Matrix of Articles for Mathematics Activities

The majority of the following articles are from *Teaching Children Mathematics* (*TCM*), one of the official journals of the National Council of Teachers of Mathematics. These articles illustrate lessons to engage children in rich mathematics. Although many have been field-tested with fifth-grade children, some were field-tested in other grades but are easily adaptable to fifth grade. Interested readers should view other issues and articles from *Teaching Children Mathematics* (formerly the *Arithmetic Teacher*) for further ideas.

Article Reference	On CD	On NCTM web page	Reference only	Number & Oper- ation	Measure- ment	Geo- metry	Alge- braic Thinking	Data & Proba- bility	Litera- ture	Sci- ence	Social Stu- dies	Question- ing/ Problem Solving	Special Education / Special Needs
Alcaro, Patricia C., Alice S. Alston, and Nancy Katims. "Fractions Attack! Children Thinking and Talking Mathematically." TCM 6 (May 2000): 562-567.			Х	Х								Х	
Anderson, Cindy L., Kevin M. Anderson, and Edward J. Wenzel. "Oil and Water Don't Mix but They Do Teach Fractions." TCM 7 (November 2000): 174-178.			X	X	X					X			
Atkins, Sandra L. "Listening to Students: The Power of Mathematical Conversations." TCM 5 (January 1999): 289- 295.			Х									Х	
Austin, Richard A. and Denisse R. Thompson. "Exploring World History Along the Silk Route: A Social Studies Investigations Through Mathematics." <i>Trends & Issues</i> 12 (Fall 2000): 12-14.	Х			Х	Х				X		Х		
Austin, Richard A. and Patricia Biafore. "Perimeter Patterns." TCM 2 (December 1995): 238- 240.			X			Х	X						
Barkley, Cathy A. and Saundra Cruz. "Geometry through Beadwork Designs." TCM 7 (February 2001): 362-367.			X			Х					X		

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Borden, Jorie and Elsa Geskus. "The Most Magnificent Strawberry Shortcake." TCM 7 (May 2001): 538-541.		Х		Х	Х				Х				
Botula, Mary Jean and Margaret I. Ford. "All About Us: Connecting Statistics with Real Life." TCM 4 (September 1997): 14-19.			Х					Х					
Brahler, Daniel J., Monica Kelly, and Jennifer Swihart. "This Little Piggy." TCM 5 (January 1999): 274-278, worksheets			Х	X	Х				X				
Brewer, Evelyn J. "Geometry and Op Art." TCM 6 (December 1999): 220-224, 236.			Х			Х							
Brinker, Laura. "Using Recipes and Ratio Tables to Build on Students' Understanding of Fractions." TCM 5 (December 1998): 218- 224.			X	X									
Burton, Gail. "Huge Trees, Small Drawings: Ideas of Relative Sizes." TCM 2 (April 1996): 466-470.			Х	Х	Х				Х		Х		
Cai, Jinfa. "Developing Algebraic Reasoning in the Elementary Grades." TCM 5 (December 1998): 225-229.			Х				X						
Caldwell, Janet H. "Communicating About Fractions with Pattern Blocks." TCM 2 (November 1995): 156- 161.			Х	X									
Chia, David T. "Weather Mathematics: Integrating Science and Mathematics." TCM 5 (September 1998): 19- 22.			Х					X		Х			

