

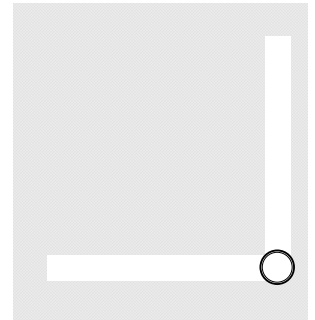


## Dear Family,

Your child has studied multiplication and division in past years but may not have reached total mastery. Unit 1 of *Math Expressions* guides students as they deepen and extend their knowledge. The main goals of this unit are

- (1) to help students gain speed and accuracy in multiplying and dividing single-digit numbers
- (2) to help students see how multiplication and division relate to real-world situations
- (3) to introduce algebraic expressions and equations that feature these operations
- (4) to begin exploring proportions.

For the first goal, students discover patterns in the multiplication table that strengthen their understanding and also serve as memory aids. For example, knowing that the products of 9 form the pattern  $10 - 1$ ,  $20 - 2$ ,  $30 - 3$  (9, 18, 27) and so on is a memory aid, and knowing that the digits add up to 9 is a useful check. Students are given a variety of special materials that help them practice effectively. One tool that you will see coming home is the Target, which is used for individual practice. Ask your child to explain how it works, and encourage him or her to use it for a few minutes each day to practice those facts that still need to be mastered. Also have your child use the other practice materials that will come home.



Target

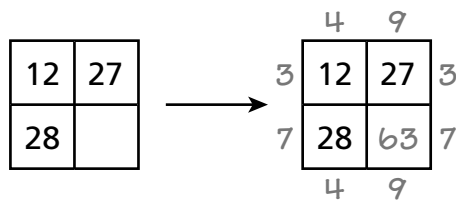
The second goal, applying multiplication and division to real-world situations, is accomplished mainly through word problems. The various types of situations are described on the first page of your child's Student Activity Book. These include area, arrays, equal groups, comparisons, and combinations. Multiplication and division are not separated, but are treated together from the start so that students can see how these operations relate to each other.

Some real-world situations are a little too complex to be solved without algebra. The third goal, using simple algebraic methods, is shown by a problem such as this:

*A truck carried 6 chairs and a table weighing 40 pounds. Altogether the chairs and table weigh 100 pounds. How much does each chair weigh?*

*Equation:*  
 $6 \cdot c + 40 = 100$

Factor Puzzles are introduced as a way to practice multiplications and divisions. A Factor Puzzle shows 3 of the 4 numbers found when 2 rows and 2 columns of the multiplication table intersect (see below). Students write outside the Factor Puzzle the rows and columns of the multiplication table, and so can find the unknown fourth number.



Students enjoy solving Factor Puzzles, and they can also create them. The Factor Puzzles show number pairs in proportional relationships. Students will work with these relationships again when they do equivalent fractions, ratios, and similarity geometry.

If you have any questions or comments, please contact me.

*Sincerely,  
Your child's teacher*