

# Families ASK

## Take-Home Page

### Families often ask about timed tests:

*My child never does timed tests in math class. I thought that speed and getting right answers quickly were important in mathematics.*

Consider the following reply:

Middle school is a time for children to broaden their understanding of mathematics and to develop persistence and flexibility in their approach to mathematics problems. Adult mathematicians often spend weeks, months, or even years on a single problem. Students need to learn the value of continuing to work on a problem until they finally come up with answers that appear to be reasonable, correct, and useful. They need to have experience in defending their answers, justifying the steps they took, and communicating their findings clearly. All of this is a matter not of speed but of dedication. In *About Teaching Mathematics*, Marilyn Burns writes the following:

What about using timed tests to help children learn their basic facts? This makes no instructional sense. Children who perform well under time pressure display their skills. Children who have difficulty with skills, or who work more slowly, run the risk of reinforcing wrong learning under pressure. In addition, children can become fearful and negative toward their math learning.

Also, timed tests do not measure children's understanding. . . . It doesn't ensure that students will be able to use the facts in problem-solving situations. Furthermore, it conveys to children that memorizing is the way to mathematical power, rather than learning to think and reason to figure out answers. (2000, p. 157)

Most middle school students have memorized the hundred or so most useful single-digit addition, subtraction, multiplication, and division facts. If not, this task can be accomplished without putting students through the anxiety of timed tests. Of course, if a child dearly loves to do timed tests and glories in beating his or her previous times, this endeavor can be enjoyed at home in the way that any other race or game is enjoyed, but it is not essential to doing mathematics.

At the heart of mathematics teaching is the view that students learn when they encounter problems in context; act on physical objects; use appropriate tools; and talk about, and reflect on, mathematical ideas. This view is described in *Everybody Counts* by the National Research Council (1989):

Educational research offers compelling evidence that students learn mathematics well only when they construct their own mathematical understanding. . . . This happens most readily when students work in groups, engage in discussion, make presentations, and in other ways take charge of their own learning. (pp. 58–59)

Students need to know the single-digit addition, subtraction, multiplication, and division facts, but timed tests are not necessary and often do more harm than good. The study of mathematics goes well beyond getting simple answers quickly.

### References

- Burns, Marilyn. *About Teaching Mathematics*. Sausalito, Calif.: Math Solutions Publications, 2000.
- National Research Council. *Everybody Counts: A Report to the Nation on the Future of Mathematics Education*. Washington, D.C.: National Academy Press, 1989.

From "The Need for Speed in Mathematics" by Kay Gilliland in the December 2001 issue of

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