

In an effort to keep parents and guardians informed of the expectations and content being covered in math class this year, this informational handout will be provided for each chapter. Its intent is to assist in guiding you in ways to support your child in deepening their mathematical understanding.



In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fifth grade. Our goal is to keep a balance of skill based learning along with enhancing our student's ability to problem solve and think conceptually.

Scan the QR code to check out teaching strategies for this chapter.

Review Material from Prior Grades
<ol style="list-style-type: none"> <li>1) Read, write, and compare multi-digit numbers within 1,000,000. (4.NBT.2)</li> <li>2) Multiply a whole number up to four digits by a one-digit number. Multiply two two-digit numbers. (4.NBT.5)</li> </ol>
New Material for 5 <sup>th</sup> Grade
<ol style="list-style-type: none"> <li>1) I can use powers of 10 and exponents in expressions, explore patterns in prime factorization, and use basic facts and patterns to multiply multiples of 10, 100, and 1,000 mentally. (5.NBT.2)</li> <li>2) I can fluently multiply up to four-digit by three-digit whole numbers using the standard algorithm. (5.NBT.5)</li> </ol>
End of Chapter Expectations
<ol style="list-style-type: none"> <li>1) Chapter Assessment</li> </ol>

\*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.

Multiplication Strategies

**Multiples of 10, 100, and 1,000**

Working with multiples of 10, 100, and 1,000 develops multiplication patterns.

**Example:**

$5 \times 400$

When you multiply  $5 \times 400$ , it becomes:

$5 \times 4$  hundreds.

Multiply the whole numbers:

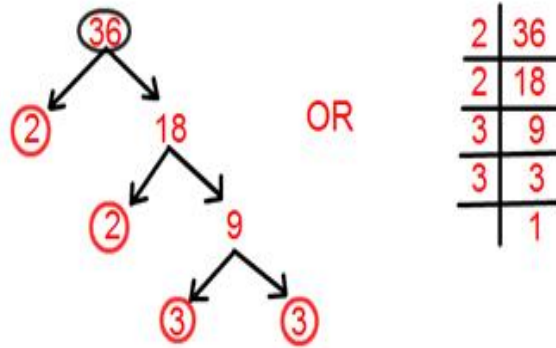
$5 \times 4 = 20$  hundreds

20 hundreds = 2,000

**Prime Factorization**







To write a number as a product of its prime factors.

**Example:**



$3 \times 3 \times 2 \times 2$  or  $2^2 \times 3^2$

**Powers of Ten**

	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$	$\times 10$
100,000,000	10,000,000	1,000,000	100,000	10,000	1,000	100	10	1
$10^8$	$10^7$	$10^6$	$10^5$	$10^4$	$10^3$	$10^2$	$10^1$	$10^0$
hundred million\$	ten million\$	million\$						

**Examples:**

$523 \times 10^3 = 523,000$  The place value of 523 is increased by 3 places.

$5.223 \times 10^2 = 522.3$  The place value of 5.223 is increased by 2 places.

$52.3 \div 10^1 = 5.23$  The place value of 52.3 is decreased by one place.

\*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.

### Multiplication Strategies, Continued

#### ☺ Family Practice ☺

Check out some of these free, math websites to practice addition, subtraction, and multiplication skills.

- 1) <http://gregtangmath.com/>
- 2) [http://www.thinkingblocks.com/ThinkingBlocks\\_AS/TB\\_AS\\_Main.html](http://www.thinkingblocks.com/ThinkingBlocks_AS/TB_AS_Main.html)

#### Area Model

A strategy that makes multiplication easier by breaking apart the numbers by place value.

#### **Example:**

Solve:  $1,135 \times 246 =$

- 1) Break apart the numbers by place value.
- 2) Draw a rectangle and label the dimensions.
- 3) Multiply.
- 4) Then add the parts.

	1,000	+	100	+	30	+	5
200	$1,000 \times 200 = 200,000$		$100 \times 200 = 20,000$		$30 \times 200 = 6,000$		$5 \times 200 = 1,000$
40	$1,000 \times 40 = 40,000$		$100 \times 40 = 4,000$		$30 \times 40 = 1,200$		$5 \times 40 = 200$
6	$1,000 \times 6 = 6,000$		$100 \times 6 = 600$		$30 \times 6 = 180$		$5 \times 6 = 30$

Total each column	<u>246,000</u>		<u>24,600</u>		<u>7,380</u>		<u>1,230</u>
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$$246,000 + 24,600 + 7,380 + 1,230 = \underline{279,210}$$

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