

MATHEMATICS

<u>GRADE</u> LEVEL	<u>TITLE</u>	<u>AUTHOR</u>	<u>Book #</u>
MIDDLE SCHOOL			
5-8	3 . 2 . 1 Contact This guide examines the science and mathematics behind a topic currently in the news such as overpopulation of the planet, alternative energy sources, effect of drugs on the brain, water pollution, AIDS, and DNA.	Children's Television Workshop	M-52
3-8	Animals As Our Companions The sixth annual World's Largest Math Event was held on April 28, 2000. The theme was "Animals as Our Companions." Since we share the planet with animals, even animals in the wild are our companions. This year's theme encourages students to explore the mathematics of animals, from using geometry to construct a doghouse to using decimals to compare the sprinting speeds of wild animals.	NCTM	M-40
K-12	Architecture in Education: The concepts in this program reflect three broad areas of study: perceptual, social and technological. This is a comprehensive approach to learning and forms the basis for the interdisciplinary, sequential character of the program.	Foundation of Architecture Philadelphia	M-51
6-8	Balanced Assessment for Mathematics This package offers a wide range of assessment tasks that allow students to demonstrate their ability to reason and communicate mathematically. Mathematics content covered is geometry; patterns and function; data analysis; statistics and probability, number and quantity; algebra and functions.	Dale Seymore Publishing	M-14 M-15
6-8	Boxes, Squares & Other Things This unit describes an experience in informal geometry that is based chiefly on work with construction paper and milk cartons.	Marion Walter	M-1
K-6	Build It! Festival Weaving mathematics concepts into engaging, hands-on construction activities, this GEMS festival guide includes a wide assortment of classroom learning-station activities that emphasize construction, geometric challenges, and spatial visualization. Introductory activities, such as Architect/Builder, involve students in free exploration of materials and lay the foundation for such mathematical challenges as Create-A-Shape, Dowel Designs, Polyhedra, Symmetry, Tangrams, and What Comes Next?	GEMS Philip Gonsalves Jaime Kopp	M-36
6-8	Covering and Surrounding <i>Covering and Surrounding</i> involves finding areas and perimeters of various figures and shapes. Students will learn mathematical ideas and techniques that can help you answer questions about the size of something.	Dale Seymore Publishing	M-18
3-6	Fabulous Fractions <i>Fabulous Fractions</i> provides hands -on experiences using five helpful models to develop meaningful and in-depth understanding of fractions. Some of the ideas students will explore include: ability to recognize fractional numbers as equal parts of a whole and as equal parts of a group or set; understanding the relative size of fractions; ability to recognize and name equivalent fractions; experience with operations on fractions in problem solving.	AIMS	M-19

