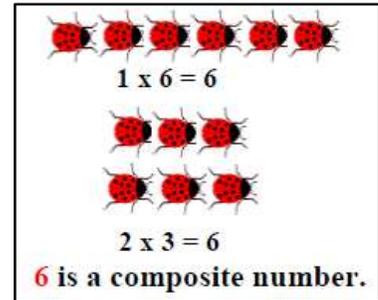


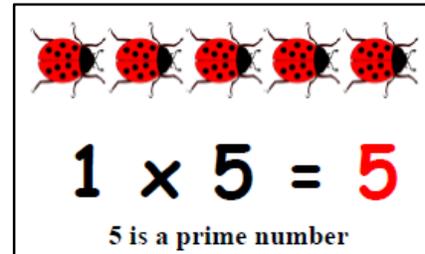
Estimation, Factor, & Multiple Skills

1. VOCABULARY

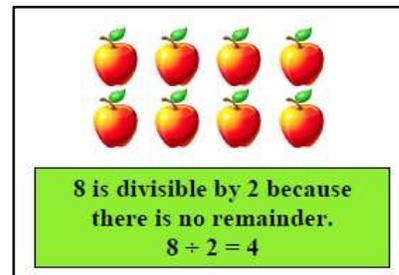
composite number– a number greater than 0 that has more than two different factors



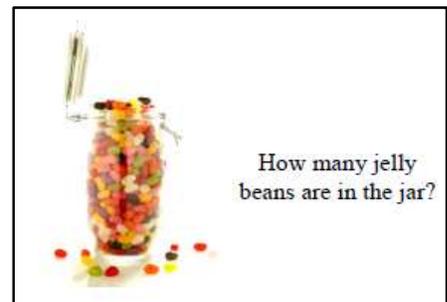
prime number – a whole number greater than 0 that has **exactly** two different factors; 1 and itself



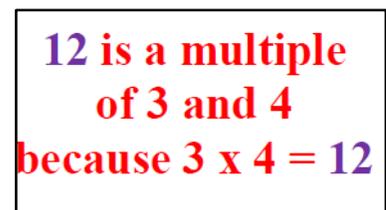
divisible – a number is divisible by another number if the quotient does not have a remainder



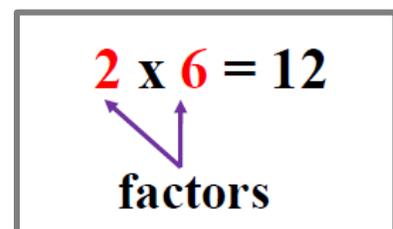
estimate – to find a number close to an exact amount; an estimate tells *about* how much or *about* how many
(Example: 375 + 206 is about 600)



multiple – a product of a given whole number and any other whole number



factor – the whole numbers that are multiplied to get a product



2. Round numbers through 1,000,000 to any place.

Round to the nearest ten thousand.

1. Underline the place that you are rounding.
2. Circle the number in the place to the right.
3. Use that number to decide whether to round the underlined number UP or DOWN


round
down **40,000**

3. Estimate answers to addition, subtraction and multiplication problems.

(Use the highest place value the numbers have in common)

$\begin{array}{r} 18,726 \\ + 6,451 \\ \hline \end{array}$	\longrightarrow	$\begin{array}{r} 19,000 \\ + 6,000 \\ \hline 25,000 \end{array}$
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$\begin{array}{r} 31,540 \\ - 24,622 \\ \hline \end{array}$	\longrightarrow	$\begin{array}{r} 30,000 \\ - 20,000 \\ \hline 10,000 \end{array}$
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For multiplication, you only need to round the larger factor. In 4th grade, they only need to estimate a multiplication problem that uses a 1-digit number as a factor.

$\begin{array}{r} 498 \\ \times 2 \\ \hline \end{array}$	\longrightarrow	$\begin{array}{r} 500 \\ \times 2 \\ \hline 1,000 \end{array}$
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4. Estimate quotients using compatible numbers. (Think *basic facts*)

<p>Actual</p> $340 \div 4 = \underline{\quad}$
<p>Estimate</p> $320 \div 4 = \underline{80}$

To estimate a quotient, you must look at the dividend and divisor to look for a basic fact.

For example when looking at 340 and 4, you notice that 340 is close to 320 which would be divisible by 4. This could be using the basic fact $32 \div 4 = 8$.

5. Find all the factors of a whole number.



$$1 \times 18 = 18$$

$$2 \times 9 = 18$$

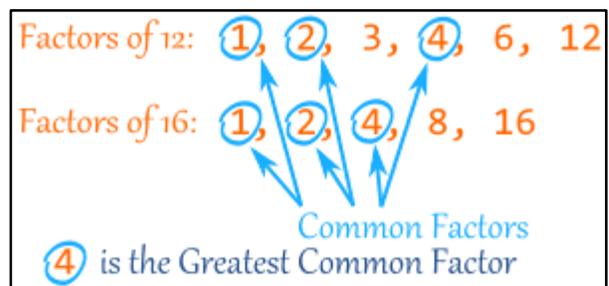
$$3 \times 6 = 18$$

So the factors of 18 are: 1, 2, 3, 6, 9, and 18.

6. Find the greatest common factor between two or more numbers.

Greatest Common Factor of 12 and 16

1. Find all the **Factors** of each number
2. Circle the **Common** factors
3. Choose the **Greatest** of those



7. List the multiples of a number.

Some multiples of 6 are: 6, 12, 18, 24, 30, 36...

Some multiples of 24 are: 24, 48, 72, 96...

*Multiples of a number always start with itself because that number times 1 is itself.

8. Find the least common multiple (LCM) between two or more numbers.

Multiples of 3
3, 6, 9, 12, **15**, 18, 21, 24, 27, 30, ...

Multiples of 5
5, 10, **15**, 20, 25, 30, 35, 40, 45, 50, ...

Least Common Multiple (LCM) = 15

9. Use the divisibility rules to know whether a number is divisible by 1 through 9.

1	All numbers are divisible by 1.
2	All even numbers are divisible by 2.
3	If the sum of the digits in a number is divisible by 3, the entire number is also.
4	When looking at the last two digits of a number, if that is divisible by 4, the entire number is also.
5	All numbers ending in 0 or 5 are divisible by 5.
6	All numbers divisible by both 2 & 3 are also divisible by 6.
7	Start by doubling the last digit in a number. Subtract your answer from the other digits left over in the original number. If that answer is divisible by 7, then the entire number is also.
8	When looking at the last three digits of a number, if that is divisible by 8, the entire number is also.
9	If the sum of the digits in a number is divisible by 9, the entire number is also.
10	All numbers ending in 0 are divisible by 10.
Zero Rules	If a number ends in one zero, then it is divisible by 2. If a number ends in two zeros, then it is divisible by 2 & 4. If a number ends in three zeros, then it is divisible by 2, 4, & 8.

***These are the basic understandings that your child should be learning in Chapter 2. However, they will need to apply these skills to more challenging problems, as well as in word problems.*