

# Chapters and Questions

## **One**     *Preparing for a Successful Year*

- 1     What's the best way to get a handle on all the math I need to teach during the year?    1
- 2     What's important to know about the national math standards?    2
- 3     Since my instructional materials give me the direction I need for planning day-to-day lessons, why do I need to give attention to national or state standards?    4
- 4     What's important for me to think about when planning instruction?    6
- 5     How can I be sure that my instruction promotes students' learning?    7
- 6     How do I find out if units or specific lessons will be appropriate for my students?    8
- 7     How should I prepare students for the tests that the district or state requires?    9
- 8     Help! I'm switching from fifth grade to first grade. What advice can you give me?    10
- 9     Help! I'm switching from first grade to fifth grade. What advice can you give me?    12
- 10    Some of my students say they hate math. What should I do?    14
- 11    What field trips can I plan to help my students see math in action?    15

## **Two**     *Planning Effective Math Instruction*

- 12    How can I structure my daily math period?    16
- 13    What kinds of questions best support math learning?    17
- 14    I know it's important for students to understand what they're learning. But sometimes I just want to tell them how to do something. Is this all right?    18

- 15 How can I assess my students to find out if they're learning what I'm teaching? 20
- 16 I'd like to try some one-on-one interviews to assess my students. How can I do this during class time? 21
- 17 What should I do if I plan lessons that are too hard or too easy? 23
- 18 I've heard that when assigning a problem, first you should have volunteers discuss how they might go about figuring it out. Doesn't this give too much away for the others? 24
- 19 What about cooperative groups in math class—do they really help? 24
- 20 How can I decide whether the best approach for a lesson is for students to work individually, with partners, in small groups, or as a whole class? 26
- 21 After I give my class directions for an activity, it seems that there's a flurry of hands from students who want assistance. What can I do about this? 27
- 22 Some students always finish assignments quickly. What should I have them do? 28
- 23 I spend an hour planning a classroom activity or assignment that takes my students five minutes to complete. How can I fix this picture? 29
- 24 It seems important to be organized and have all the details of a lesson planned beforehand, but I feel that I'm doing too much planning. How can I change this? 30

### **Three** *Leading Class Discussions*

- 25 How do I establish a classroom atmosphere that encourages students to participate in class discussions? 32
- 26 Are there general guidelines that can help me lead better math discussions? 33
- 27 What's a good way to introduce discussion guidelines to my class? 34
- 28 My students ask me why they have to explain their thinking all the time. How should I answer this? 36
- 29 Sometimes when I ask children to explain their thinking, they say, "I just know." Then what should I do? 37
- 30 I'm nervous that I won't be able to understand children when they're explaining their ideas. What tips can you give me? 37
- 31 Can't class discussions be too confusing for some students? I've seen struggling students who barely grasp one strategy and just fog out when others give their ideas. 38

- 32 I need help with responding to students when they give wrong answers in a way that won't turn them off from math. What suggestions can you give me? 39
- 33 How can I keep from calling on the same students all of the time? In class discussions, it always seems to be the same students who raise their hands to answer. 40

**Four** *Number Sense and the Basics*

- 34 I hear a lot about students needing to know “the basics.” What do the basics really include? 42
- 35 How can I help students memorize the addition and multiplication tables? 43
- 36 Should I use timed tests? 45
- 37 How much time should I devote to mental math? 45
- 38 I hear a lot about the importance of number sense. What exactly is number sense? How does it relate to basic facts? 47
- 39 Do you have any suggestions for assessing my students' number sense? 47
- 40 Can you really teach number sense? 48

**Five** *Using Manipulative Materials*

- 41 What are manipulative materials? 51
- 42 How can I help parents understand why manipulative materials are important for helping their children learn math? I worry that they think we're just playing during math time. 52
- 43 What guidelines should I set with my class about using manipulatives? 53
- 44 What tips do you have for classes that have never used manipulatives for math before? 54
- 45 How often should I use manipulatives in my math teaching? 55
- 46 What about cutting paper into shapes—can't paper be seen as a manipulative, and a much cheaper one than wooden or plastic blocks? 57
- 47 How many different materials do I need? Can I start with just one or two materials? 57
- 48 I don't have enough of any material to use with my whole class. What can I do? 58
- 49 I know that manipulatives can help my slower learners, but do my better math students really need them? 58
- 50 I know that older students benefit from using manipulatives, but I worry they'll complain that the materials are too babyish. Do you have any hints for this? 59

- 51 What can I do for students who can do what I ask with the materials, but still have trouble with textbook work? 60

