

Grade 6 Mathematics Unit Preview

Quarter 1: Number Relationships and Computation (Number Theory)

Objectives: (Your student will be able to)

- **Identify and describe the characteristics of numbers divisible by 2, 3, 4, 5, 6, 9, and 10.** For example, numbers are divisible by 2 when the ones place is even; divisible by 3 when the sum of the digits in the number is divisible by 3; divisible by 4 when the last two digits are divisible by 4; divisible by 5 when the ones place is 0 or 5; divisible by 6 when it is divisible by 2 and 3; divisible by 9 when the sum of the digits is divisible by 9; and divisible by 10 when there is a 0 in the ones place.
- **Write numerals in exponential notation.** For example, $425 = (4 \times 10^2) + (2 \times 10^1) + (5 \times 10^0)$
- **Identify prime and composite numbers.** For example, 17 is a prime number. 28 is a composite number.
- **Identify and apply identity, commutative, associative, and distributive property.**
- **Solve problems using addition, subtraction, multiplication, and division.**

Vocabulary: (Words your student will need to understand)

• Divisible: One number is divisible by another if their quotient is an integer.	• Prime number: A number that has exactly two different factors, itself and 1.
• Exponential form: A way of writing a number using exponents	• Composite number: A number that has more than two factors.
• Identity property: If you add zero to a number the sum is the same as the number ($n + 0 = n$) or if you multiply a number by 1 the product is the same number ($n \times 1 = n$)	• Associative property: The sum (+) or product (x) stays the same when the grouping of addends (+) or factors (x) is changed. $(a + b) + c = a + (b + c)$ or $(a \times b) \times c = a \times (b \times c)$
• Commutative property: The sum stays the same when the order of addends change ($a + b = b + a$) or the product stays the same when the order of the factors change ($a \times b = b \times a$)	• Distributive property: When one of the factors of a product is written as a sum, multiplying each addend before adding does not change the product. $a \times (b + c) = (a \times b) + (a \times c)$

Activities to do with your student (in addition to homework, optional):

- Find or create numbers with number cubes or spinners and write them in expanded notation.
- Find or create numbers with number cubes or spinners and find if they are divisible by 2, 3, 4, 5, 6, 9, or 10.
- Select a property of addition or multiplication and write an expression to show that property.
- Roll two numbers two make prime or composite numbers. Play with a partner to see who can make 5 of each first.
- Practice basic facts.