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Civil, Marta and Leslie H. Khan. "Mathematics Instruction Developed from a Garden Theme." TCM 7 (March 2001): 400-405.			Х		Х								
Clay, Ellen L. "Using Mathematics to Build an Understanding of the United States." TCM 6 (October 1999): 123-127.			Х	X	Х			Х			Х		
Curcio, Frances A. and Myra Zarnowski. "Revisiting the Powers of 2." TCM 2 (January 1996): 300-304.			Х				X		Х				
Curtis, Shirley. "Mouse Maze Tournament: Connecting Geometry and Measurement." TCM 7 (May 2001): 504-509.		Х			X	X							
Edwards, Thomas C. and Sarah M. Hensien. "Using Probability Experiments to Foster Discourse." TCM 6 (April 2000): 524-529.		Х						Х				Х	
Emenaker, Charles E. "Gingerbread-House Geometry." TCM 5 (December 1999): 208-215.			Х		X	X			Х				
Empson, Susan. B. "Equal Sharing and the Roots of Fraction Equivalence." TCM 7 (March 2001): 421-425.			Х	X									
Enright, Brian E. "Picky Patterns." TCM 5 (November 1998): 174-176, worksheets			Х				Х						
Falkner, Karen P., Linda Levi, and Thomas P. Carpenter. "Children's Understanding of Equality: A Foundation for Algebra." TCM 6 (December 1999): 232-236.		Х					X						
Ferrini-Mundy, Joan, Glenda Lappan, and Elizabeth Phillips. "Experiences with Patterning." TCM 3 (February 1997): 282- 288.			Х				Х						

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Fravillig, Judith. "Strategies for Advancing Children's Mathematical Thinking." TCM 7 (April 2001): 454-459.			Х	Х								Х	
Garrison, Leslie. "Making the NCTM's Standards Work for Emergent English Speakers." TCM 4 (November 1997): 132-138.			Х									Х	Х
Gibbons, Estelle. "Children's Literature: Impetus for a Mathematical Adventure." TCM 3 (November 1996): 142- 147.			Х	X	X				X				
Hanson, Elizabeth. "Hole Math." TCM 2 (January 1996): 264-268.			Х	Х									
Harris, Jacqueline. "Using Literature to Investigate Transformations." TCM 4 (May 1998): 510-513.			Х			X			Х				
Hellwig, Stacey J., Eula Ewing Monroe, and James S. Jacobs. "Making Informed Choices: Selecting Children's Trade Books for Mathematics Instruction." TCM 7 (November 2000): 138-143.			Х						X				
Hendrix-Martin, Eunice. "Student Use Their Bodies to Measure Animals." TCM 3 (April 1997): 426-430.			Х		Х				Х				
Hopkins, Lindy. "Popping Up Number Sense." TCM 2 (October 1995): 82-86.			Х	Х					X				
Isenbarger, Lynn M. and Arthur J. Baroody. "Fostering the Mathematical Power of Children with Behavioral Difficulties: The Case of Carter." TCM 7 (April 2001): 468-471.			X	X								Х	X

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Jacobs, Victoria R., Tom R. Bennett, and Cathy Bullock. "Selecting Books in Spanish to Teach Mathematics." TCM 6 (May 2000): 582-587.			Х						Х				Х
Jones, Graham A., Cynthia W. Langrall, and Carol A. Thornton. "Using Data to Make Decisions About Chance." TCM 2 (February 1996): 346-350.			X					Х					
Karp, Karen, Candy Allen, Linda G. Allen, and Elizabeth Todd Brown. "Feisty Females: Using Children's Literature with Strong Female Characters." TCM 5 (October 1998): 88-94.			Х						Х				
Karp, Karen S. "Telling Tales Creating Graphs Using Multicultural Literature." TCM 1 (November 1994): 87-91.			Х					Х	Х				
Kemp, Champee C. "Adding Taste to Mathematics." TCM 2 (December 1995): 224-225.			Х	Х	Х								
Lambdin, Diana V. and Clare Forseth. "Seamless Assessment/Instruction = Good Teaching." TCM 2 (January 1996): 294-298.			Х									Х	
Leitze, Annette Ricks. "Connecting Process Problem Solving to Children's Literature." TCM 3 (March 1997): 398-406.			Х						Х			Х	
Lindquist, Mary M. and Douglas H. Clements. "Geometry Must Be Vital." TCM 7 (March 2001): 409-415.			Х			Х						Х	
Kulas, Linda Lingenfelter. "May I Take Your Order?" TCM 3 (January 1997): 230- 234.			Х	Х									