**Six** *Dealing with Calculators*

- 52 Should I let my students use calculators? If so, when? 61  
53 How can I best teach children how to use a calculator? 62  
54 The students in my class bring their own calculators to school, so they all have different kinds. What should I do about dealing with the differences? 63

**Seven** *Incorporating Writing into Math Class*

- 55 How can I get my students to explain their work and their answers in writing? 65  
56 Is it useful for students to keep a math notebook, journal, or log? 66  
57 Do you have any tips for managing students' math notebooks in the classroom? 67  
58 I'm interested in examples of how teachers actually use math journals in their classes. Can you give some ideas? 68  
59 What's a good system for keeping track of student work? 69  
60 What about worksheets—when do you use these? 69  
61 I've been pushing my students to write more complete explanations when they're solving problems. How should I react to their work? 70  
62 Should I make notes when I read students' work so that I can remember what's important? 72  
63 If I don't have time to give specific feedback to children's papers, isn't it okay, or even better, to indicate "good job" or "nice thinking" or some other general comment than to say nothing? 73  
64 A friend has her students write letters to explain their reasoning so that they feel their writing in math class has a purpose. What do you think about this idea? 74  
65 No matter how much practice my students have with writing, they still grumble and resist when I give a writing assignment. How should I respond to their complaints? 75  
66 On some of the children's writing assignments in math, the spelling and grammar errors are glaring. Should I have students correct mistakes before I send their papers home? 76  
67 What's a portfolio? Should I have my students create math portfolios? 77

**Eight** *Linking Math and Literature*

- 68 Why is it valuable to spend math instructional time using children's books? 79

- 69 After I read a book to my class, there are always several children who want to borrow the book and take it home to share. How can I help parents use the book to its mathematical advantage? 80
- 70 I can see how children’s books are appropriate for young children, but I teach sixth graders. What sorts of books work for older students? 81

**Nine** *The First Week of School*

- 71 How can I find out how my students feel about math, and why should I? 83
- 72 Okay, I have a sense of how my students feel about math. Now what should I communicate to my students about math? 86
- 73 How can I find out what my students already understand? 86
- 74 What classroom guidelines should I set up at the beginning of the year? 88
- 75 Can you recommend favorite lessons for the beginning of the year that help establish and reinforce classroom guidelines? 89
- 76 Should I communicate with parents right away? If so, what should I say? 91

**Ten** *Connecting with Parents*

- 77 How should I prepare for back-to-school night? 92
- 78 Should I prepare handouts to give parents on back-to-school night? If so, what should they be? 95
- 79 I know some of my student’ parents dislike math. What advice can I give them so they don’t pass their attitude on to their children? 96
- 80 Parents want to know how they can help their children, but some are afraid that they won’t know how or will do the wrong thing. How can I address this at back-to-school night? 97
- 81 My students’ parents are mostly concerned about the basics. How should I address this concern? 98
- 82 What should I tell parents about math homework? 100
- 83 A colleague told me that parents sometimes ask about “new math” and the question often brings snickers from others. What do they mean by “new math” and how should I respond to such questions? 100
- 84 How much math work should I send home? 102
- 85 Parent conferences are coming. What should I have ready? 102
- 86 How can I begin a parent conference? Should I ask parents what questions they have? 103
- 87 What should I say if parents want to know how they can help their child in math? 103

<b>Eleven</b>	<i>Handling Homework</i>
88	What are the purposes of math homework? 105
89	What options are there for dealing with homework that the children did the night before? 106
90	What should I do about children who don't do their math homework? 108
91	What should I tell parents about helping their children with homework assignments? 109
<b>Twelve</b>	<i>Preparing for Administrator Observations</i>
92	How can I plan for my principal's visit? 111
93	My administrator scheduled a visitation and we're in the middle of a unit and working on projects. I worry that the administrator won't see a "real" lesson. What can I do? 112
94	I want to show my administrator how much my students know. What's the best way to do this? 113
95	Is there anything I should avoid when my principal is observing me? If so, what? 113
96	I made my lesson plan for the observation before I knew where my kids would really be mathematically, so my revised lesson won't match the plan I gave my administrator. What should I do now? 114
97	What can I expect at the post-observation conference? 114
<b>Thirteen</b>	<i>Making Plans for Substitutes</i>
98	What can I do to set the scene for a substitute? 116
99	I worry that a substitute will have difficulty following my lesson plan or will confuse my students. Should I be concerned about this? 118
100	What are specific examples of learning activities that are good for substitute days? 118
101	How should I follow up with the class after being absent? 120