">https://tapintoteenminds.com/3act-math/super-bear/</a>
Tap Into Teen Minds: Eiffel Tower Trek	<a href="https://tapintoteenminds.com/3act-math/eiffel-tower-trek/">https://tapintoteenminds.com/3act-math/eiffel-tower-trek/</a>
Math is Fun: Ratio	<a href="http://www.mathsisfun.com/numbers/ratio.html">http://www.mathsisfun.com/numbers/ratio.html</a>
Math Playground: Ratio Stadium	<a href="http://www.mathplayground.com/ASB_RatioStadium.htm">http://www.mathplayground.com/ASB_RatioStadium.htm</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf</a>
Gap Closing I/S Facilitator's Guide: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf</a>

## Rate Problems

Resource	URL
TIPS 4RM Grade 8 Unit 8: Proportional Reasoning	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit8_ProportionalReasoning.pdf</a>
Homework Help: Ratio, Rates and Proportion	<a href="https://homeworkhelp.ilc.org/tools/tutorials/details.php?object_id=494">https://homeworkhelp.ilc.org/tools/tutorials/details.php?object_id=494</a>
OERB: Which is the Better Deal?	<a href="https://download.elearningontario.ca/repository/14/1411780000/LO1150.html">https://download.elearningontario.ca/repository/14/1411780000/LO1150.html</a>
OERB: Rate My Groceries	<a href="https://download.elearningontario.ca/repository/14/1414380000/Pare_Gr7NumStory-board8.html">https://download.elearningontario.ca/repository/14/1414380000/Pare_Gr7NumStory-board8.html</a>
Gizmos: Part-to-Part and Part-to-Whole Ratios	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=264">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=264</a>
Desmos: Intro to Unit Rate	<a href="https://teacher.desmos.com/activitybuilder/custom/55e8b1be0a2e987d3cac027b">https://teacher.desmos.com/activitybuilder/custom/55e8b1be0a2e987d3cac027b</a>
Youtube: Math Antics – Ratios and Rates	<a href="https://www.youtube.com/watch?v=RQ2nYUBVvql&amp;list=PLinhyq7B4Jgag8r-vuFKpZou1IU-WvWaCYf">https://www.youtube.com/watch?v=RQ2nYUBVvql&amp;list=PLinhyq7B4Jgag8r-vuFKpZou1IU-WvWaCYf</a>
Math is Fun: Unit Price	<a href="http://www.mathsisfun.com/measure/unit-price.html">http://www.mathsisfun.com/measure/unit-price.html</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/GapClosing/NumberSense_Int-Senior/4-PropReasoning_FG_IS.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/GapClosing/NumberSense_Int-Senior/4-PropReasoning_FG_IS.pdf</a>

## Percent Problems: Up to 100%

Resource	URL
Teacher Guide: Unit 1, Activity 4: Percent, Decimals and Fractions	<a href="https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html">https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html</a>
Comparing Fractions	<a href="http://oame.on.ca/CLIPS/index.html?EP_Topic=Fractions&amp;activity=12">http://oame.on.ca/CLIPS/index.html?EP_Topic=Fractions&amp;activity=12</a>
Unit 1 Activity 4: Minds On	<a href="https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/content.html">https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/content.html</a>
Converting Percent to Decimal and Fraction	<a href="https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction">https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction</a>
Math is Fun: Decimals, Fractions and Percentages	<a href="http://www.mathsisfun.com/decimal-fraction-percentage.html">http://www.mathsisfun.com/decimal-fraction-percentage.html</a>
Unit 1 Activity 4: Action	<a href="https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/content_2.html">https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/content_2.html</a>
Percents, Fractions and Decimals	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231">https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231</a>
Assignment 2: Comparing Fractions	<a href="https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/assignment.html">https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/assignment.html</a>
Assignment 3: Lottery Win	<a href="https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/assignment.html">https://download.elearningontario.ca/repository/14/1476890000/GRD8MTHEU01A04/assignment.html</a>
TIPS 4RM Grade 8 Unit 5: Fractions and Percents	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit5_FractionsPercents.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit5_FractionsPercents.pdf</a>
Homework Help: Percentages	<a href="https://homeworkhelp.ilc.org/tools/tutorials/details.php?object_id=479">https://homeworkhelp.ilc.org/tools/tutorials/details.php?object_id=479</a>
mathies: Set Tool	<a href="http://mathies.ca/learningTools.php#Ss1">http://mathies.ca/learningTools.php#Ss1</a>
mathies: Colour Tiles	<a href="http://mathies.ca/learningTools.php">http://mathies.ca/learningTools.php</a>
mathies: Money	<a href="http://mathies.ca/learningTools.php#Mm0">http://mathies.ca/learningTools.php#Mm0</a>
mathies: Number Line	<a href="http://mathies.ca/learningTools.php#Nn0">http://mathies.ca/learningTools.php#Nn0</a>

