



TABLE OF CONTENTS

Start Quick and Ramp It Up! 5th Grade Measurement

ACTIVITY TYPE	ACTIVITY	TOPICS	PAGE
	Table of Standards		4
Quick Start	Stay in Your Lane	Length with Conversions	7
Ramp Up	Secret Cloud Castle	Length with Conversions	12
Ramp Up	Calculating Connections	Perimeter & Area Without Conversions	18
Ramp Up	Living Large	Perimeter & Area Without Conversions	27
Ramp Up	Zappo's Designs	Area of Composite Figures	40
Ramp Up	Spiderville	Perimeter, Area, & Composite Area with Conversions	50
Ramp Up	Secrets	Volume Without Conversions	60
Ramp Up	Treasure Prism	Volume Without Conversions	67
Ramp Up	Cave of Wilds	Perimeter, Area, & Volume Without Conversions	79
Ramp Up	Measurement Madness	Perimeter, Area, & Volume Without Conversions	88
Ramp Up	Sort it Out	Perimeter, Area, & Volume with Conversions	97
Ramp Up	Savory Salad	Perimeter, Area, & Volume with Conversions	103

Content and Instruction Extras

MEANING BEHIND THE MATH

Using Tables to Perform Conversions (5.1C)	7
Guiding Students Through Problems That Involve Both Perimeter and Area (5.1B)	18
Steps for Solving Problems for a Missing Side (5.1B)	28
A Process for Finding the Area of Composite Figures Using Addition (5.1B)	41
A Process for Finding the Area of Composite Figures Using Subtraction (5.1B)	51
Understanding Volume in Layers (5.1C)	60
Missing Dimensions and Volume Problems (5.1B)	67
The Importance of the Diagram in Measurement Problems (5.1B.C)	79
Anchor Chart for Solving Most Measurement Problems (5.1B)	98

READING, WRITING, AND SPEAKING TO IMPROVE CRITICAL THINKING

Verbal Descriptions and Equations in Measurement Problems (5.1G)	12
Deepening Dialogue #1: Piggybacking (5.1G)	12
Deepening Dialogue #2: Repetition (5.1G)	12
Supports for English Language Learners	88

WORKING THE CLASSROOM

Using Highlighters with Conversions (5.1C)	12
Debriefing After an Activity (5.1G)	18
Guidelines for Adapting Activities for Center Work	79
A Variety of Ways to Use Word Problems	88
This is HARD! Small Group Instruction vs. Whole Class Discussion (5.1G)	103



TABLE OF STANDARDS (PG. 1 OF 2)

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

Where are we going? Focus Standards		Activity
(5.4)	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	
5.4H	represent and solve problems related to perimeter and/or area and related to volume; Readiness Standard	3 , 4 , 5 , 7 , 8 , 9 , 10 , 11 , 12
(5.6)	Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:	
5.6B	determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base. Supporting Standard	7 , 8
(5.7)	Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to:	
5.7A	solve problems by calculating conversions within a measurement system, customary or metric. Supporting Standard	1 , 2 , 9 , 11

How will we get there? Operations 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	2 , 3 , 4 , 9 , 12
5.3C	solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm; Supporting Standard	2 , 4 , 10
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	3 , 12
5.3G	solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm; Readiness Standard	1 , 4
5.3I	represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models; Supporting Standard	3 , 12
5.3J	represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models. Supporting Standard	3



TABLE OF STANDARDS (PG. 2 OF 2)

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

What kind of mathematical thinking will we use? Process Standards		Activity
(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 , 12
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 , 12
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 , 12
5.1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	5 , 6 , 7 , 8 , 9 , 10
5.1E	create and use representations to organize, record, and communicate mathematical ideas;	1 , 2 , 7 , 8 , 9 , 10
5.1F	analyze mathematical relationships to connect and communicate mathematical ideas.	1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12
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 , 12