CONNECTED MATHEMATICS PROJECT

Arc of Learning for Comparing and Scaling

The purposes are to develop students' ability to make intelligent comparisons of quantitative information – using ratios, fractions, decimals, rates, unit rates, and percents – and to use quantitative information to make larger or smaller scale models of given situations or to scale rates and ratios up and down as needed. Students not only learn different ways to reason in proportional situations, but also recognize when such reasoning is appropriate.

Comparing and Scaling: Ratios, Rates, Percents, and Proportions

■ Reasoning Proportionally	Introduction *Setting the Scene*	Exploration *Mucking About*	Analysis *Going Deeper*	Synthesis *Looking Across*	Abstraction *Going Beyond*
Investigation 1: Ways of Comparing: Ratios and Proportions					
1.1 Surveying Opinions: Analyzing Comparison Statements	1.1	1.1			
1.2 Mixing Juice: Comparing Ratios		1.2	1.2		
1.3 Time to Concentrate: Scaling Ratios			1.3		
1.4 Keeping Things in Proportion: Scaling to Solve Proportions			1.4	1.4	
Mathematical Reflections				MR	
Investigation 2: Comparing and Scaling Rates					
2.1 Sharing Pizza: Comparison Strategies			2.1		
2.2 Comparing Pizza Prices: Scaling Rates			2.2	2.2	
2.3 Finding Costs: Unit Rate and Constant of Proportionality				2.3	
Mathematical Reflections				MR	MR
Investigation 3: Markups, Markdowns, and Measures: Using Ratios, Percents, and Proportions					
3.1 Commissions, Markups, and Discounts: Proportions With Percents			3.1	3.1	
3.2 Measuring to the Unit: Measurement Conversions				3.2	3.2
3.3 Mixing It Up: Connecting Ratios, Rates, Percents, and Proportions				3.3	3.3
Mathematical Reflections					MR
Looking Back					LB