LETTER HOME

Big Numbers

Dear Family Member,

Big numbers occur every day in real life. Newspapers often report government spending in the billions. The population of the United States is in the hundreds of millions while that of China is well over a billion. The activities in this unit will help students better understand the size of numbers and how to work with them.

Two major themes of this unit are number sense and computation: getting an idea of how large these numbers are and learning how to solve problems involving big numbers. Students use place value charts, number lines, and number sentences to represent large numbers. They review ways to multiply numbers that are multiples of ten and rounding to estimate answers to problems involving multiplication of large numbers.

Students also explore using exponents and what it means to raise a number to a power.

Students estimate how many pennies they would have to stack up to reach the moon.

You can help your child learn more about big numbers with the following activities:

Look for Big Numbers. Read large numbers you may come across in the news or in your daily life.

Compare and Order Big Numbers. Compare large numbers you find. Ask your child to identify either the largest or smallest number. Make a list of numbers you find and put them in order from smallest to largest.

Estimate Large Numbers. Practice estimating large numbers, such as the number of cans of soda that can fit in the back of a delivery truck.

Play the Spin and Read Big Numbers Game. Ask your child to play the *Spin and Read Big Numbers Game*. In this game, your child will practice reading and writing big numbers. At the end of four rounds, players add their numbers. The player with the largest sum wins the game.

Math Facts and Mental Math

This unit continues the systematic review and assessment of the multiplication and division facts.

Multiplication Facts. Students review the multiplication facts for the 2s and 3s to maintain and increase fluency and to learn to apply multiplication strategies to larger numbers.

You can help your child review these facts using the flash cards that are sent home or by making a set of flash cards from index cards or scrap paper. Study facts in small groups each night and focus on only those facts your child needs to learn. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For the Facts I Need to Learn, work on strategies for figuring them out. If there are many multiplication facts that your child still needs to learn, divide them into smaller groups of facts. Choose groups of facts that lend themselves to the use of the same strategy and focus on one group at a time.

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency.

For Facts I Know Quickly, help your child use mental math strategies to multiply 10s and 100s. You can also help your child extend and deepen their understanding by asking him or her to choose a multiplication fact that was difficult to learn and describe the strategies used for learning the fact.

Division Facts. Students review the division facts for 2s and 3s to maintain and increase fluency and to learn to apply multiplication and division strategies to larger numbers.

You can help your child review the division facts using the flash cards that are sent home or by making a set of flash cards form index cards or scrap paper. Study facts in small groups each night. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For the Facts I Need to Learn, work on strategies for figuring them out. Good strategies include:

Skip counting. To solve $18 \div 2$, skip count: 2, 4, 6, 8, 10, 12, 14, 16, 18 and count the skips. It took 9 skips to land on 18. $18 \div 2 = 9$.
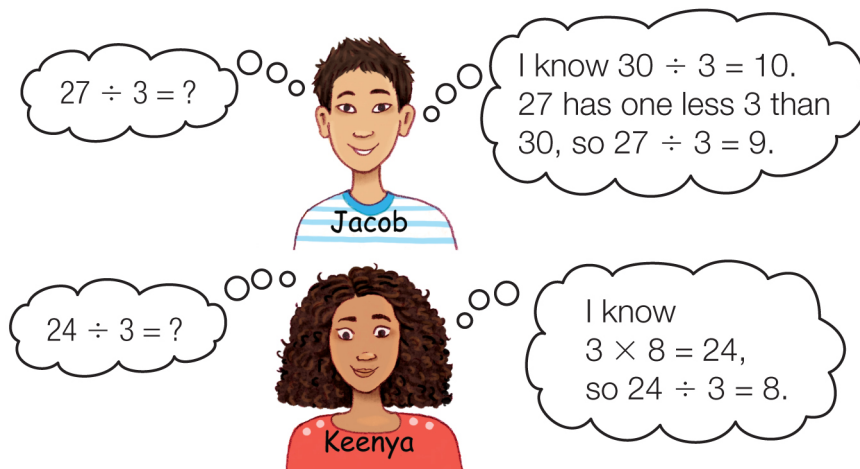
Reasoning from known facts. To solve $24 \div 3$: $12 \div 3 = 4$, so $24 \div 3$ is double 4. $24 \div 3 = 8$.

Turn-around facts. $27 \div 3 = 9$ because I know $9 \times 3 = 27$.

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency.

For Facts I Know Quickly, help your child use mental math strategies to divide 10s and 100s:
$400 \div 2 = 200$; $900 \div 3 = 30$; $16,000 \div 200 = 80$

27 ÷ 3 = ?

I know $30 \div 3 = 10$. 27 has one less 3 than 30, so $27 \div 3 = 9$.

Jacob

24 ÷ 3 = ?

I know $3 \times 8 = 24$, so $24 \div 3 = 8$.

Keenya

Thank you for taking time to talk with your child about what he or she is doing in math.

Sincerely,