


Fetching Water

— Theta Book E —

Mindful
Heart
Math



Mindful Heart Math Theta Book E



Written by Mindi Eldredge, Shaylin Engel,
Amber Dzubinski, Monica Davis, Molly Davis,
Jennifer Christensen, Nicki Savinda, and Brian Stumm

Reviewed by Deanna Dreher, PhD, and Alia Criddle, MS

✿ THE MINDFUL HEART®

© 2025 THE MINDFUL HEART® (ALL RIGHTS RESERVED) | THEMINDFULHEART.COM

No part of this book may be reproduced, stored in a retrieval system, or transferred in any form—including photocopying, recording, or other electronic or mechanical means—without written permission from the publisher. For questions in regard to this matter, please email support@themindfulheart.com.

Published by Outside the Box Education

Welcome to *The Mindful Heart Theta Math Book E!*

For a detailed explanation of how to administer this course, please see the About This Course document found at <https://themindfulheart.com/pages/the-mindful-heart-math>.

This book is to be completed using the Theta Math Kit. The kit can be ordered at the link above.

Theta Math Kit

- 30 apple manipulatives
- 4 game pawns
- 1 six-sided dice
- 1 ten-sided dice
- 1 twelve-sided dice
- 1 dry-erase sleeve
- 1 dry-erase marker with eraser
- 120 fruit and vegetable cardstock pieces
- 12 pentominoes
- *Theta Game Instructions Book*
- 1 *My Math Journal*
- 54 Numbered Game Cards
- 11 double-sided game mats
- 15 double-sided pentomino mats

Additional Materials Needed for this Book

- Paper clips to mark specific pages
- A timer—must include a count-up and count-down feature that lists the time to the second
- Pencils, crayons (or colored pencils), scissors, glue stick, a stapler or tape
- A centimeter and inch ruler (at least 12 inches in length; must show both millimeters and centimeters)
- Scratch paper
- A protractor (180 degrees, 6-inch length; a protractor with a zero at the bottom, not above the bottom line, is highly recommended.)
- A math student compass or a SAFE-T Compass®, draws up to 12-inch circles (A SAFE-T Compass® is often easier for children to use.)

Any additional items that will be needed for each particular lesson are listed on the materials list included on the first page of each lesson. You will need the following items: 2.5-inch square piece of cardstock or light cardboard; tape (Lesson 24).

Table of Contents

Fetching Water	1
Lesson 1—Multiplication and Division Review.....	2
Lesson 2—Properties of Addition.....	6
Lesson 3—Properties of Multiplication	10
Lesson 4—Multiplication Comparisons.....	15
Lesson 5—Multiplying by 12	19
Lesson 6—Mental Math Review.....	24
Lesson 7—Single-Digit Subtraction Strategies.....	29
Lesson 8—Multiplication with Unknowns.....	33
Lesson 9—Mathematician: François Viète.....	38
Lesson 10—Multi-Digit Subtraction Strategies.....	41
Lesson 11—Give to Both	45
Lesson 12—Money and Multiplication	49
Lesson 13—Place Value Review	53
Lesson 14—Order of Operations.....	57
Lesson 15—Order of Operations Practice	61
Lesson 16—Multiplying by 10, 100, and 1,000	65
Lesson 17—Multiplying by Multiples of 10.....	69
Lesson 18—Measurement and Multiplication.....	74
Lesson 19—Dividing by 12	78

Lesson 20—Multiplication Using the Distributive Property.....	82
Lesson 21—Two-Digit by Single-Digit Multiplication Part 1.....	86
Lesson 22—Tessellations	90
Lesson 23—Three- and Four-Digit by Single-Digit Multiplication ...	94
Lesson 24—Symmetry and Tessellations	98
Lesson 25—Two-Digit by Single-Digit Multiplication Part 2.....	102
Lesson 26—Measurement and Multiplication	107
Lesson 27—Double-Digit Multiplication with Area.....	111
Lesson 28—Double-Digit Multiplication with Arrays	116
Lesson 29—Double-Digit Multiplication Part 1.....	121
Lesson 30—Number Patterns.....	125
Lesson 31—Double-Digit Multiplication Part 2	129
Lesson 32—Multiplication Practice	133
Lesson 33—Multi-Digit Multiplication Practice.....	136
Lesson 34—Division Comparisons.....	140
Lesson 35—Roman Numerals	144
Lesson 36— Review.....	149
Lesson 37—Theta E Assessment	153

Lesson 2

Properties of Addition

Materials:
• standard supplies

Daily Dose

○ Find each sum:

$$\begin{array}{r} 794,866 \\ + 137,459 \\ \hline \end{array}$$

$$\begin{array}{r} 39,788 \\ + 89,537 \\ \hline \end{array}$$

○ **Fact Family Fill-In:** Fill in the missing numbers to complete the fact families.

