

INFORMATION FOR PARENTS

Grade 5 Math Facts Philosophy

The goal of the math facts strand in *Math Trailblazers* is for students to learn the basic facts efficiently, gain fluency with their use, and retain that fluency over time. In fifth grade students review the multiplication and division facts.

A large body of research supports an approach in which students develop strategies for figuring out the facts rather than relying solely on rote memorization. This not only leads to more effective learning and better retention, but also to development of mental math skills which will be useful throughout life. Therefore, the teaching and assessment of the basic facts in *Math Trailblazers* is characterized by the following elements:

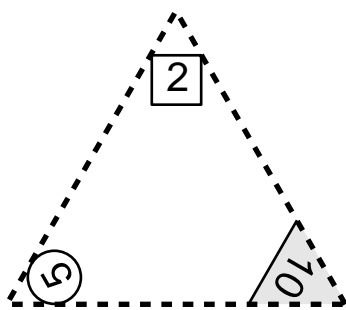
Use of Strategies. In earlier grades students first approached the basic facts as problems to be solved rather than as facts to be memorized. In all grades we encourage the use of strategies to find facts and de-emphasize rote memorization, so students become confident that they can find answers to fact problems that they do not immediately recall. In this way, students learn that math is more than memorizing facts and rules which “you either get or you don’t.”

Distributed Review of the Facts. Students study small groups of facts which can be found using similar strategies. In fifth grade, the multiplication and division facts are divided into five groups. During the first semester students review these facts, one group at a time. They practice both the multiplication and division facts in each group. Students use flash cards to review groups of facts at home. Using this systematic approach, they build upon the fluency with the multiplication and the division facts gained in fourth grade.

Practice in Context. Students also review the facts as they use them to solve problems in the labs, activities, and games.

Appropriate Assessment. Students are regularly assessed to determine whether they can find answers to fact problems quickly and accurately and whether they can retain this skill over time. A short quiz follows the study and review of each group of facts. Each student records his or her progress on “Facts I Know” charts and determines which facts he or she still needs to study.

Facts Will Not Act as Gatekeepers. Students are not prevented from learning more complex mathematics because they cannot perform well on fact tests. Use of strategies, calculators, and printed multiplication tables allows students to continue to work on interesting problems and experiments while they are learning the facts.



A fact family represented by a Triangle Flash Card.

$$\begin{aligned}2 \times 5 &= 10 \\5 \times 2 &= 10 \\10 \div 2 &= 5 \\10 \div 5 &= 2\end{aligned}$$