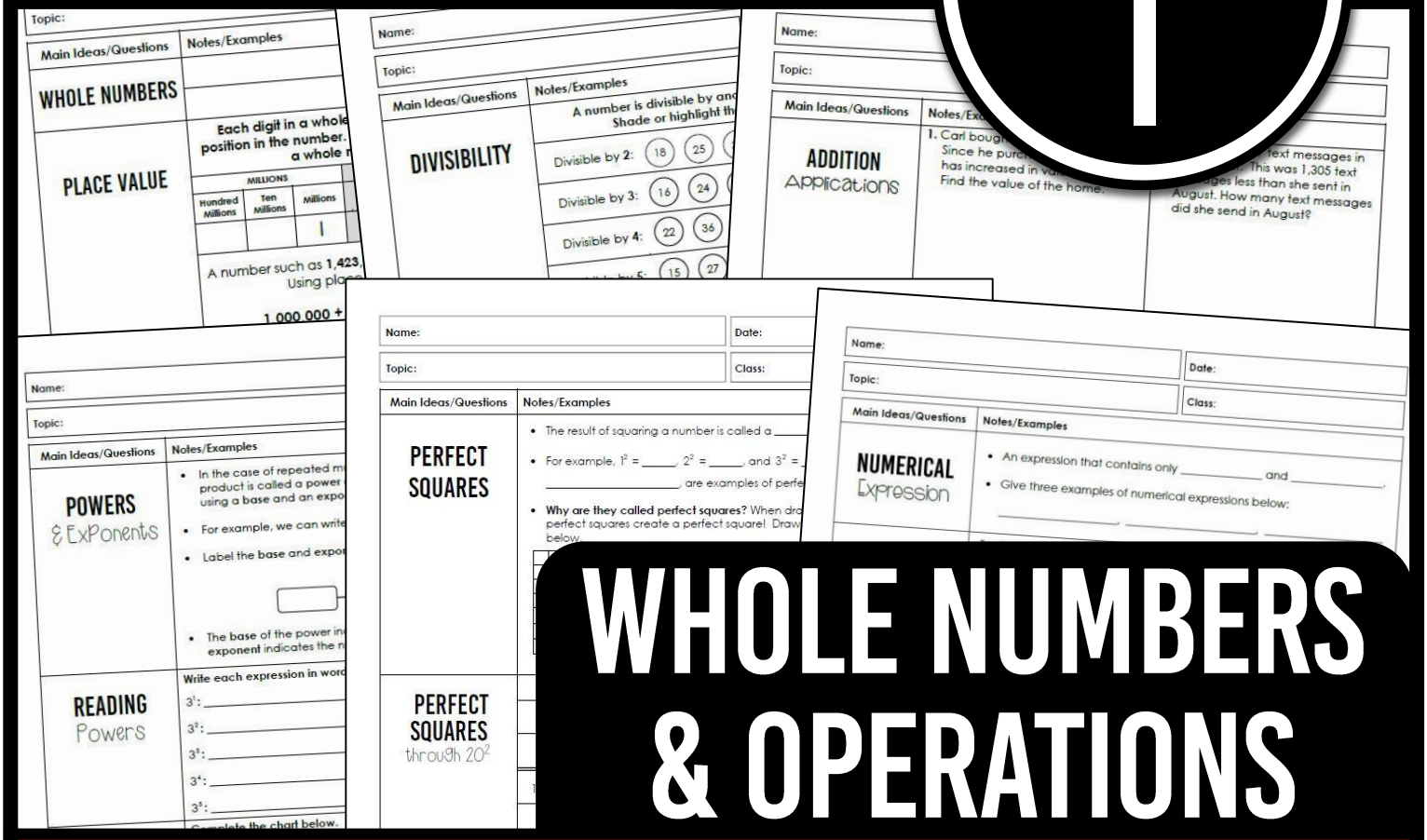
MATH 6

Unit 1



WHOLE NUMBERS & OPERATIONS

NOTES • HOMEWORK • QUIZZES • TEST

Created by: ALL THINGS ALGEBRA®

Unit 1 – Whole Numbers & Operations: Sample Unit Outline

	TOPIC	HOMEWORK
DAY 1	Whole Numbers: Place Value, Standard Form, Expanded Form, Rounding, Comparing	HW #1
DAY 2	Adding and Subtracting Whole Numbers	HW #2
DAY 3	Multiplying and Dividing Whole Numbers; Divisibility Rules	HW #3
DAY 4	Applications with Whole Number Operations (Mixed- All Operations)	HW #4
DAY 5	**Quiz 1-1**	None
DAY 6	Powers and Exponents	HW #5
DAY 7	Perfect Squares (includes extension with perfect cubes)	HW #6
DAY 8	Order of Operations	HW #7
DAY 9	Properties: Commutative, Associative, and Distributive (more properties coming in later units)	HW #8
DAY 10	**Quiz 1-2**	None
DAY 11	Prime vs. Composite Numbers; Prime Factorization	HW #9
DAY 12	Greatest Common Factor	HW #10
DAY 13	Least Common Multiple	HW #11
DAY 14	GCF and LCM Applications	HW #12
DAY 15	**Quiz 1-3**	None
DAY 16	Unit 1 Review	Study For Test
DAY 17	**UNIT 1 TEST**	None

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
WHOLE NUMBERS	
PLACE VALUE	**Each digit in a whole n position in the number. T a whole nu** MILLIONS: Hundred Millions | Ten Millions | Millions A number such as **1,423,7** Using place v **1,000,000 + 400**

