



O V E R V I E W

Investigating
**Multiplication
and Division**

Grades 3–5

Catherine Twomey Fosnot



firsthand
An imprint of Heinemann
A division of Reed Elsevier, Inc.
361 Hanover Street
Portsmouth, NH 03801-3912
firsthand.heinemann.com

Offices and agents throughout the world

ISBN 13: 978-0-325-10179-3
ISBN 10: 0-325-01079-X

© 2007 Catherine Twomey Fosnot

All rights reserved.

Except where indicated, no part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher, except by a reviewer, who may quote brief passages in a review.



The development of a portion of the material described within was supported in part by the National Science Foundation under Grant No. 9911841. Any opinions, findings, and conclusions or recommendations expressed in these materials are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Library of Congress Cataloging-in-Publication Data
CIP data is on file with the Library of Congress

Printed in the United States of America on acid-free paper

11 10 09 08 07 ML 1 2 3 4 5 6

Contents

Acknowledgments	4
Preface	7
Introducing <i>Contexts for Learning Mathematics</i>	7
Why We Wrote These Materials	8
Mathematics or Mathematizing?.....	8
The Role of Contexts	9
The Importance of Emergent Modeling	9
From Numeracy to Algebra	11
Our Teaching and Learning Philosophy	13
Depth versus Breadth	13
The Landscape of Learning	13
Strategies, Big Ideas, and Models.....	14
Learning as Development	15
Using the Materials	17
Description of Components.....	17
<i>Investigating Multiplication and Division Overview</i>	17
<i>Resources for Contexts for Learning Mathematics</i> CD-ROM	17
Unit Books with Companion Posters	17
Resource Guides	20
Using <i>Contexts for Learning Mathematics</i> with Your Curriculum	22
<i>Contexts for Learning Mathematics</i> Professional Development	23
Teaching and Learning in a Math Workshop	27
Overview and Description	27
Developing the Context	28
Supporting the Investigation	28
Preparing for the Math Congress	29
Facilitating the Math Congress	30
Integrating Minilessons, Games, and Routines	31
Time Frame	31
A Session Walk-Through	32
Establishing a Mathematical Community.....	39
Final Words.....	41
References	42