MATHEMATICS

GRADE

LEVEL

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K-9	Family Math	Jean Kerr Stenmark, Virginia Thompson Ruth Cossey	M-42
	Hands-on activities using household supplies that parents and their children can do to together to enhance mathematical skills.		
6-8	Filling and Wrapping	Dale Seymore Publishing	M-21
	<i>Filling and Wrapping</i> looks at two different measures involved in packaging. Students explore how much material it takes to fill a package and how much packaging material is needed to wrap a project.		
4-9	Finding Your Bearings	AIMS	M-22
	<i>Finding Your Bearings</i> contains activities that integrate geography, math, and science. Students problem solve as they study maps and globes through hands-on activities such as <i>Fire on the Mountain</i> , <i>Surf and Sand Toss</i> , <i>Global AdVENNtures</i> , <i>The Forecast for Today</i> , <i>Shrinking Boundaries</i> , <i>Navigating Numerically</i> , <i>Bird's Eye View</i> , <i>Physically Featured</i> , and <i>I've Got the World on a String</i> .		
6-8	Geography of the Great Lakes	Joyce L. Timmons Rosanne W. Fortner	M-3
	Students study the geography of the Great Lakes area including positions of the lakes and the major cities on the shores of the lakes. They consider the geography of the entire St. Lawrence Seaway and determine the perimeter and area of a lake by using basic math skills.		
3-6	In All Probability Investigations in Probability and Statistics	Celia Cuomo	M-38
	If your students groan at the mention of statistics, or go blank when you bring up probability, you might ask what they want to be when they grow up. Wall Street mogul? The next Freud? TV meteorologist? Well, there you go: they'll be using statistics and probability all the way up the ladder. This unit makes these subjects <i>fun</i> , and makes real-world connections students will use all their lives.		
6-8	Looking for Pythagoras	Dale Seymore Publishing	M-25
	Students will explore side lengths and areas of right triangles and squares. Explorations will lead students to discover one of the most important relationships in all of mathematics: the <i>Pythagorean Theorem</i> . The Pythagorean Theorem is so important that much of geometry, trigonometry, and calculus would be impossible without it.		
3-12	Making the Connection	WEPAN	M-41
	This unit has students design, build and test solutions to problems. The goal is for students to understand the basics of engineering associated with the construction and packaging of items to preserve, market, and safely deliver products, exploring energy conversions and needs, handling large system based problems, test a method of transferring information securely.		
3-6	Math On The Menu	Jaine Kopp Denise Davila	M-39
	In this engaging series of cooperative activities, students plunge in to help the fictional Rosada family as it opens, equips, and expands a Mexican restaurant...with all the attendant real-life mathematical challenges. Students eagerly apply different problem-solving strategies as they plan and enlarge the tostadas menu, determine different combinations of ingredients, analyze costs, set prices, and address interior logistics when the restaurant expands to a second location.		

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6-10	Paper Folding – For the Mathematics Class	Donovan A. Johnson	M-10
	Illustrated and loaded with hands -on activities, that shows how to fold basic constructions and explores geometric concepts, circle relationships, products and factors, polygons, and much more		
5-12	Paper Square Geometry: The Mathematics of Origami	AIMS	M-36
	This guide offers students a hands -on, discovery-based approach to learning geometry through origami. As they construct three-dimensional origami models, students will increase their spatial awareness, look at specific geometric concepts such as the properties of polyhedral, and create their own understanding of the imbedded mathematical concepts. Students will also be introduced to the language of mathematics as they learn to describe their discoveries using appropriate geometric terminology and notation. Includes 30 six -inch squares of paper in assorted colors.		
6-9	Proportional Reasoning	AIMS	M-31
	This guide includes activities which use interesting contexts to approach proportional reasoning. Proportional reasoning is a unifying idea that encompasses many mathematical subjects - ratios, proportions, percents, scale, similarity, linear functions, etc. This publication pursues these subjects not in isolation but through their connectedness.		
3-8	Puzzle Play: Puzzles, Problems, and Paradoxes	AIMS	M-32
	<i>Puzzle Play</i> introduces over 65 puzzles from the field of recreational mathematics. The puzzles are all mathematical in nature, although this may not be apparent to the casual observer. The book, which includes eight sections, covers a broad range of topics from logic to topology to optical illusions to problem solving. Many of the puzzles are paradoxical in nature and all have the potential to captivate students' interest and increase their problem-solving persistence.		
K-6	Using Children's Literature to Teach Mathematics	MISD	M-11
	Children's literature can be a rich source for developing an understanding of mathematics. Lively stories and activities can change an attitude of reluctance to one of curiosity and interest for both child and adult readers. Sharing the enjoyment of good stories and participating in the real life mathematical tasks is sometimes far better than "doing story problems".		
3-12	Writing to Learn Mathematics	Joan Countryman	M-35
	Writing to Learn Mathematics demonstrates the use of journals, learning logs, letters, etc. to improve the reasoning abilities of students of all grade levels. It can help students develop concepts and thinking skills as well as free them to recognize what they know and what they want to explore further about mathematics.		