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Loewen, A. Craig. "Creative Problem Solving." TCM 2 (October 1995): 96-99.			Х									Х	
Long, Betty B. and Deborah A. Crocker. "Adventures with Sir Cumference: Standard Shapes and Nonstandard Units." TCM 7 (December 2000): 242-245.			X			X			X				
MacGregor, Mollie and Kaye Stacey. "A Flying Start to Algebra." TCM 6 (October 1999): 78-85.			Х				Х						
Mack, Nancy K. "Building a Foundation for Understanding the Multiplication of Fractions." TCM 5 (September 1998): 34- 38.			Х	X								Х	
Margerm, Pat. "An Old Tale with a New Turn- and Flip and Slide." TCM 6 (October 1999): 86-90.			Х			X			X				
Mewborn, Denise S. and Patricia D. Huberty. "Questioning Your Way to the Standards." TCM 6 (December 1999): 226-227, 243-246.			X	X								X	
Moore, Deborah A. "Some Like It Hot." TCM 5 (May 1999): 538-543.			Х					Х		Х			
Moyer, Patricia Seray. "A Remainder of One: Exploring Partitive Division." TCM 6 (April 2000): 517-521.			Х	Х					Х				
Norwood, Karen S. and Glenda Carter. "Journal Writing: An Insight into Students' Understanding." TCM 1 (November 1994): 146- 148.			Х									Х	
O'Brien, Thomas C. and Ann C. Moss. "On the Keeping of Several Things in Mind." TCM 6 (October 1999): 118-122.		Х					Х					Х	

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O'Connell, Susan R. "Newspapers: Connecting the Mathematics Classroom to the World." TCM 1 (January 1995): 268-274.			Х	Х							Х		
O'Connor, Peggy. "Uncovering the Magic." TCM 7 (September 2000): 16-21.		Х					Х						
Oleson, Vicki L. "Incredible Comparisons: Experiences with Data Collection." TCM 5 (September 1998): 12-16.			Х					Х	Х				
Pagni, David L. "An Educator's Guide to Answering Parents' Questions on Mathematics." TCM 7 (September 2000): 44-46, insert.			X										X
Peressini, Dominic and Judy Bassett. "Assessing Students Through Data-Exploration Tasks." TCM 2 (February 1996): 366-371.			Х					Х				X	
Peressini, Dominic and Eric Knuth. "The Role of Tasks in Developing Communities of Mathematical Inquiry." TCM 6 (February 2000): 391-397.			Х				X	X				X	
Philipp, Randolph A. "Multicultural Mathematics and Alternative Algorithms." TCM 3 (November 1996): 128-133.			Х	Х									
Pothier, Yvonne M. and Christine M. Nickerson. "Learning Data-Management Skills Meaningfully." TCM 4 (October 1997): 82-88.			Х					X					
Robertson, Stuart P. "Getting Students Actively Involved in Geometry." TCM 5 (May 1999): 526-529.			Х		Х	Х							
Rocke, Judy. "A Common- Cents Approach to Fractions." TCM 2 (December 1995): 234- 236.			Х	Х									

