Grade 4 Important Math Information
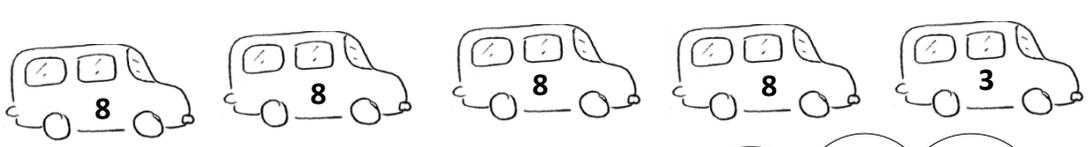
"Smaller Number Multiplication and Division"

Dear Family,

Our class is beginning a unit of study in mathematics called *Smaller Number Multiplication and Division.* During this unit of study, students will build on the work they did in the first unit of study, *Basic Multiplication and Multiplicative Comparison*. Students will be solving multiplication and division problems and problems about factors, multiples, and number relationships. The specific learning goals your student will be working toward are listed below with examples of student work showing understanding of each learning goal.

Learning Goal: Multiply two-digit numbers by one-digit numbers and small two-digit numbers and be able to illustrate and explain the calculations with arrays, models, and equations.

Example Problem	Example Student Solution
37 X 6	 $6 \times 37 = (6 \times 30) + (6 \times 7)$ $6 \times 37 = 180 + 42$ $6 \times 37 = 222$ *"I know that I can break 37 apart into 30 and 7. This makes it easier for me to multiply by 6."*

Learning Goal: Divide two-digit numbers by one-digit numbers and be able to illustrate and explain the calculations with arrays, models, and equations.

Example Problem	Example Student Solution
The high school band is taking vans to their performance. Each van can fit 8 musicians. If there are 35 musicians, how many vans do they need?	 *"I know that the band would need 5 vans. 4 of the vans filled with 8 students each will fit a total of 32 musicians. There are still 3 musicians left that will need to go in a fifth van."* $35 \div 8 = 4$ with a remainder of 3

Learning Goal: Find multiples of numbers.	
Example Problem	**Example Student Solutions**
Find the first four multiples of 8. *"I can think of buying CDs."*	A store sells CDs for $8 each. 1 CD costs $8.　2 CDs cost $16.　3 CDs cost $24.　4 CDs cost $32. The prices for buying CDs are multiples of 8: $8, $16, $24, $32, … So, the first multiples of 8 are 8, 16, 24, and 32 *"I know that the **multiples** of a number are the numbers that result from multiplying a given whole number by the set of whole numbers."*

Mathematical Thinking and Practices Learning Goal:
Solve problems accurately and be able to communicate his/her thinking precisely.

Things you can do at home to support your child throughout this unit of study:

Practicing Multiplcation Facts: Continue to use any opportunity to practice multiplication facts up to 12x12.

Modeling Division Situations: At school, students are solving word problems that represent various types of division situations. Encourage your child to help you solve situations that come up in your daily activities. Here are some examples: "I baked a batch of 48 cookies for the bake sale. I need to put them into bags of 5. How many bags can I fill with 5 cookies? What can I do with the extra cookies?" "There are 98 players who will play baseball on 7 teams. How many players will be on each team if the teams need to be as even as possible.

How Did You Solve That?: Ask your child to tell you about how he or she is multiplying and dividing. Show that you are interested in these approaches. Because these strategies may be unfamiliar to you, listen carefully to your child's explanation; you might even try to do a problem or two, using the new strategy. Let your child be the teacher!

Math and Literature: Here are some suggestions of children's books contain relevant mathematical ideas about multiplication. Math and Literature: Look for these books at your local library.
- Anno's Mysterious Multiplying Jar by Masaichiro Anno.
- Grapes of Math by Greg Tang
- Ten Times Better by Richard Michelson