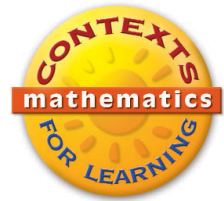


# CONTEXTS FOR LEARNING

## THE AUTHORS



The *Contexts for Learning Mathematics* series is written by Catherine Twomey Fosnot and colleagues from Mathematics in the City and the Freudenthal Institute. **Mathematics in the City**, located at City College of New York, is a national inservice provider for mathematics educators, K-8. The development of the center and the professional development materials that accompany this series were funded in part by the National Science Foundation under grants #9911841 and #9550080. The **Freudenthal Institute** is part of Utrecht University in the Netherlands. Founded in 1971 by the German/Dutch writer, pedagogue and mathematician, Hans Freudenthal (1905-1990), the institute has gained an international reputation for research and curriculum design with its theoretical approach towards the learning and teaching of mathematics known as Realistic Mathematics Education (RME). RME incorporates views on what mathematics is, how students learn mathematics, and how mathematics should be taught.



### CATHERINE TWOMEY FOSNOT

Catherine Twomey Fosnot is Professor of Education at the City College of New York and Director of Mathematics in the City, a national center for professional development located at the college. She has authored or co-authored many books and articles on mathematics education, most recently the *Young Mathematicians at Work* series and the accompanying professional development materials funded by NSF. The AERA SIG on Constructivism has twice awarded her their “significant contribution” award.



### ANTONIA CAMERON

Antonia Cameron is co-director of Mathematics in the City spending most of her time in New York City classrooms helping teachers reflect on their practice. As part of her role at MITC, she directs the Collaborative Communities of Practice project, funded by the Kornfeld Foundation and the New York City Board of Education and is a frequent workshop leader with Cathy Fosnot. She also co-authored the facilitator guides that accompany the *Young Mathematicians at Work* professional development materials funded by NSF.

Antonia Cameron coauthored *Resource Guide: Games for Early Number Sense* (Grades K–3) and *Muffle’s Truffles: Multiplication and Division with the Array* (Grades 3–5).



### MADELINE CHANG

Madeline Chang has been a teacher in kindergarten, first, second and third grades in Region 9 in New York City for the past eighteen years. She has also worked as a math consultant for inservice programs in other school districts and began working with Mathematics in the City in 1995. Many of the investigations in this unit were developed in her classroom. Her work is also discussed in *Young Mathematicians at Work: Constructing Number Sense, Addition and Subtraction* written by Cathy Fosnot and Maarten Dolk. She studied as an undergraduate at the University of Michigan and the City University of New York and holds a masters degree from the Bank Street College of Education.

Madeline Chang coauthored *Beads and Shoes, Making Twos: Extending Number Sense* (Grades K–3).



### MAARTEN DOLK

Maarten Dolk is a researcher and developer of mathematics education at the Freudenthal Institute in the Netherlands, where he has been involved in the development of inservice materials for teachers and of multimedia learning environments for student teachers. He has also directed an inservice project in the Netherlands for teacher educators and staff developers. His work in the United States is related to the inservice of primary school teachers.

Maarten Dolk coauthored *The Double Decker Bus: Early Addition and Subtraction* (Grades K–3) and *Organizing and Collecting: The Number System* (Grades K–3).



### BILL JACOB

Bill Jacob is a professor of mathematics at the University of California, Santa Barbara. In addition to his mathematical research he develops and teaches courses for undergraduates preparing for teaching careers. Over the past fifteen years he has designed and led numerous professional development programs for K-12 teachers. He has been a collaborator with Mathematics in the City for six years.

Bill Jacob coauthored *The California Frog-Jumping Contest: Algebra* (Grades 4–6), *Best Buys, Ratios, and Rate0s: Addition and Subtraction of Fractions* (Grades 4–6) and *The Mystery of the Meters: Decimals* (Grades 4–6).



### FRANS VAN GALEN

Frans van Galen is a researcher and developer of mathematics education at the Freudenthal Institute in the Netherlands. He is coauthor of *Mathematics in Context*, a math program for middle school, and of Dutch math programs for the primary levels. He is involved in several projects on inservice education. He is also a developer of mathematical games and puzzles for the internet.

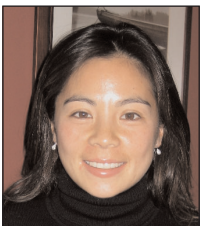
Frans van Galen coauthored *Groceries, Stamps, and Measuring Strips: Early Multiplication* (Grades 3–5).



### KARA LOUISE IMM

Kara Louise Imm is a former middle and high school mathematics teacher in the New York City Public Schools. Currently she is pursuing a doctorate in Urban Education at the Graduate Center (City University of New York - CUNY), teaching at the School of Education at Pace University as a lecturer, and leading inservice workshops for fellow teachers at Mathematics in the City. She is a graduate of Stanford University and Bank Street College of Education, where she earned a Master's in Education, Early Adolescence.

