

Were you to move from one city's school system to another or even from one school to another in the same system, you would probably find a different curriculum, a different environment, and different expectations. But, more than likely, you would find homework.

Three groups of people have a big stake in homework—teachers, parents, and students. Unfortunately, they all have different perspectives on the subject. As in the story of the blind mice who examine different parts of an elephant and come to different conclusions (see Ed Young's *Seven Blind Mice* for an example of this ancient tale), we all look at homework quite differently. Not surprisingly, it's the rare homework assignment that meets everyone's goals.

An article by Jianzhong Xu and Lyn Corno (1998a) crystallizes much of the murky tension surrounding homework. Roughly half of the teachers these researchers consulted believe that the major reason homework is given is to reinforce what is being learned in school: the school day simply isn't long enough, and homework is an opportunity to extend what students are learning. Teachers also believe that homework develops a sense of responsibility in children. (I identify with these attitudes, although I hope the potential of homework is broader than that of simply reinforcing my lesson plans.) The parents these researchers surveyed agree that homework reinforces school learning, both by deepening understanding and integrating new learning. However, they feel that one of homework's greatest purposes, regardless of how painful, is to help their children be independent. (The current spate of articles by parents about their unwanted, unexpected, and unrewarding roles as homework partners provides an ironic counterpoint here!) Parents see learning how to do homework as an important prerequisite for success in life and later schooling. (Hmm! I identify with that as well.) The children Xu and Corno spoke with report that they think homework is assigned to help them understand better what they have learned in class: if they do their

homework, they will learn more, write better, and “do math better.” They feel another major reason for doing homework is that it is important to their parents and their teachers. (Seeking adult approval is a big deal for children.)

Since parents, teachers, and children direct somewhat different lenses toward homework and voice different reasons for doing it, it’s no wonder homework is controversial. How can homework simultaneously fulfill all these missions? And how do we begin to evaluate the worth and success of homework if we are using three different sets of criteria?

Since homework creates tension in so many homes, I’ve synthesized a list of ways that have been suggested for parents to help their children with homework (Appendix A: What You Can Do to Help Your Child With Math Homework This Year). You may want to share this list with the parents of your students or generate one of your own based on the aptitudes, styles, and temperaments of the children in your classroom. Additional appendixes list the characteristics of good homework, highlight the variables associated with homework, suggest questions teachers should ask about their homework assignments, summarize research findings regarding homework, suggest resources for math homework ideas, and direct you to suppliers of math education materials.

Our practice needs to be informed by research but also by experience. It is in that spirit that I share examples of the homework I have assigned and my students’ often remarkable responses. I offer here a repertoire of problems and experiences that have managed to intrigue children and garner the interest of their parents. All the assignments were made in upper elementary classrooms—grades 4, 5, and 6—and are geared toward mathematical discovery.

The National Middle School Association suggests that there are four categories of homework: assignments geared toward practice, assignments that prepare students for upcoming lessons, extension assignments that require abstract thinking skills, and creative assignments that encompass many skills and ideas. I found these categories particularly useful and have organized this book around them, devoting a chapter to each category.

The first time I tried many of these activities, they did not yield the kind of mathematical thinking I had hoped for. Tinkering with ideas is as important as adjusting ingredients in a recipe. These lessons should be tailored to your class, your curriculum, your temperament, and your interests. They are meant to whet your appetite for what is possible, to inspire you, and to reaffirm the importance of teaching. Encouraging children to think in inquiring, creative, and critical ways as they enter their second decade will give them the firm foundation of computation and number sense they need.