**Percent Problems: Up to 100% (continued)**

Resource	URL
Gizmos : Percent, Fraction, Decimals	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231</a>
Gizmos : Percents and Proportions	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=266">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=266</a>
Gizmos : Percent of Change	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=265">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=265</a>
Gizmos: Fractions, Decimals, Percent (Area and Grid Models)	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=1008">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=1008</a>
NCTM Illuminations: Fraction Models	<a href="https://illuminations.nctm.org/Activity.aspx?id=3519">https://illuminations.nctm.org/Activity.aspx?id=3519</a>
GeoGebra: Locating Fractions and Decimals on a Number Line	<a href="https://www.geogebra.org/m/kBKNp8Xq#material/jTTGbHzC">https://www.geogebra.org/m/kBKNp8Xq#material/jTTGbHzC</a>

**Percent Problems: Over 100%**

Resource	URL
Teacher Guide: Unit 1, Activity 4: Percent, Decimals and Fractions	<a href="https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html">https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html</a>
Guitar Star Part 1: Percents Greater Than 100	<a href="https://download.elearningontario.ca/repository/14/1413860000/LO1134.html">https://download.elearningontario.ca/repository/14/1413860000/LO1134.html</a>
Teacher Guide: Unit 1, Activity 4: Percent, Decimals and Fractions	<a href="https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html">https://download.elearningontario.ca/repository/14/1477240000/GRD8MTHEU06A02/content_4.html</a>
mathies: Set Tool	<a href="http://mathies.ca/learningTools.php#Ss1">http://mathies.ca/learningTools.php#Ss1</a>
mathies: Colour Tiles	<a href="http://mathies.ca/learningTools.php">http://mathies.ca/learningTools.php</a>
mathies: Money	<a href="http://mathies.ca/learningTools.php#Mm0">http://mathies.ca/learningTools.php#Mm0</a>
mathies: Number Line	<a href="http://mathies.ca/learningTools.php#Nn0">http://mathies.ca/learningTools.php#Nn0</a>
Gizmos : Percent, Fraction, Decimals	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=231</a>
Khan Academy: Percent To Decimal & Fraction	<a href="https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction">https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction</a>

## Investigate Similar Shapes

Resource	URL
TIPS4RM Grade 8 Unit 4: Lines, Angles, Triangles, and Quadrilaterals	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit4_LinesAnglesTrianglesQuads.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit4_LinesAnglesTrianglesQuads.pdf</a>
Homework Help: Similar Triangles	<a href="https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=457472&amp;-type=bs">https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=457472&amp;-type=bs</a>
Gizmos: Similar Figures	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=271">https://www.explorellearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=271</a>
Learn Alberta Interactives: Similarity and Congruence	<a href="http://www.learnalberta.ca/content/mejhm/index.html?l=0&amp;ID1=AB.MATH.JR.SHAP&amp;ID2=AB.MATH.JR.SHAP.SIM&amp;lesson=html/video_interactives/similaritycongruence/similarityCongruenceInteractive.html">http://www.learnalberta.ca/content/mejhm/index.html?l=0&amp;ID1=AB.MATH.JR.SHAP&amp;ID2=AB.MATH.JR.SHAP.SIM&amp;lesson=html/video_interactives/similaritycongruence/similarityCongruenceInteractive.html</a>
YouTube: Math Snacks: Scale Ella	<a href="https://www.youtube.com/watch?v=8HNsG6qhl60">https://www.youtube.com/watch?v=8HNsG6qhl60</a>