Name: Dat

Topic: Cla

Main Ideas/Questions	Notes/Examples
DIVISIBILITY	**A number is divisible by another nu Shade or highlight the numb** Divisible by **2**: 18 25 37 54 Divisible by **3**: Divisible by **4**:

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Topic: Class:

Main Ideas/Questions	Notes/Examples
PERFECT SQUARES	• The result of squaring a number is called a _____ • For example, 1^2 = _____, 2^2 = _____, and 3^2 = _____, there _____, are examples of perfect square n • **Why are they called perfect squares?** When drawn geomet

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Main Ideas/Questions	Notes/Examples
ADDITION Applications	**1.** Carl bought a house for $192,950. Since he purchased the home, it has increased in value by $28,270. Find the value of the home. **2.** Mya sent 4,329 text messa September. This was 1,305 messages less than she ser August. How many text me did she send in August?

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Topic: Class:

Main Ideas/Questions	Notes/Examples
NUMERICAL Expression	• An expression that contains only _____ and _____. • Give three examples of numerical expressions below: _____, _____, _____
ORDER OF OPERATIONS	To **simplify** a numerical expression means to find its value. When there are several operations, there is a certain order they are done in to make sure everyone gets the same answer. We use the **order of operations** to find the value of a numerical expression with more than one operation.

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Topic: Class:

Main Ideas/Questions	Notes/Examples
POWERS & Exponents	• In the case of repeated multiplication with the same factor, the product is called a **power** and can be written in **exponential form** using a **base** and an **exponent**. • For example, we can write **3 x 3 x 3 x 3** as the power _____.

r and the used as a factor.

EXPONENTIAL FORM

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
MATH PROPERTIES	Sometimes changing the order or regrouping numbers in an expression makes calculations simpler. Math properties define rules that create **equivalent expressions**, that is two expressions with the same value. This is very useful when simplifying expressions!
COMMUTATIVE PROPERTY (Ordering)	The commutative property defines rules for the **ORDER** of numbers when adding or multiplying. **Property** | **Examples** **Commutative Property of Addition** Changing the order of numbers does not change their sum. • _____ • _____ **Commutative Property of Multiplication** Changing the order of numbers does not change their product. • _____ • _____ **Use the commutative property to write an equivalent expression. Prove your result by simplifying each expression.** 2. 15·3

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
COMMON FACTORS	**List the factors of 32:** _____ **List the factors of 40:** _____ Factors shared by two or more numbers are ca Circle the common factors of 32 and 40 in Show the factors of 32 and 40 in the Venn Factors of 32 Factors of 40
GREATEST COMMON FACTOR (GCF)	The greatest of the common factors of a set of **greatest common factor.** Using your lists or Ve what is the greatest common factor (GCF) of 3 **Find the GCF of each set of numbers using factor li** **1.** 60 and 36 **2.** 15 and 45 **3.** 27 and 63 **4.** 9 and 16 **5.** 12, 20, and 56 **6.** 36, 54, an

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Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
GCF Applications	**1.** Molly is making party bags fille her friends at her birthday party what is the maximum number o wants the balloons and glowsti **2.** The seating at a local theater h section and the general admiss orchestra section and 243 seat the same number of seats, wha row?
LCM Applications	**3.** There are two traffic lights on a and the other changes every 4 after how many minutes will the **4.** Ray has wood blocks that are 2 that are 20 centimeters tall. Wh each must use in order to build towers be?
MIXED Applications	**Determine whether you will use a solve.** **5.** Troy has a 45-inch piece of wire cutting into smaller pieces. Wh that each piece is equally size

Unit 1 Test Study Guide
(Whole Numbers & Operations)

Name: _____

Date: _____

Topic 1: Place Value & Rounding

Directions: Write each number in standard form.

1. Sixty-eight thousand, five hundred four

2. Seventeen million, three hundred fifty-two thousand

Directions: Write each number in word form.

3. 4,070

4. 5,320,291

Directions: Round each number to the place indicated.

5. 16,473; thousands	**6.** 839,195,002; ten millions
7. 2,463,297; hundred thousands	**8.** 5,483; tens

Topic 2: Whole Number Operations

Directions: Find each sum, difference, product, or quotient.

9. 3,498 + 532,162	**10.** 10,032 – 6,784
11. 728·16	**12.** 4,728(63)

Name: _____

Date: _____ Per: _____

Unit 1 Test
Whole Numbers & Operations

1. Write the number below in standard form.

"Six hundred four thousand, seven hundred twenty-three"

2. Which statement about the number below is true?

752,348,106

A. There is a 3 in the thousands place.
B. There is a 4 in the hundreds place.
C. There is a 7 in the hundred thousands place.
D. There is a 5 in the ten millions place.

Use the number 12,814,072 for questions 3 and 4.

3. Round the number to the nearest ten thousand.

4. Round the number to the nearest million.

5. Find the product of 1,823 and 29.

6. The population of a city was 32,062 in 2010. This was 4,517 less than the population in 2000. Find the population of the town in 2000.

7. A school has a budget of $3,500 to spend on calculators. If each calculator costs $16, how many can they purchase?

A. 217
B. 218
C. 219
D. 220

8. The size of each of the Great Lakes, in square miles, is given in the table below. How much bigger is Lake Huron than Lake Erie?

Lake	Size
Lake Erie	9,940
Lake Huron	23,012
Lake Michigan	22,394
Lake Ontario	7,320
Lake Superior	31,700