

North Penn School District
Elementary Math Parent Letter

Grade 3

Unit 3 – Chapter 5: Use Multiplication Facts

Examples for each lesson:

Lesson 5.1

Algebra • Describe Patterns

The table shows the number of candles in different numbers of packs. How many candles will be in 4 packs?

Packs	1	2	3	4
Candles	2	4	6	■

Describe a pattern in the columns.

Step 1 Look for a pattern by comparing the columns in the table. You can multiply the number of packs by 2 to find the number of candles in all.

$$1 \times 2 = 2$$

$$2 \times 2 = 4$$

$$3 \times 2 = 6$$

Multiply by 2 candles for each pack.

Step 2 Use the pattern to find the number of candles in 4 packs.

$$4 \times 2 = 8$$

So, there are 8 candles in 4 packs.

More information on this strategy is available on Animated Math Model #19.

Lesson 5.2

Algebra • Find Unknown Factors

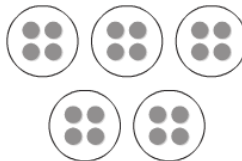
Lily has 20 stuffed animals. She wants to put the same number of stuffed animals on each of 5 shelves. How many stuffed animals will Lily put on each shelf?

Find the unknown factor. $5 \times c = 20$

You can use counters to find the unknown factor.

Step 1 Use 20 counters.

Step 2 Make 5 equal groups. Place 1 counter in each of the groups until you have placed all 20 counters.



Step 3 Count the number of counters in each group.
4 counters

$$c = 4$$

$$5 \times 4 = 20$$

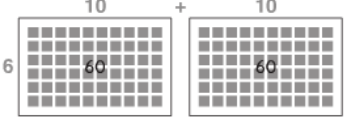
So, Lily will put 4 stuffed animals on each of the 5 shelves.

More information on this strategy is available on Animated Math Model #20.

Lesson 5.3

Problem Solving • Use the Distributive Property

There are 6 rows of singers in a performance. There are 20 singers in each row. How many singers are in the performance?

Read the Problem	Solve the Problem
<p>What do I need to find? I need to find how many singers are in the performance</p>	<p>Record the steps you used to solve the problem.</p> <div style="text-align: center;"> $10 \quad + \quad 10$  </div> <p>First, I draw and label a diagram to show <u>6</u> rows of <u>20</u> singers.</p> <p>Next, I break apart 20 into 10 + 10 and find the products of the two smaller rectangles.</p> <p>$6 \times 10 = \underline{\quad}$ $6 \times 10 = \underline{\quad}$</p> <p>Then, I find the sum of the two products.</p> <p>$\underline{\quad} + \underline{\quad} = \underline{\quad}$</p> <p>$6 \times 20 = \underline{\quad}$</p> <p>So, there are <u> </u> singers.</p>
<p>What information do I need to use? There are <u>6</u> rows of singers. Each row has <u>20</u> singers.</p>	
<p>How will I use the information? I can draw a diagram and use the Distributive Property to break apart the factor 20 into 10 + 10 to use facts I know.</p>	

Lesson 5.4

Multiplication Strategies with Multiples of 10

You can use place value to multiply with multiples of 10.

Find 5×20 .

Step 1 Use a multiplication fact you know.

Think: $5 \times 2 = 10$, so
 5×2 ones = 10 ones



Step 2 Use place value to find the product.

Think: 5×2 tens = 10 tens,
or 100

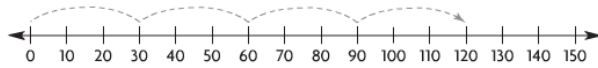


So, $5 \times 20 = 100$.

You can also use a number line to multiply with multiples of 10.

Find 4×30 .

Think: There are 4 groups of 30. Draw 4 jumps of 30.



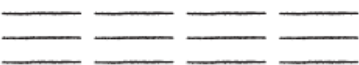
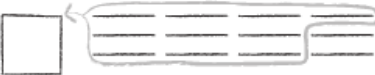
So, $4 \times 30 = 120$.

Lesson 5.5

Multiply Multiples of 10 by 1-Digit Numbers

You can use place value and regrouping to multiply multiples of 10.

Find 3×40 .

	THINK	RECORD
Step 1 Use quick pictures to draw 3 groups of 40. 	Multiply the ones. $3 \times 0 \text{ ones} = 0 \text{ ones.}$	$\begin{array}{r} 40 \\ \times 3 \\ \hline 0 \end{array}$
Step 2 Regroup the 12 tens. 	Multiply the tens. $3 \times 4 \text{ tens} = 12 \text{ tens}$ Regroup the 12 tens as 1 hundred 2 tens	$\begin{array}{r} 40 \\ \times 3 \\ \hline 120 \end{array}$

So, $3 \times 40 = 120$.

More information on this strategy is available on Animated Math Model #21.

Vocabulary

Equation – a number sentence that uses the equal sign to show that two amounts are equal

Distributive Property– the property that states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products

Multiple –a number that is the product of two counting numbers

Commutative Property of Multiplication – the property that states that you can multiply two factors in any order and get the same product

Pattern – an ordered set of numbers in which the order helps you predict what comes next

Place value – the value of each digit in a number, based on the location of the digit