# Number Talks: Helping Children Build Mental Math and Computation Strategies

**Parrish, Sherry**

**2010 ◆ Math Solutions**          **Pages:  390**          **T&L/Curriculum: Books**

## DESCRIPTION

*Number Talks* by Sherry Parrish provides support for teachers as they help their students build mental math and computational strategies. Readers have the opportunity to deepen their knowledge of computational strategies with models to support students in grades K-5. This book encourages productive discourse with students and helps to develop number sense and efficiency. Using the strategies outlined in the book, students will have opportunities to make connections among mathematical ideas. This book includes "number strings" which are purposefully designed series of problems that highlight strategies to build on number relationships. Within the book is a CD containing examples of number talks from real classroom teachers. Many of these examples highlight specific tools and strategies useful for various grade levels. The book is organized into four main sections:

1. Understanding Number Talks
2. Student Thinking and Number Talks in the K-2 Classroom
3. Student Thinking and Number Talks in the 3-5 Classroom
4. The Facilitator's Guide
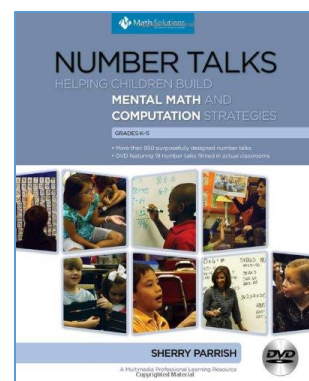
## STAGE 1 LEADERSHIP

*Number Talks* by Sherry Parrish supports stage 1 development of leaders working to improve their practice. Specialists in the role of coaching may work independently or with colleagues to use the book as a resource to deepen their own content and pedagogical knowledge of computational strategies and student discourse. This book provides a progression to develop computational fluency based on number sense, place value, and properties of operations.

| Strategies for Addition and Subtraction | Strategies for Multiplication and Division |
|---|---|
| ● Counting All/Counting On <br> ● Doubles/Near Doubles <br> ● Making Tens <br> ● Landmark or Friendly Numbers <br> ● Breaking Each Number into Its Place Value <br> ● Compensation <br> ● Adding Up in Chunks <br> ● Adding Up <br> ● Removal or Counting Back <br> ● Place Value and Negative Numbers | ● Repeated Addition or Skip Counting <br> ● Making Landmark or Friendlier Numbers <br> ● Partial Products <br> ● Doubling and Halving <br> ● Breaking Factors into Smaller Numbers <br> ● Repeated Subtraction or Sharing/Dealing Out <br> ● Partial Quotients <br> ● Multiplying Up <br> ● Proportional Reasoning |

| | |
|---|---|
| ● Adjusting One Number to Create an Easier Problem<br>● Keeping a Constant Difference | |

**Tools to Support Strategies Include:**

- Dot Images
- Five-Frames, Ten-Frames, Double Ten-Frames
- Rekenreks
- Number Sentences
- 100s Charts
- Number Lines
- Arrays
- Area Models

## STAGE 2 LEADERSHIP

*Number Talks* by Sherry Parrish also supports stage 2 development of leaders working to engage teacher teams in the collaborative development and implementation of instructional strategies needed to support every learner. Number Talks can be used as an independent teacher resource, but it is also structured to provide a framework for professional learning communities through grade-level teams, individual schools, or districts. *Number Talks* is a book that can be a year-long focus. It highlights strategies to create a classroom environment to support Number Talks and then provides a progression to develop computational fluency based on number sense, place value, and properties of operations.  The strategies outlined in the book not only help teachers improve their confidence with multiple computational strategies, but also offer techniques to promote student discourse and confidence. These tools carry over into the classroom environment, creating a culture of mathematics learners. Using *Number Talks* as a professional development focus, followed by peer coaching to observe strategies and tools being used by colleagues, has proven to be an effective method to support school-wide implementation.

NOTE: Although this is a K-5 resource, specific tools and strategies can be modified to support pre-K as well as middle through high school. For example, ten frames and dot cards could support the development of pre-K skills., while problem strings could be modified by changing whole numbers to decimals to support upper grade level skills.