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Rowan, Thomas E. and Josepha Robles. "Using Questions to Help Children Build Mathematical Power." TCM 4 (May 1998): 504-509.			Х	Х				Х				Х	
Russell, Susan Jo and Jan Mokros. "What Do Children Understand about Average? TCM 2 (February 1996): 360- 364.			Х	X				Х					
Scavo, Thomas R. and Byron Petraroja. "Adventures in Statistics." TCM 4 (March 1998): 394-400.			Х		Х			Х					
Schneider, Sally B. and Charles S. Thompson. "Incredible Equations Develop Incredible Number Sense." TCM 7 (November 2000): 146- 148, 165-168.			X	X			X						
Sellke, Donald H. "Geometric Flips via the Arts." TCM 5 (February 1999): 379-383.			Х			Х							
Sharp, Janet M. and Karen Bush Hoiberg. "And Then There Was Luke: The Geometric Thinking of a Young Mathematician." TCM 7 (March 2001): 432-439.			Х			Х						Х	Х
Shaw, Jean M., Conn Thomas, Ann Hoffman, and Janis Bulgren. "Using Concept Diagrams to Promote Understanding in Geometry." TCM 2 (November 1995): 184- 187.			Х			Х						Х	
Silbey, Robyn. "What Is in the Daily News? Problem-Solving Opportunities!" TCM 5 (March 1999): 390-394.			Х					Х			Х	Х	

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Silverman, Frederick L., Abbilynn B. Strawser, Donna L. Strohauer, and Noel Nevada Manzano. "On the Road with Cholo, Vato, and Pano." TCM 7 (February 2001): 330-333.			Х		Х				Х		Х		
Smith, Jacquelin. "A Different Angle for Integrating Mathematics." TCM 1 (January 1995): 288-293.			Х			Х			Х		Х		
Smith, Jacquelin. "Threading Mathematics into Social Studies." TCM 1 (March 1995): 438-444.			Х	Х		X			Х		Х		
Sowder, Judith. "Place Value as the Key to Teaching Decimal Operations." TCM 3 (April 1997): 448-453.			X	Х									
Speer, William R., David T. Hayes, and Daniel J. Brahier. "Becoming Very-Able with Variables." TCM 3 (February 1997): 305-308, worksheets			Х				X						
Steele, Diana F. "Look Who's Talking: Discourse in a Fourth-Grade Class." TCM 4 (January 1998): 286-292.			X			X						Х	
Taylor, Gwen M. "Reading, Writing, Arithmetic: Making Connections." TCM 6 (November 1999): 190-197.			X						Х				
Taylor, P. Mark, Ken Simms, Ok-Kyeong Kim, and Robert E. Reys. "Do Your Students Measure Up Metrically?" TCM 7 (January 2001): 282-287.			Х		X								
Tepper, Anita Benna. "A Journey Through Geometry: Designing a City Park." TCM 5 (February 1999): 348-352.			Х			Х							
Thomas, Cynthia S. "100 Activities for the 100 th Day." TCM 6 (January 2000): 276- 280.			Х	X									

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Thompson, Charles S. and Vicki Walker. "Connecting Decimals and Other Mathematical Content." TCM 2 (April 1996): 496-502.			Х	Х									
Thompson, Denisse R. and Kendra Holyoke. "Using Children's Literature to Link Mathematics and Social Studies: A Multicultural Exploration with Bread." Trends & Issues 12 (Summer 2000): 22-24.	Х			Х	X			Х	Х		Х		
Tuch, Abby. "Check Out These Checkbooks: Real-Like Banking for the Classroom." TCM 5 (March 1999): 422-429.			Х	Х									
Urso, Josephine. "What Do You Like to Read?" TCM 6 (September 1999): 34-36, worksheet			X					Х	X				
Usiskin, Zalman. Doing Algebra in Grades K-4." TCM 3 (February 1997): 346-356.			X				Х						
Vance, James H. "Number Operations from an Algebraic Perspective." TCM 4 (January 1998): 282-285.			Х				Х						
Watters, Deborah M. "Basketball Math." TCM 6 (May 2000): 556-559.			Х					Х	Х				
Welchman, Rosamond and Josephine Urso. "Midpoint Shapes." TCM 6 (April 2000): 506-510.			X			Х							
Wickett, Maryann S. "Measuring Up with The Principal's New Clothes." TCM 5 (April 1999): 476-479.			Х		Х				Х				
Zaslavsky, Claudia. "Developing Number Sense: What Can Other Cultures Tell Us?" TCM 7 (February 2001): 312-319.			Х	Х									