

MATHEMATICS

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Book

ELEMENTARY

5-8	3 . 2 . 1 Contact	Children's Television Workshop	M-52
	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.		
3-8	Animals As Our Companions	NCTM	M-40
	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 seeds of wild animals.		
K-12	Architecture in Education:	Foundation of Architecture Philadelphia	M-51
	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.		
2-3	Awesome Addition and Super Subtraction	AIMS	M-69
	This guide builds the foundation for greater understanding of addition and subtraction through: building a strong sense of place value, developing meaning of the operations with and without regrouping, exploring money in the context of a base-ten number system, using addition and subtraction in problem-solving situations, and engaging in playful and intelligent practice with a focus on 100 percent accuracy.		
K-5	Balanced Assessment for Mathematics	Dale Seymore Publishing	M-12 M-13
	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 patterns, function and algebra; number and quantity; geometry; data, statistics and probability.		
K-6	Build It! Festival	GEMS Philip Gonsalves Jaine Kopp	M-36
	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?		
1-2	Counting on Coins	AIMS	M-70
	This book provides concrete experiences in which students will identify and compare the values of coins; determine combinations of coins; and use coins in problem solving, real-life situations.		

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K-4	Exploring Equivalence in Elementary School Mathematics	Sally K. Roberts, Ed.D.	M-53
	A professional development module developed with support from the Michigan Department of Education Goals 2000 Benchmarks Clarification Project – MI CLiMB in collaboration with Macomb ISD and the Michigan Council of Teachers of Mathematics.		
3-6	Fabulous Fractions	AIMS	M-19
	<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. Posters come with book when you check it out.		
K-1	Fall Into Math & Science	AIMS	M-20
	<i>Fall Into Math & Science</i> is a collection of experiences that relates to the fall season of the year and the corresponding holidays. Activities include collections of real graphing experiences, counting, measurement, and patterning with everything from apples, leaves, nuts, and shoes to grapes, crackers, ghosts, and raisins. Included are many extras such as bulletin board ideas, art activities, and language arts experiences.		
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.		
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> .		
K-4	Group Solutions: Cooperative Logic Activities	Jan M. Goodman	M-37
	This unit brings cooperative learning to the fore in highly motivating ways, providing young students with early and valuable experience in working and solving problems together.		
K-5	Hands on Math: Primary Skills Intermediate Skills Readiness Skills	Educational Insights	M-5
	Three booklets containing math worksheets that provide practice in basic math skills.		
3-5	Hardhatting in a Geo-World	AIMS	M-63
	<i>Hardhatting in the Geo-World</i> is divided into three sections: <i>Structures</i> which investigates stable designs; <i>Measurement</i> which uses non-customary and customary units to investigate length, mass, volume, time, and angles; and <i>Geometry</i> which creates an awareness of the pervasiveness of geometry in our world.		

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K-3	High/Scope Curriculum Series: Mathematics Over 100 grade specific hands-on activities designed for children's cooperative small group learning.	Charles Hohman	M-44
3-6	In All Probability Investigations in Probability and Statistics 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.	Celia Cuomo	M-38
K-2	It's About Time This book is a series of investigations designed to build a conceptual understanding of time and it's measurement.	AIMS	M-71
K-2	Looking at Lines Drawn from science, business, geometry, and other real world phenomena, the activities in <i>Looking at Lines</i> have students experience important linear function concepts in their natural setting. Hands-on involvement heightens student interest and deepens understanding. Students will discover the common thread of linear function concepts as they investigate stacking cups, tying knots, bouncing balls, expanding squares, calling long-distance, floating straws, etc.	AIMS	M-24
2-5	The Magic of a Million Hands-on activities and math investigations inspired by David Schwartz's books titled <i>How Much is a Million</i> and <i>If you Made a Million</i> .	David Schwartz David Whitin	M-45
3-12	Making the Connection 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.	WEPAN	M-41
4-5	Marvelous Multiplication and Dazzling Division This collection of hands-on experiences seeks to address both the conceptual understanding of the processes of multiplication and division as well as the procedural proficiency of calculation multi-digit operations.	AIMS	M-68
3-6	Math On The Menu 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.	Jaine Kopp Denise Davila	M-39

