

GRADE 6

Chapter 1

WHAT WE ARE LEARNING

Whole Number Applications

VOCABULARY

Here are some of the vocabulary words we use in class:

Clustering A method used to estimate a sum when all addends are about the same

Underestimate An estimate that is less than the exact answer

Overestimate An estimate that is greater than the exact answer

Date

Dear Family,

Your child will be using place value to estimate and find exact answers to addition, subtraction, multiplication, and division problems.

To understand numbers through the billions, your child will identify values of digits, compare numbers, and order numbers.

9,456,352,170

The value of the digit 4 is 400,000,000, or four hundred million.

$9,456,352,170 > 9,356,352,170$

9,456,352,170 is greater than 9,356,352,170

$518,237,001,540 > 9,456,352,170 > 9,356,352,170$

The numbers are in order from greatest to least.

Your child will learn that it is good practice to estimate before computing so that he or she can strive for a reasonable answer. At first your child might need to write down the estimation step. Later your child may be able to do the estimation step in his or her head.

To multiply, your child begins by rounding both factors to estimate a reasonable answer. Then your child computes to find the exact answer. If the exact answer is not close to the estimate, then your child knows to look for errors. Notice how place value determines the position of subtotals in the multiplication problem.

$$\begin{array}{r} 45 \\ \times 71 \\ \hline \end{array} \rightarrow \begin{array}{r} 50 \\ \times 70 \\ \hline 3,500 \end{array} \quad \begin{array}{r} 45 \\ \times 71 \\ \hline 45 \\ + 315 \\ \hline 3,195 \end{array}$$

The answer is reasonable because it is close to the estimate.

In division, your child may estimate by either rounding or by choosing close numbers that represent a basic fact, for example, $27 \div 3 = 9$.

$$29 \overline{)2,845} \rightarrow 30 \overline{)3,000} \begin{array}{r} 100 \\ \hline \end{array}$$

or

$$29 \overline{)2,845} \rightarrow 30 \overline{)2,700} \begin{array}{r} 90 \\ \hline \end{array}$$

The answer is reasonable because it is close to either estimate.

$$\begin{array}{r} 98 \text{ r}3 \\ 29 \overline{)2,845} \\ \underline{- 261} \downarrow \\ 235 \\ \underline{- 232} \\ 3 \end{array}$$

Use these examples and the pages that follow to help your child practice estimating and computing with whole numbers.

Sincerely,

Name _____

Whole Number Applications

Write the value of the bold digit.

1. 5,478,021

2. 36,491,251

3. 189,345

4. 5,980,234,167

Compare. Write $<$ or $>$.

5. 26 billion 16 billion

6. 24,568,012 24,658,012

7. 180,436 108,436

8. 6,523,498,016 6,523,498,061

Estimate.

9.
$$\begin{array}{r} 23,149 \\ + 18,976 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 6,827 \\ + 5,012 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 9,821 \\ - 3,780 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 68,213 \\ - 56,416 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 42,689 \\ - 29,423 \\ \hline \end{array}$$

14. 513×49

15. 382×5

16. $732 \div 9$

17. $609 \div 17$

18. $241 \div 62$

Find the sum or difference.

19.
$$\begin{array}{r} 230 \\ 24,152 \\ + 179,624 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 10,879 \\ - 6,893 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 15,967 \\ - 10,898 \\ \hline \end{array}$$

22.
$$\begin{array}{r} 245,753 \\ + 89,620 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 47,250 \\ - 18,792 \\ \hline \end{array}$$

Multiply or divide.

24.
$$\begin{array}{r} 725 \\ \times 23 \\ \hline \end{array}$$

25.
$$\begin{array}{r} 506 \\ \times 128 \\ \hline \end{array}$$

26. $24 \overline{)6,856}$

27. $45 \overline{)3,136}$

28.
$$\begin{array}{r} 5,932 \\ \times 74 \\ \hline \end{array}$$

They Are The Same!

Play Concentration.

Directions:

1. Cut out the cards at the bottom of the page.
2. Mix up the cards. Place them face down in an array.
3. The first player turns over two cards. If the two cards have the same answer, the player keeps them. If they do not, the player puts the cards back in the same place.
4. Players take turns turning over two cards and trying to make pairs.
5. The game is over when all of the cards are gone.
6. The person with the most pairs at the end of the game is the winner.

Hint The common answers are 10; 50; 500; 1,000; 5,000; 10,000; 50,000; and 100,000. Think about how you can use estimation and mental math to help you find the pairs.

$43 \overline{)430}$	$\begin{array}{r} 836 \\ - 826 \\ \hline \end{array}$	$25 \overline{)1,250}$	$\begin{array}{r} 51,763 \\ - 51,713 \\ \hline \end{array}$
$32 \overline{)16,000}$	$\begin{array}{r} 192 \\ + 308 \\ \hline \end{array}$	$\begin{array}{r} 632 \\ + 368 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ \times 40 \\ \hline \end{array}$
$\begin{array}{r} 4,675 \\ + 5,325 \\ \hline \end{array}$	$\begin{array}{r} 200 \\ \times 50 \\ \hline \end{array}$	$\begin{array}{r} 125 \\ \times 40 \\ \hline \end{array}$	$12 \overline{)60,000}$
$\begin{array}{r} 85,643 \\ - 35,643 \\ \hline \end{array}$	$\begin{array}{r} 6,250 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 12,500 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 25,379 \\ + 74,621 \\ \hline \end{array}$