7	×	8	=	56
	×		=	
	÷		=	
	÷		=	

9	×	6	=	54
	×		=	
	÷		=	
	÷		=	

Math Activity Kit: *My Math Journal*



Student

○ **Sharing the Word**

“With my whole heart have I sought thee: O let me not wander from thy commandments. Thy word have I hid in mine heart, that I might not sin against thee” (Psalm 119:10–11).

“I love these verses,” thought Zawadi as she marked them with her highlighter during family Bible time. Often her family shared favorite Bible stories, marked special verses with a highlighter, and wrote their thoughts and feelings about the verses in their notebooks.

“Mama, I want everyone to have the word of God,” said Zawadi with a smile.

“Me, too!” answered Mama. “That’s why we are gathering items to make Bible packs for others.”

○ **Assembling Bible Packs**

Zawadi and her family have already started to gather items for the Bible packs. Each pack includes the following items: a Bible, a

notebook, a pencil, and a highlighter. So far Zawadi's family has 11 Bibles, 8 notebooks, 5 pencils, and 2 highlighters. Add the numbers to find the total number of items they have gathered altogether.

Write your answer in the box.



Bible



Notebook and
Pencil



Highlighter

$$11 + 8 + 5 + 2 = \boxed{}$$

↑
↑
↑
↑
↑

addend
addend
addend
addend
sum

Addition is combining two or more numbers to find a total, or sum. The numbers added together are the **addends**, and the answer is the **sum**.

If the numbers are in a different order, do you think the sum would be the same?

yes
or
no

Here are the same numbers in a different order. Now it is easy to add the 8 and the 2 to make 10. Switching the order of the numbers made it easier to add them together.

$$8 + 2 + 11 + 5$$

$$(8 + 2) + (11 + 5) =$$

$$10 + 16 = 26$$

The answers are the same in both problems because we can change the order of the numbers when adding.



Parent/Teacher

Let's review some of the things you know about addition. Remember that no matter how you group a set of numbers when you add them, you will always get the same sum. This is called the **associative property of addition**. The **commutative property of addition** lets you change the order of the numbers you are adding. Solve the following problem using the associative property to group the numbers. You can use mental math strategies to help you group and add the numbers.

$$5 + 2 + 8 + 5 = \boxed{}$$

○ My Math Journal—Page 20

Have the child turn to page 20 in his or her *My Math Journal*. Have the child fill in the definition at the top of the page and label the parts of the addition problem using the bold text in this lesson.

Read the following aloud while referencing the remainder of the journal page: The associative property is used to regroup numbers. Add parentheses to form groups in your journal as shown here.

Associative Property of Addition



$$(3 + 4) + 5 = 3 + (4 + 5)$$

Now, using the order of operations, solve the part of the problem in the parentheses first. Write the sums below the parentheses. Then add the remaining numbers. Are the two sums equal? Because they equal the same sum, place an equal sign between the two problems.

The **commutative property of addition** means that when you add numbers together, it does not matter what order you add them in. Switch the order of the numbers on the blank line as shown below, and then fill in the rest of the definition.

Commutative Property of Addition



$$3 + 4 = 4 + 3$$

When you add numbers together it

what order you add them in.

Have the child practice the associative and commutative properties of addition with the following problems. Remind the child to look for different ways to group or switch the order of the numbers.

$$4 + 7 + 6 + 10 =$$

$$5 + 2 + 10 + 8 + 6 =$$

$$8 + 4 + 9 + 6 =$$

Independent Activities

○ **Student Worksheet:** Rock and Roll

○ **Bonus Activity:** Multiplication or Division Practice

How? Choose one or more of the multiplication or division games to play independently. Make sure to choose a game and version that practices the current multiplication or division facts that you are working to master. The games listed here are only suggestions. The details for each game are listed in the *Theta Game Instructions Book* found in the Math Activity Kit.

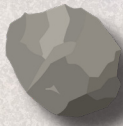



- Woodland Walk (multiplying by 6)
- Risky River Run—Version #5 (multiplying by 11)
- Gone Fishing (dividing by 3)

Note: Make sure the child chooses a game and version that practices the multiplication or division facts that he or she is currently working to master. The games listed here are only suggestions.



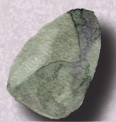


Lesson 2—Student Worksheet



Take the twelve-sided dice from the Math Activity Kit. Roll the dice and write the number rolled on the first rock. Roll the dice again and write the new number rolled on the next rock. Continue until all the rocks in a row have a number written on them. Then use the associative and commutative properties of addition to find the sum of each row. Repeat this activity for each row of rocks.

 +  +  +  =

 +  +  +  =

 +  +  +  +  =

 +  +  +  +  =

 +  +  +  +  +  =

 +  +  +  +  +  =

Lesson 3

Properties of Multiplication

Materials:
• standard supplies

Daily Dose

- **Elapsed Time:** Using the amount of elapsed time, find the end time and write it in the End Time box. Then draw the hands on the clock.