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5-9	Math + Science , A Solution	AIMS	M-26
	<p><i>Math + Science. A Solution</i> consists of more than 25 innovative activities that integrate math and science. The investigations use a variety of readily available and easily understood materials from marbles and M&M's™ candies to old shoes and rubber balls and provides a great sampling of experiences that strengthen process skills.</p>		
K-6	MATH: Through Children's Literature	Kathryn L. Braddon Nancy J. Hall Dale Taylor	M-9
	<p>Students will experience the joys of learning math! Integrate good, enjoyable reading with mathematical concepts and activities by building on students' natural curiosity, their love of patterns, and the instinct to use math to make sense of their world. With this text, students will venture beyond computation and rules and into the processes and skills of problem-solving, communication, reasoning, connection, and estimation.</p>		
5-12	The Mathematics of Microgravity	NASA	M-62
	<p>This publication identifies the underlying mathematics and physics principles that apply to microgravity.</p>		
4-8	Multiplication the Algebra Way	AIMS	M-30
	<p>This guide introduces students to algebraic ways of using the distributive property at three levels; manipulative, representational, and abstract. Algebraic multiplication differs significantly from the arithmetic algorithm so students must learn new processes. The activities in this publication help them build mental imagery of algebraic processes and reinforces concepts by using parallel manipulative, representational, and abstract approaches. The carefully developed sequence begins with learning new concepts and processes in the familiar base ten environment, followed by applying parallel approaches using base 3, 4, and 5 numbers, and finally transitioning to algebra by translating the same processes to similar literal equations.</p>		
5-12	Paper Square Geometry: The Mathematics of Origami	AIMS	M-36
	<p>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 polyhedra, 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.</p>		
3-8	Puzzle Play: Puzzles, Problems, and Paradoxes	AIMS	M-32
	<p><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.</p>		

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K-1	Spring Into Math	AIMS	M-33
	<p><i>Spring Into Math</i> contains "spring-like" experiences and includes the study of seeds germinating in a sponge, rainbows reflected from a prism, and the energy of moving air. Young students have an opportunity to build a solar heater to cook a hot dog, to "grow" an Easter basket, make a "blue wave," and explore the "sounds of music" in water glasses.</p>		
K-2	Under Construction	AIMS	M-34
	<p><i>Under Construction</i> enables young students to build and explore objects from highlighted nursery rhymes and fairy tales. The activities encompass building and testing, exploring variables, and recording and interpreting data.</p>		
K-6	Using Children's Literature to Teach Mathematics	MISD	M-11
	<p>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"</p>		
3-12	Writing to Learn Mathematics	Joan Countryman	M-35
	<p>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.</p>		

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Math Modules

	Math Connections A Secondary Mathematics Core Curriculum		William P. Berlinghoff Clifford Sloyer Robert W. Hayden	M-55
	Math Trailblazers	Grade K	A TIMS Curriculum University of Illinois at Chicago	M-56
	Math Trailblazers	Grade 2	A TIMS Curriculum University of Illinois at Chicago	M-57
	Math Trailblazers	Grade K	A TIMS Curriculum University of Illinois at Chicago	M-58
	Everyday Mathematics	Grade 4K	University of Chicago School Mathematics Project	M-59
	Everyday Mathematics	Grade 2	University of Chicago School Mathematics Project	M-60
	Everyday Mathematics	Grade 4	University of Chicago School Mathematics Project	M-61
K-5	“The Family Game of Visual Perception”		SET (GAME)	M-72
	<p>The object of the game is to identify “sets” of three cards. Each card is unique in its four features: number: (1,2 or 3); symbol: (diamond, squiggle or oval); shading: (solid, stripped or open); and color: (red, green or purple).</p>			