

Table of Contents

About This Book
Introduction
Investigations
Discovering Primes As the Ancient Mathematicians Did 8
Focus: Reasoning about Number Relationships
Movie Money Matters
Focus: Reasoning about Algebraic Relationships
Making and Investigating Puzzles
Focus: Reasoning about Geometric Relationships
Fascinating Measures32
Focus: Reasoning about Measurement Relationships
Growing Giant Sequoias40
Focus: Reasoning about Data Relationships
Looking Back and Looking Ahead
Appendix
Blackline Masters and Solutions51
Using the Sieve of Eratosthenes
Hundreds Chart
Movie Money Matters
Movie Distributor's Profit
Theater Owner's Profit
Centimeter Grid Paper
Two-Line Puzzles
Three-Line Puzzles
Puzzles with Special Pieces
Puzzles with All Pieces Identical
Dot-Paper Squares
Dot-Paper Rectangles
Your Beating Heart
Eat Those Eggs
Did You Know?
Read All about It!
What Do You Now Know?
Analyzing Data for Dr. Angus
Peer Assessment Data Sets
Solutions for the Blackline Masters
References

CONTENTS OF THE CD-ROM

Introduction

Table of Standards and Expectations, Process Standards, Pre-K-Grade 12

Applet

2-D Shape Decomposition Tool

Blackline Masters and Templates

All blackline titles listed above plus the following:

Box Office Gross Receipts for Shrek 2

Web Sites for Interesting Measurement Facts

Sample Student Work for "Movie Money Matters"

Sample Student Work for "Did You Know?"

Sample Student Work for "Analyzing Data for Dr. Angus"

Readings and Supplemental Materials

Strategies for Advancing Children's Mathematical Thinking Judith Fraivillig

Teaching Children Mathematics

Mathematical Tasks and Student Cognition: Classroom-Based Factors That Support and Inhibit High-Level Mathematical

Thinking and Reasoning

Marjorie Henningsen and Mary Kay Stein

Journal for Research in Mathematics Education

Ryan's Primes

Bill Juraschek and Amy Evans Teaching Children Mathematics

Ideas: Every Beat of Your Heart

Lisa M. Passarello and Francis Fennell

Arithmetic Teacher

Redefining Success in Mathematics Teaching and Learning

Margaret Schwan Smith

Mathematics Teaching in the Middle School

Selecting and Creating Mathematical Tasks: From Research to Practice

Margaret Schwan Smith and Mary Kay Stein

Mathematics Teaching in the Middle School

Mathematical Tasks as a Framework for Reflection: From Research to Practice

Mary Kay Stein and Margaret Schwan Smith

Mathematics Teaching in the Middle School

Making Connections with Prime Numbers

Arlene Yolles

Mathematics Teaching in the Middle School

Polishing a Data Task: Seeking Better Assessment

Judith S. Zawojewski

Teaching Children Mathematics