

Mathematics Materials That Can Be Used to Extend Learning*

Mathematics Standard/Topic (CT Mathematics Framework)	Resource Title	Grade Level/ Age	Publisher	Description
Number, Operations, Ratio, Proportion and Percent	Mancala	Ages 6- adult	Mindware www.mindwareonline.com	The goal is simple: to capture the most stones. Each game is packed with complex strategies that students use as they advance. No dice or cards.
	Game 24 (all editions)	Grs. 4+	Dale Seymour www.pearsonlearning.com	Using 96 double-sided cards, rated by three levels of difficulty, this game provides students with the challenge of using any combination of addition, subtraction, multiplication or division to get the number, 24. (Fraction edition, Grs. 5-8; decimals edition, Grs. 5-8; algebra edition Grs. 7+)
	Yahtzee!		Milton Bradley Company	This board game, originally called the “Yacht Game” by its inventors in 1956, requires players to use counting skills, knowledge of probability, and strategizing.
	The Stock Market Game	Grs. 5-8	Dandy Lion Books www.dandylionbooks.com	This simulation game teaches students about all aspects of company ownership and buying stocks; includes a simulation that can take one week or a real stock market investigation that can last one month.
	The Stock Market Game (newspaper edition)	Grs. 5-12	Contact Robie Grzyd, University of Connecticut ceeadm01@uconnvm.uconn.edu Web site for The Stock Market Game: www.smgww.org	Over the course of 10 weeks, participants invest a hypothetical \$100,000 in Nasdaq, Amex, and NYSE-listed common stocks. They research stocks, study how the financial markets work, choose their portfolios, manage budgets, follow companies in the news, and make decisions on whether to buy, sell, or hold; sponsored by area newspapers.
	Monopoly			This board game provides students with practice in counting; addition, subtraction, and multiplication with money; and strategizing.
	Cribbage			Counting, sequencing, strategizing are critical skills that students use when they play this board game.

*The Connecticut State Department of Education does not endorse the diverse products listed here. The products are a broad, but not exhaustive, sample of mathematics resources that are open-ended and aligned with the Connecticut Frameworks for Mathematics.

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Measurement	Measuring: Paces to Feet Used Number Series	Grs. 3-4	Dale Seymour www.pearsonlearning.com	Challenging activities require students to collect, display and interpret data using different scales of measurement
	Math By All Means: Area and Perimeter	Grs. 4-6	Dale Seymour www.pearsonlearning.com	Hands-on problem-solving activities that teaches students about area and perimeter and the relationship between them; uses Color Tile, centimeter-square paper, string, rulers, measuring tapes and the children's book, <i>Spaghetti and Meatballs for All!</i>
	Key to Measurement	Grs. 4-12	Key Curriculum Press www.keypress.com	In Book 1 students learn how a linear system of measurement is developed and complete activities related to measuring length. Book 2 focuses on length, perimeter, and area. The concept of area is further explored in Book 3. Book 4 covers weighing, measuring capacity, temperature and time.
	Key to Metric Measurement	Grs. 4-12	Key Curriculum Press www.keypress.com	The activities in this book are designed to help students learn about length, area, perimeter, volume, mass, capacity, temperature and time using metric units of measure; activities involve the use of real examples from many countries.
Statistics and Probability	Used Numbers: Real Data in the Classroom	Grs. K-6	Dale Seymour www.pearsonlearning.com TERC and Lesley College	Planned units give younger students the opportunity to grasp key concepts around collecting, recording, displaying, interpreting data and decision making. Each book contains a unit that takes about 15 class lessons to complete. The lessons are based on real-world problems. Grades K-1-Counting: Ourselves and Our Families; Grades 2-3-Sorting: Groups and Graphs; Grades 3-4: Measuring: From Paces to Feet; Grades 4-6- Statistics: The Shape of the Data; Grades 5-6-Statistics: Prediction and Sampling and Middles, Means and Modes.
	Teach-Stat Activities	Grs. 1-6	Dale Seymour www.pearsonlearning.com and the National Science Foundation	This series contains classroom-tested investigations showing students how statistics is an integral part of their world. Students take on the role of statistician. Extension activities are provided.

