



TABLE OF CONTENTS

Start Quick and Ramp It Up! 5th Grade Multiplication

Multiplication	PAGE
Table of Standards	5
5.M.1 Quick Start: Area Model, Partial Products, & the Standard Algorithm	7
5.M.2 Quick Start: Partial Products & the Standard Algorithm	17
5.M.3 Ramp Up: Partial Products & the Standard Algorithm	25
5.M.4 Ramp Up: 3-Digit by 2-Digit Multiplication Using the Standard Algorithm	30
5.M.5 Launch: 3-Digit by 2-Digit Multiplication Using the Standard Algorithm	35
5.M.6 Ramp Up: Concrete & Area Models for Decimal Multiplication	40
5.M.7 Ramp Up: Concrete & Area Models for Decimal Multiplication	50
5.M.8 Ramp Up: Area Models, Partial Products, & the Standard Algorithm for Decimal Multiplication	60
5.M.9 Ramp Up: Finding & Correcting Mistakes—Multiplying Decimals	71
5.M.10 Ramp Up: Partial Products & the Standard Algorithm with Decimals	76
5.M.11 Ramp Up: Understanding Placement of Decimals Through Patterns	81
5.M.12 Ramp Up: Understanding Placement of Decimals	84
5.M.13 Ramp Up: Multiplying Decimals	87
5.M.14 Ramp Up: Multiplying Decimals	90
Grid Paper	93
Number Line Template	94



TABLE OF CONTENTS

Start Quick and Ramp It Up! 5th Grade Multiplication

Content and Instruction Extras

Multiplication	PAGE
Meaning Behind the Math	
Using Partial Products to Solve Multiplication Problems (5.1C)	8
Vertical Alignment: Multi-Digit Multiplication (5.3B)	18
Multiplication Fact Practice Without Tears	25
When Should Students Stop Using Models? (5.1C)	25
Multiplication in Middle School (5.1A)	35
Models for Multiplying Decimals (5.3F)	41
Fractions and Decimals—Different Name; Same Concept (5.1D)	51
Connecting Decimal and Fraction Multiplication (5.1C, 5.1D, 5.1E)	51
Proper Names for Decimals (5.1G)	61
Putting Algorithms in the Their Place (5.1C)	61
Patterns When Multiplying Decimals (5.1B)	81
Connecting the Placement of the Decimal Point in Decimal Multiplication with Place Value (5.1F)	84
Estimating with Decimals (5.1B)	84
Properties of Operations, Part 1 (5.1C)	87
Properties of Operations, Part 2 (5.1C)	90
Reading, Writing, and Speaking to Improve Critical Thinking	
The Academic Vocabulary of Multiplication (5.1G)	30
Word Walls are More Than Words on a Wall (5.1D)	31
What Does That Word Mean???	42
Working the Classroom	
Thinking About Thinking (5.1D)	71
A Variety of Ways to Use Word Problems	76



TABLE OF STANDARDS (PG. 1 OF 2)

The activities in this 5th grade Multiplication book address the following standards.

Where are we going? Focus Standards		Activity
(5.3)	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:	
5.3B	multiply with fluency a three-digit number by a two-digit number using the standard algorithm; Supporting Standard	1, 2, 3, 4, 5
5.3D	represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models; Supporting Standard	6, 7, 8, 11
5.3E	solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers; Readiness Standard	8, 9, 10, 11, 12, 13, 14

How will we get there? Working Standards		Activity
(5.3)	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:	
5.3A	estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division; Supporting Standard	1, 2, 3, 4, 5

What kind of mathematical thinking will we use? Process Standards		Activity
(5.1)	(5.1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:	
5.1A	apply mathematics to problems arising in everyday life, society, and the workplace;	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13
5.1B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14
5.1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
5.1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
5.1E	create and use representations to organize, record, and communicate mathematical ideas;	1, 4, 6, 7, 8, 9, 10, 14
5.1F	analyze mathematical relationships to connect and communicate mathematical ideas.	1, 2, 3, 4, 5, 11, 12, 14
5.1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11