## Contents

	Preface	vii
	Introduction	1
I	Part I: Experiences of Students in Encounters With Every Matters of Science and Mathematics	day
1	"Why Would Run Be in Speed?" Artifacts and Situated Actions in a Curricular Plan Stephen Monk	11
2	Mathematical Places Ricardo Nemirovsky	45
3	Developing Concepts of Justification and Proof in a Sixth-Grade Classroom Carrie Valentine, Thomas P. Carpenter, and Margaret Pligge	95
4	"Everyday" and "Scientific": Rethinking Dichotomies in Modes of Thinking in Science Learning Beth Warren, Mark Ogonowski, and Suzanne Pothier	119
P٤	art II: Actions of Teachers as They Participate in the Crea of Classroom Encounters With Everyday Matters of Science and Mathematics	ıtion
5	The Mathematics Behind the Graph: Discussions of Data Kay McClain	153

6	Creating Mathematics Stories: Learning to Explain in a Third-Grade Classroom Ellice Forman and Ellen Ansell	177	
7	Instructional Contexts That Support Students' Transition From Arithmetic to Algebraic Reasoning: Elements of Tasks and Culture Maria L. Blanton and James J. Kaput	211	
Part III: Concerns of Curriculum Designers as They Develop Activities Intended to Focus on Everyday Matters of Science and Mathematics			
8	Constructing a Learning Environment That Promotes Reinvention Ek Feijs	241	
9	Involving Students in Realistic Scientific Practice: Strategies for Laying Epistemological Groundwork Jennifer L. Cartier, Cynthia M. Passmore, Jim Stewart, and John P. Willauer	267	
10	"What Are We Going to Do Next?": Lesson Planning as a Resource for Teaching Ann S. Rosebery	299	
11	Exploration Zones: A Framework for Describing the Emergent Structure of Learning Activities Bruce L. Sherin, Flávio S. Azevedo, and Andrea A. diSessa	329	
	Author Index	367	
	Subject Index	373	