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Statistics and Probability	Fathom	Grs. 9-college	Key Curriculum Press www.keypress.com	Coming from three years of National Science Foundation-funded research and development, this computer learning environment gives students the power to gather, explore and analyze data; very challenging; requires staff development.
Problem Solving	Quizzles	Grs. 6-12	Dale Seymour www.pearsonlearning.com	Students become detectives as they search for clues and keep track of their discoveries on charts. There are many correct answers, but only one solution eventually fits all the clues. Students organize their solutions and they develop deductive skills. Solutions and guide included.
	Techniques for Problem Solving (TOPS)	K-12	Dale Seymour www.pearsonlearning.com	The TOPS series helps build students' problem-solving skills, K-12. Unlike textbooks, which usually give greater attention to content, TOPS explores problems that require the application of mathematical concepts and solution strategies at different ability levels and interests. Each deck of cards, specified by grade levels, contains problems on cards which are color coded for difficulty level.
	Puddle Questions	Grs. 1-8	Creative Publications www.creativepublications.com	Open-ended questions, such as "How would you measure a puddle?" motivate students to think critically and communicate what they know. Key math ideas at each grade level focus on all mathematics topics. Follow-up activities are provided.
	Group Solutions	Grs. K-4	Creative Publications www.creativepublications.com	Games, puzzles, and hands-on activities for logical thinking practice in cooperative groups.
	Get It Together: Math Problems for Groups	Grs. 3-12	Dale Seymour www.pearsonlearning.com	This book features group problem solving activities that cover a range of topics and levels of difficulty. Six clue cards provide information needed to solve a problem. The group must work together to solve the problem.

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Problem Solving	Awesome Math Problems	Grs. 3-8	www.creativepublications.com	Grade level books that contain challenging problems for students.
	Figure This! (for family use)	Grs. 5-8	www.figurethis.org	Figure This! is a joint project of the National Council of Teachers of Mathematics, the National Action Council for Minorities in Engineering, the National Science Foundation The Widmeyer Group and the U.S. Department of Education. It is a web-based program that provides real-world mathematics challenges that middle school students can do at home with their families. It can be used by teachers and students alike in the classroom
Algebra and Functions	Equate	Ages 8 to adult	Mindware www.mindwareonline.com	A math version of Scrabble; players use their tiles to form vertical or horizontal math equations; four levels of difficulty with increasing levels of challenge; 2-4 players or teams
	Groundworks	Grs. 1-7	Creative Publications www.creativepublications.com	Reproducible books are organized around the six big ideas of algebra: representation, proportional reasoning, balance, variable, function, and inductive reasoning; sets of problems are provided under each idea; can be done by a whole class, by pairs of students, or individuals.

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Geometry	Set	Ages 6-adult	Mindware www.mindwareonline.com	To play, students must find a “set” within a group of cards. Sets are based on attributes (shape, color, shade and quantity) on each card. The game requires players to find and utilize attributes, patterns and relationships.
	Tangoes	Ages 7-adult	Mindware www.mindwareonline.com	Use 14 geometric pieces to recreate the silhouette shown on the card; 108 cards (solutions on the back) 1-2 players or teams
	Double Tangoes	Ages 7-adult	Mindware www.mindwareonline.com	Use 14 geometric pieces to recreate the silhouette shown on the card; 108 cards (solutions on the back) 1-2 players or teams
	Geometer’s Sketchpad	Grs. 5+	Key Curriculum Press www.keypress.com	Designed originally for geometry exploration and modeling, students now use Sketchpad’s flexibility and reach to explore algebra, trigonometry, calculus, art, and science. Basic features can be picked up easily; advanced features can be learned. Extensive support is available. Available for both IBM and MAC.
	Tesselmania@ Deluxe!	Grs. 3-12	Dale Seymour www.pearsonlearning.com	This CD ROM animates students’ tessellations and shows how art and transformational geometry combine. Students can make posters, 3-D objects, greeting cards, banners, stationery, calendars, and tee shirts.
	Kaleidomania	Grs. 6-college	Key Curriculum Press www.keypress.com	CD ROM software that offers an interactive unit on transformational geometry and symmetry; students quickly move beyond the definitions of symmetry, transformations and isometries into investigations where they develop visualization skills about these geometric concepts; students explore the use of symmetry in the arts across cultures.
	Guess	Grs. 4+	Dale Seymour www.pearsonlearning.com	Each Guess box contains 200 cards. Box I introduces front-end estimation, rounding and adjusting through problems that use whole numbers and decimals. Box II involves finding compatible GUESS numbers, using averaging, and further adjusting estimates for increased accuracy, plus problems that use whole numbers, decimals, fractions and percents.