

Contents



Preface ◆ *xi*

Chapter 1

Planning Instruction for Special Needs ◆ 1

Learning Disabilities and Their Effect
on Mathematics Performance ◆ 4

General Instructional Techniques for Dealing with
Learning Disabilities in the Mathematics Classroom ◆ 21

Chapter 2

Problem-Centered Teaching and Learning ◆ 33

Prerequisites for Efficient Problem Solving ◆ 36

Problem Solving and the Student with Learning Disabilities ◆ 36

Language and Mathematics ◆ 40

Computation: Choosing the Calculation Method ◆ 45

Determining the Correct Operation ◆ 46

Determining and Checking for Reasonable Answers ◆ 50

Making Good Use of Information ◆ 50

Recognizing the Pattern of a Problem ◆ 55

Determining the Correct Sequence ◆ 56

Problem Solving in the Real World ◆ 59

Chapter 3

Mathematics, Computers, and Students with Learning Disabilities ◆ 61

Current Trends ◆ 61

Learning Disabilities: The Impact of Using the Computer ◆ 62

Visual and Auditory Perceptual Problems ◆ 65

Memory Problems ◆ 76

Expressive and Receptive Language Difficulties ◆ 78

Abstract-Reasoning Difficulties ♦ 81

Evaluating Software for Use by Students
with Learning Disabilities ♦ 83

General Recommendations for Software ♦ 91

Chapter 4

Life Skills: Money and Time ♦ 99

Classroom Materials for Teaching Money ♦ 100

Coin Discrimination ♦ 102

Counting Money Amounts ♦ 106

Paying for Items and Making Change ♦ 113

Writing Money Amounts Greater Than One Dollar ♦ 119

Classroom Materials for Teaching Time ♦ 122

Reading Clock Times ♦ 124

Writing Clock Times ♦ 132

Naming the Correct Hour ♦ 136

Language and Time: Understanding
and Using the Various Expressions for Time ♦ 137

Chapter 5

Developing Number Sense: Number and Place Value ♦ 147

Developing Number Sense ♦ 148

Counting in Early Number Work ♦ 149

Extending Early Counting Skills ♦ 151

Reversals ♦ 159

Skip Counting by Tens and Fives ♦ 172

Comparing Numbers ♦ 179

Rounding and Estimation ♦ 187

Reading and Interpreting Quantitative
Data from the Printed Word ♦ 192

Writing Mathematics ♦ 194

Using Technology ♦ 201

Chapter 6

Concepts and Computation of Whole Numbers ♦ 203

Building Concepts for the Four Operations ♦ 208

Computation: General Difficulties ♦ 217

Mental Computation and Estimation ♦ 221

Addition of Whole Numbers ♦ 237

Subtraction of Whole Numbers ♦ 246

Multiplication of Whole Numbers ♦ 254

Division of Whole Numbers ♦ 262

Using Technology ♦ 278

Chapter 7

Rational Numbers: Early Concept Work with Fractions and Decimals ♦ 281

General Areas of Difficulty ♦ 282

Number Sense for Rational Numbers ♦ 284

The Language of Rational Numbers ♦ 287

Equivalent Numbers ♦ 300

Selected Real-Life Applications ♦ 312

Chapter 8

Extending Understanding and Application of Fractions and Decimals ♦ 323

Perspectives on Students with Learning Disabilities ♦ 324

General Areas of Difficulty ♦ 324

Comparing Rational Numbers ♦ 330

Simplifying Fractions ♦ 336

Developing Computation Sense for Fractions and Decimals ♦ 338

Written Computation for Fractions and Decimals ♦ 342

Using Technology ♦ 367

Chapter 9

The Four Operations: Learning and Using the Basic Facts ♦ 369

Interpreting Language: Printed, Oral, and Symbolic ♦ 371

Strategy Learning for Basic Facts ♦ 374

Strategies for Learning Addition Facts ♦ 380

Strategies for Learning Subtraction Facts ♦ 389

Strategies for Learning Multiplication Facts ♦ 395

Strategies for Learning Division Facts ♦ 402

Using Technology ♦ 405

Chapter 10

Hard-To-Learn Upper-Grade Topics ♦ 409

Ratios ♦ 410

Proportions ♦ 415

Percents ♦ 418

Integers ♦ 427

Exponents ♦ 439

Spreadsheets ♦ 443

Appendix ♦ 449

References ♦ 451

Index ♦ 453

About the Authors ♦ 457

© Copyrighted material by PRO-ED, Inc.