

Acknowledgments	XV
How to Use This Resource	xvii
Reference Tables	
Strategies Table	xxi
Number Talks Table	xxiii
Video Clips by Chapter	xxvii
Video Clips by Grade	xxxi
Connections to NCTM's Principles and Standards for School Mathematics	xxxiii

SECTION I: Understanding Number Talks

CHAPTER 1: What Is a Classroom Number Talk?	3
Rationale for Number Talks	3
A Number Talk: Key Components	5
Summary	15
CHAPTER 2: How Do I Prepare for Number Talks?	16
Establishing Procedures and Setting Expectations: The Four Essentials	16
Anticipating How to Record Student Thinking	21
Six Ways to Develop Accountability with Students	25
Gathering Tools to Model Student Strategies	28
Starting with Five Small Steps	28
Summary	31

SECTION II: Student Thinking and Number Talks in the K–2 Classroom

CHAPTER 3: How Do I Develop Specific Strategies in the K–2 Classroom?	35
Overarching Goals	35
Using Models and Tools to Anchor Student Strategies to Goals	40
Dot images	40
Rekenreks	41
Five-frames/ten-frames	43
Number lines	44
Hundred chart	45
Using Real-Life Contexts	48
Discussing Efficiency	53
Anticipating Student Thinking	56
An Introduction to Common Addition Strategies	58
An Introduction to Common Subtraction Strategies	64
Summary	66
CHAPTER 4: How Do I Design Purposeful Number Talks in the K–2 Classroom?	67
Overview	67
Kindergarten Number Talks	68
Using dot images	70
Using rekenreks	82
Using five- and ten-frames	89

First-Grade Number Talks	97
Addition	97
Second-Grade Number Talks	119
Addition	120
Subtraction	145
SECTION III: Student Thinking and Number Talks in the 3–5 Classroom	
CHAPTER 5: How Do I Develop Specific Addition and Subtraction Strategies in the 3–5 Classroom?	157
Overarching Goals	157
Using Models to Anchor Student Strategies with Addition and Subtraction	160
Open number line	160
Part/whole box	162
Using Real-Life Contexts	162
Discussing Efficiency	168
Anticipating Student Thinking	169
An Introduction to Common Addition Strategies	170
An Introduction to Common Subtraction Strategies	175
Summary	181
CHAPTER 6: How Do I Design Purposeful Addition and Subtraction Number Talks in the 3–5 Classroom?	182
Overview	182
Third-, Fourth-, and Fifth- Grade Number Talks	183
Addition number talks	184
Subtraction number talks	205

CHAPTER 7: How Do I Develop Specific Multiplication and Division Strategies in the	
3–5 Classroom?	230
Overarching Goals	230
Using Array Models to Anchor Student Strategies with Multiplication and Division	233
Using Real-Life Contexts	237
Discussing Efficiency	241
Anticipating Student Thinking	243
An Introduction to Common Multiplication Strategies	244
An Introduction to Common Division Strategies	254
Summary	261
CHAPTER 8: How Do I Design Purposeful Multiplication and Division Number Talks in the 3–5	
Classroom?	262
Overview	262
Third-, Fourth-, and Fifth-Grade Number Talks	263
Multiplication number talks	264
Division number talks	286
SECTION IV: The Facilitator's Guide	
CHAPTER 9: What Does a Number Talk Look Like at My Grade Level?	303

Introduction 304

A closer look at number talks by grade level 304

A closer look at South Shades Crest Elementary	
School	304
Kindergarten Classroom	306
A closer look at Erin Keenan's kindergarten classroom	306
A second look at kindergarten number talks	308
Second-Grade Classroom	311
A closer look at Galey Thomas's second-grade classroom	311
A second look at second-grade number talks	313
Third-Grade Classroom	316
A closer look at Jann Montgomery's third- grade classroom	316
A second look at third-grade number talks	318
Fifth-Grade Classroom	324
A closer look at Lee Ann Davidson's fifth- grade classroom	324
A second look at fifth-grade number talks	326
Schoolwide Perspective	330
A closer look at number talks from a schoolwide perspective	330
Discussion questions	331
Your Practice: A Closer Look	333
Questions for personal reflection	333

Appendices	335
A. Author's Video Reflections	337
B. Questions and Answers	368
C. Suggested Grade-Level Resources	374
D. Reproducible Templates	377
Directions for Making Rekenreks	378
Five-Frame Template	380
Ten-Frame Template	381
References	383
Index	384