CONNECTED MATHEMATICS PROJECT

MICHIGAN STATE
UNIVERSITY

Arc of Learning for Comparing Bits and Pieces

Rational numbers are at the heart of the middle-grades experience with number concepts. The goal of *Comparing Bits and Pieces* is to help students deepen their understanding of equivalent fractions and build on this understanding as they explore ratios. They will become skillful at interpreting the different forms of a rational number, at knowing which form is most appropriate for the solution of a given problem, and at writing and interpreting ratios.

Comparing Bits and Pieces: Ratios, Rational Numbers, and Equivalence					
■ Equivalent Fractions ■ Ratios	Introduction Setting the Scene	Exploration Mucking About	Analysis Going Deeper	Synthesis Looking Across	Abstraction Going Beyond
Investigation 1: Making Comparisons					
1.1 Fundraising: Comparing With Fractions and Ratios	1.1 1.1				
1.2 Fundraising Thermometers: Introducing Ratios	1.2 1.2	1.2 1.2			
1.3 Equivalent Fractions on the Line		1.3			
1.4 Measuring Progress: Finding Fractional Parts		1.4			
1.5 Comparing Fundraising Goals: Using Fractions and Ratios		1.5 1.5			
Mathematical Reflections		MR MR			
Investigation 2: Connecting Ratios and Rates					
2.1 Equal Shares: Introducing Unit Rates		2.1			
2.2 Unequal Shares: Using Ratios and Fractions		2.2 2.2	2.2		
2.3 Making Comparisons with Rate Tables		2.3	2.3 2.3		
Mathematical Reflections		MR	MR		
Investigation 3: Extending the Number Line					
3.1 Extending the Number Line: Integers and Mixed Numbers			3.1		
3.2 Estimating and Ordering Rational Number: Comparing Fractions to Benchmarks			3.2		
3.3 Sharing 100 Things: Using Tenths and Hundredths			3.3		
3.4 Decimals on the Number Line			3.4		
3.5 Earthquake Relief: Moving From Fractions to Decimals		3.5	3.5		
Mathematical Reflections			MR		
Investigation 4: Working with Percents					
4.1 Who Is the Best? Making Sense of Percents		4.1		4.1	
4.2 Genetic Traits: Finding Percents		4.2		4.2	
4.3 The Art of Comparison: Using Ratios and Percents		4.3	4.3	4.3	
Mathematical Reflections		MR			
Looking Back		LB	LB	LB	LB