The Common Denominator
A Family Math Newsletter
Mathematics 6 GT Unit 5: Patterns Leading to Addition and Subtraction

Unit at a Glance:
Suggested Length of Unit: 17 days (45 minutes), 8.5 days (90 minutes)
- Models for Addition
- Rules for Adding Positive and Negative Numbers
- Models for Subtraction
- Connecting Addition and Subtraction
- Solving $x + a = b$
- Solving $x + a < b$
- Understanding $x + y = k$
- Adding and Probabilities
- Introduction to Constructions
- The Triangle Inequality

Resources
- Textbook Resource: Viktora, Steven S, et al. Transition Mathematics. Wright Group/McGraw-Hill, 2008, pp. 276-355.
- Homework Help/Online book (teacher-provided code needed): [Online Textbook Portal]

Exploring Chapter 5
This chapter begins a major theme of the rest of the course—examining the basic operations of arithmetic for their applications and connections to algebra, geometry, probability, and statistics.

The first four lessons provide the arithmetic underpinnings for the rest of the chapter. Lesson 5-1 brings together the basic uses of addition. Lesson 5-2 uses the models in a traditional way to obtain rules for adding positive and negative numbers. Lesson 5-3 discusses the main uses of subtraction; as the counterpart to *putting together*, as comparison, and to underpin the Algebraic Definition of Subtraction.

Lessons 5-4 through 5-7 connect these ideas to algebra. In Lesson 5-4, related addition and subtraction facts are discussed in fact triangles. In Lesson 5-5, simple addition equations are solved using both related facts and the Addition Property of Equality. The Addition Property of Inequality is introduced in Lesson 5-6 to solve simple addition inequalities. Having solved simple equations, students have the tools to graph lines of the form $x + y = k, x - y = k, or\ y - x = k$ in Lesson 5-7.

Lessons 5-8, 5-9, and 5-10 apply addition and inequalities to probability and some geometric ideas. Lesson 5-8 discusses the basic relationships that connect probabilities, addition, and subtraction. Lesson 5-9 provides the means for an introduction through the use of constructions to the basic inequality relating the sides of a triangle (developed in Lesson 5-10).

Quote
"Just because we can't find a solution it doesn't mean that there isn't one." -Andrew Wiles