

Contents

Preface	v
---------------	---

1	Mathematical Reasoning and Sense Making	1
	Michael T. Battista, The Ohio State University, Columbus, Ohio	

2	Using Number and Arithmetic Instruction as a Basis for Fostering Mathematical Reasoning	27
	Arthur J. Baroody, University of Illinois at Urbana–Champaign	

3	Algebraic Reasoning in Prekindergarten–Grade 2	71
	Ana Stephens, University of Wisconsin–Madison, with Maria Blanton, TERC, Cambridge, Massachusetts	

4	Understanding and Developing Young Children’s Reasoning and Sense Making in Decomposing Geometric Shapes	105
	Michael T. Battista, The Ohio State University, Columbus, Ohio	

Appendix A: Abbreviated List of the Common Core State Standards for Mathematics Standards for Mathematical Practice	139
------------------------------------------------------------------------------------------------------------------------------------------	------------

Appendix B: Abbreviated List of the National Council of Teachers of Mathematics <i>Principles and Standards for School Mathematics</i> Process Standards	143
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------

Appendix C: Pattern-Block Frame Tasks	145
----------------------------------------------------	------------

Appendix D: Predict-and-Cover Tasks	149
--------------------------------------------------	------------