Kara Louise Imm coauthored *Minilessons for Operations with Fractions, Decimals, and Percents* (Grades 4–6).



### MIKI JENSEN

Miki Jensen is currently the Director of Inservice at Mathematics in the City. She taught fourth and fifth grade at PS 234 in Manhattan before going on to do staff development work and take on the full time job of being a mother.

Miki Jensen coauthored *The Box Factory: Extending Multiplication with the Array* (Grades 3–5).



### PATRICIA LENT

Patricia Lent has been teaching second and third grade at P.S. 234 in Region 9 of New York City for the past nine years. For the last three years she has been a member of a think tank on algebra at Mathematics in the City. Many of the activities in this unit were field tested in her classroom. She has previously written about the subway investigation described in *Trades, Jumps and Stops: Early Algebra*, with Ed Wall and Cathy Fosnot, for *Connect* magazine (“Young Mathematicians at Work: Constructing Algebra in Grade Two”). She has also written a chapter for *Forever After: New York City Teachers on 9/11* (edited by Teachers College Press). She is a graduate of the University of Virginia and Bank Street College of Education. Prior to becoming a teacher, she performed with the Merce Cunningham Dance Company and the White Oak Dance Project.

Patricia Lent coauthored *Trades, Jumps, and Stops: Early Algebra* (Grades K–3).



### NINA LIU

Nina Liu has worked as a mathematics coach in New York City public schools for the last eight years. Before becoming a staff developer, she taught for nine years in early childhood classrooms, at P.S. 234 in Region 9 and at Pound House Children’s Center in Ann Arbor, Michigan. She has been involved with the Mathematics in the City project since 1996. She is a graduate of the University of Pennsylvania and Bank Street College of Education. Prior to becoming a teacher, she worked in magazine publishing. She lives in Brooklyn, New York, with her husband and two children.

Nina Liu coauthored *The Double Decker Bus: Early Addition and Subtraction* (Grades K–3) and *Organizing and Collecting: The Number System* (Grades K–3). Nina also coauthored the read aloud book *The Double Decker Bus*.



### CHRIS NATALE

As a classroom elementary teacher for many years, Chris Natale enjoys helping children make sense of mathematics. He is currently a Math Specialist for Port Washington, NY Public Schools. He also serves as an adjunct staff member for Bank Street College in New York City. Chris holds a Masters Degree in Elementary Education from Hofstra University and a Masters in Leadership in Math Education from Bank Street College. He has been involved with Mathematics in the City for over three years. He lives in New York City with his wife and two daughters.

Chris Natale coauthored *The Teachers’ Lounge: Place Value and Division* (Grades 3–5).



### JOHN MICHAEL SIEGFRIED

John Michael Siegfried (more commonly known as Zig among his friends) holds a BA degree in mathematics and chemistry from Juniata College in Huntingdon, PA and an MA degree in Mathematics from the University of California, Santa Barbara. For several years he worked for the Santa Barbara public schools helping children learn mathematics and co-taught pre- and inservice summer institutes at UCSB with Bill Jacob. He currently resides in San Diego where he is a Ph.D. candidate in the Mathematics and Science Education Program (MSED) administered jointly by the University of California, San Diego and San Diego State University.

John Michael Siegfried coauthored *The Mystery of the Meters: Decimals* (Grades 4–6).



### LYNN D. TARLOW

Lynn D. Tarlow is a professor of mathematics education at The City College of New York. She has extensive experience in teaching mathematics to students at all educational levels and in creating professional development programs for teachers and teacher educators. Dr. Tarlow is currently directing the Mathematics in the City professional development middle school initiative—Building Collaborative Communities of Practice. Her research interests lie in the study of students’ development of meaningful mathematical ideas and the teacher’s role in empowering them. She has authored or co-authored several books, articles, and papers on mathematics education and has delivered many invited national and international presentations about her research and work.

Lynn D. Tarlow coauthored *Exploring Parks and Playgrounds: Multiplication and Division of Fractions* (Grades 4–6).



### WILLEM UITTENBOGAARD

Willem Uittenbogaard is Professor of Mathematics Education at the Hogeschool Alkmaar—a preservice institute in the Netherlands—and a researcher at the Freudenthal Institute. With more than 35 years of experience in pre- and inservice development in the Netherlands and abroad, he is a frequent workshop leader with Cathy Fosnot. He was one of the co-founders of the Mathematics in the City program and spent two years in residence in New York City teaching at the center and working in New York City schools. He is now working as a researcher in a project called TalentPower, in which young children (3-5 years of age) can improve their skills in the fields of mathematics and science.

Willem Uittenbogaard coauthored *Resource Guide: Minilessons for Early Addition and Subtraction* (Grades K–3), *Resource Guide: Minilessons for Extending Addition and Subtraction* (Grades K–3), *Resource Guide: Minilessons for Early Multiplication and Division* (Grades 3–5), *Resource Guide: Minilessons for Extending Multiplication and Division* (Grades 3–5), and *Resource Guide: Minilessons for Operations with Fractions, Decimals, and Percents* (Grades 4–6).