## Solve for Missing Lengths in Similar Shapes

Resource	URL
TIPS4RM Grade 8 Unit 9: Similar Figures	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit9_SimilarFigures.pdf">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/TIPS4RM/Grade8English/Unit9_SimilarFigures.pdf</a>
Homework Help: Similar Triangles: How Do You Use Similar Triangles to Solve Problems?	<a href="https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=457473&amp;-type=bs">https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=457473&amp;-type=bs</a>
Homework Help: Rectangle – Area and Perimeter	<a href="https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=258629&amp;-type=bs#/question/258629/type=bs">https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=258629&amp;-type=bs#/question/258629/type=bs</a>
Gizmos: Perimeters and Areas of Similar Figures	<a href="https://www.explorellearning.com/index.cfm?method=cResource.dspDetail&amp;ResourceID=189">https://www.explorellearning.com/index.cfm?method=cResource.dspDetail&amp;ResourceID=189</a>
Geometer's Sketchpad: Ratio Relationships	<a href="http://www.edugains.ca/resourcesMath/CE/LessonsSupports/GSP/Ratios/RatioRelationships.gsp">http://www.edugains.ca/resourcesMath/CE/LessonsSupports/GSP/Ratios/RatioRelationships.gsp</a>
GeoGebra: Length Ratio and Area Ratio of 2 Similar Figures	<a href="https://www.geogebra.org/m/aPuyBpjm">https://www.geogebra.org/m/aPuyBpjm</a>

## Solve for Area in Similar Shapes

Resource	URL
Teacher Guide: Unit 3, Activity 4: Similar and Congruent Shapes	<a href="https://download.elearningontario.ca/repository/14/1477270000/GRD8MTHEU06A03/content_4.html">https://download.elearningontario.ca/repository/14/1477270000/GRD8MTHEU06A03/content_4.html</a>
Unit 3 Activity 4: Minds On	<a href="https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/content.html">https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/content.html</a>
Rocket Race Rectangles	<a href="https://download.elearningontario.ca/repository/14/1415350000/preloader.html">https://download.elearningontario.ca/repository/14/1415350000/preloader.html</a>
Unit 3 Activity 4: Action	<a href="https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/content_2.html">https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/content_2.html</a>
Assignment 1: Area and Perimeter of Reflections and Dilatations	<a href="https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/assignment.html">https://download.elearningontario.ca/repository/14/1477090000/GRD8MTHEU03/GRD-8MTHEU03A04/assignment.html</a>
Homework Help: Rectangle – Area and Perimeter	<a href="https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=258629&amp;-type=bs#/question/258629/type/bs">https://homeworkhelp.ilc.org/chat/chat.php?config=playback&amp;question_id=258629&amp;-type=bs#/question/258629/type/bs</a>
OERB: Rocket Race Rectangles	<a href="https://download.elearningontario.ca/repository/14/1415350000/preloader.html">https://download.elearningontario.ca/repository/14/1415350000/preloader.html</a>
Gizmos: Perimeters and Areas of Similar Figures	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=189">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=189</a>
Gizmos: Area of Parallelograms	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=245">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=245</a>
Gizmos: Area of Triangles	<a href="https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=172">https://www.explorelearning.com/index.cfm?method=cResource.dspView&amp;ResourceID=172</a>
GeoGebra: Areas of Similar Pentagons	<a href="https://www.geogebra.org/m/wB2McChe">https://www.geogebra.org/m/wB2McChe</a>
GeoGebra: Length Ratio and Area Ratio of 2 Similar Figures	<a href="https://www.geogebra.org/m/aPuyBpjm">https://www.geogebra.org/m/aPuyBpjm</a>
Desmos: Tile Pile	<a href="https://teacher.desmos.com/tilepile">https://teacher.desmos.com/tilepile</a>
Gap Closing I/S Student Book: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_SB_IS.pdf</a>
Gap Closing I/S Facilitator's Guide: Proportional Reasoning	<a href="http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf">http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/4-PropReasoning_FG_IS.pdf</a>