

Arc of Learning for Stretching and Shrinking

Knowledge of similarity is important to the development of students' understanding of the geometry in their environment. In their immediate environment and in their studies of natural and social sciences, students frequently encounter phenomena that require familiarity with the ideas of enlargement, scale factors, area growth, indirect measurement, and other similarity-related concepts.

Stretching and Shrinking: Understanding Similarity					
■ Similar Figures	Introduction <i>Setting the Scene</i>	Exploration <i>Mucking About</i>	Analysis <i>Going Deeper</i>	Synthesis <i>Looking Across</i>	Abstraction <i>Going Beyond</i>
Investigation 1: Enlarging and Reducing Shapes					
1.1 Solving a Mystery: An Introduction to Similarity	1.1				
1.2 Scaling Up and Down: Corresponding Sides and Angles	1.2	1.2			
Mathematical Reflections		MR			
Investigation 2: Similar Figures					
2.1 Drawing Wumps: Making Similar Figures		2.1	2.1		
2.2 Hats Off to the Wumps: Changing a Figure's Size and Location			2.2		
2.3 Mouthing Off and Nosing Around: Scale Factors			2.3		
Mathematical Reflections			MR		
Investigation 3: Scaling Perimeter and Area					
3.1 Rep-Tile Quadrilaterals: Forming Rep-Tiles With Similar Quadrilaterals			3.1		
3.2 Rep-Tile Triangles: Forming Rep-Tiles With Similar Triangles			3.2	3.2	
3.3 Designing Under Constraints: Scale Factors and Similar Shapes				3.3	
3.4 Out of Reach: Finding Lengths With Similar Triangles				3.4	
Mathematical Reflections				MR	
Investigation 4: Similarity and Ratios					
4.1 Ratios Within Similar Parallelograms			4.1		
4.2 Ratios Within Similar Triangles			4.2		
4.3 Finding Missing Parts: Using Similarity to Find Measurements				4.3	
4.4 Using Shadows to Find Heights: Using Similar Triangles				4.4	
Mathematical Reflections				MR	MR
Looking Back					LB