Start Time:



5:19

Elapsed Time:

37 min

End Time:



:

- **Rounding:** Round to the nearest dollar.

\$9.49

\$47.58

- **Multiply:**

$$4 \times 7 =$$

$$9 \times 9 =$$

$$8 \times 9 =$$

$$8 \times 11 =$$

$$5 \times 6 =$$

$$6 \times 8 =$$

Math Activity Kit: *My Math Journal*

Standard Supplies: dry-erase board, dry-erase marker



Student

- **Assembling Bible Packs**

In the last lesson, you learned about the Bible packs that Zawadi and her family were making. Today we will continue the story.

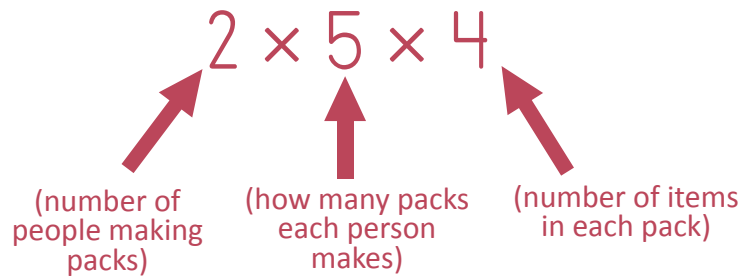
After a few weeks, more items for the Bible packs had been gathered, and Baba (Father) and Zawadi decided to assemble 5 Bible packs each. Zawadi was curious to find out how many total items would be in their combined packs.

To solve this problem, she first thought about the information she had:

- 2 people are making packs.
- Each person is making 5 packs.
- There are 4 items in each pack.

Then she remembered that she could use multiplication to solve the problem!





○ Associative Property

To find the product, you will start by multiplying two of the numbers. Here are two options showing how you can group and solve the problems. **Find the product for each, and then circle which option you liked using the most to solve the problem.**

Option #1

$$(2 \times 5) \times 4 = \square$$

$$10 \times 4 = \square$$

Option #2

$$2 \times (5 \times 4) = \square$$

$$2 \times 20 = \square$$

Solve the following two problems using your preferred method.

$$3 \times 2 \times 9 = \square \quad 7 \times 2 \times 5 = \square$$

○ Commutative Property

Another thing you have learned about multiplication is that the factors in a problem can be listed in any order and still have the same product. **Write the answers to the following problems.**

$$3 \times 6 = \square \quad 7 \times 4 = \square$$

$$6 \times 3 = \square \quad 4 \times 7 = \square$$



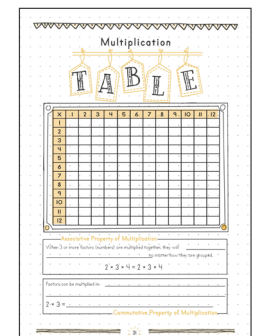
Parent/Teacher

The **associative property of multiplication** states that when three or more factors are multiplied together, they will always have the same product, no matter how they are grouped.

The **commutative property of multiplication** states that factors can be multiplied in any order and will always result in the same product.

○ My Math Journal—Page 31

- Turn to page 31 in *My Math Journal*. Fill in the definitions at the bottom of the page.
- In the associative property of multiplication section, add parentheses to group the factors in two different ways.
- After the commutative property definition, change the order of the numbers at the bottom of the box.



○ Using Multiplication Strategies with Large Numbers

We can use the associative and commutative properties of multiplication to help solve problems with large factors. When you break larger numbers into smaller numbers, it is called **decomposing** a number.

Let's suppose the village worked together to make 80 Bible packs. Each pack has 4 items. Let's find how many items are in all of the packs combined. To find the total, we multiply 80×4

Since we haven't learned how to multiply by 80 yet, we'll need to break 80 apart, or decompose it, into factors that we know.

Since 8 and 10 are factors of 80, we can rewrite the problem to look like this:

$$\begin{array}{c} 80 \times 4 \\ \swarrow \quad \searrow \\ 8 \times 10 \times 4 \end{array}$$

1. The commutative property is used to change the order of the factors:

$$10 \times 8 \times 4$$

2. The associative property is used to change how the numbers are grouped together. Instead of multiplying 10 and 8 first, multiply 8 and 4. This is shown by writing parentheses around those numbers.

$$10 \times (8 \times 4) =$$
$$10 \times 32 = \boxed{}$$

What is the total? Write your answer in the box.

Have the child solve the following problems on the dry-erase board. Remind the child to decompose the numbers and then use the properties of multiplication to find each product.

$$50 \times 6 =$$

$$90 \times 7 =$$

$$60 \times 8 =$$

$$4 \times 70 =$$

○ Optional Lesson Extension:

Make your own humanitarian packs: Search online for charities that make Bible packs or other humanitarian packs. Then make and deliver the packs.



Independent Activities

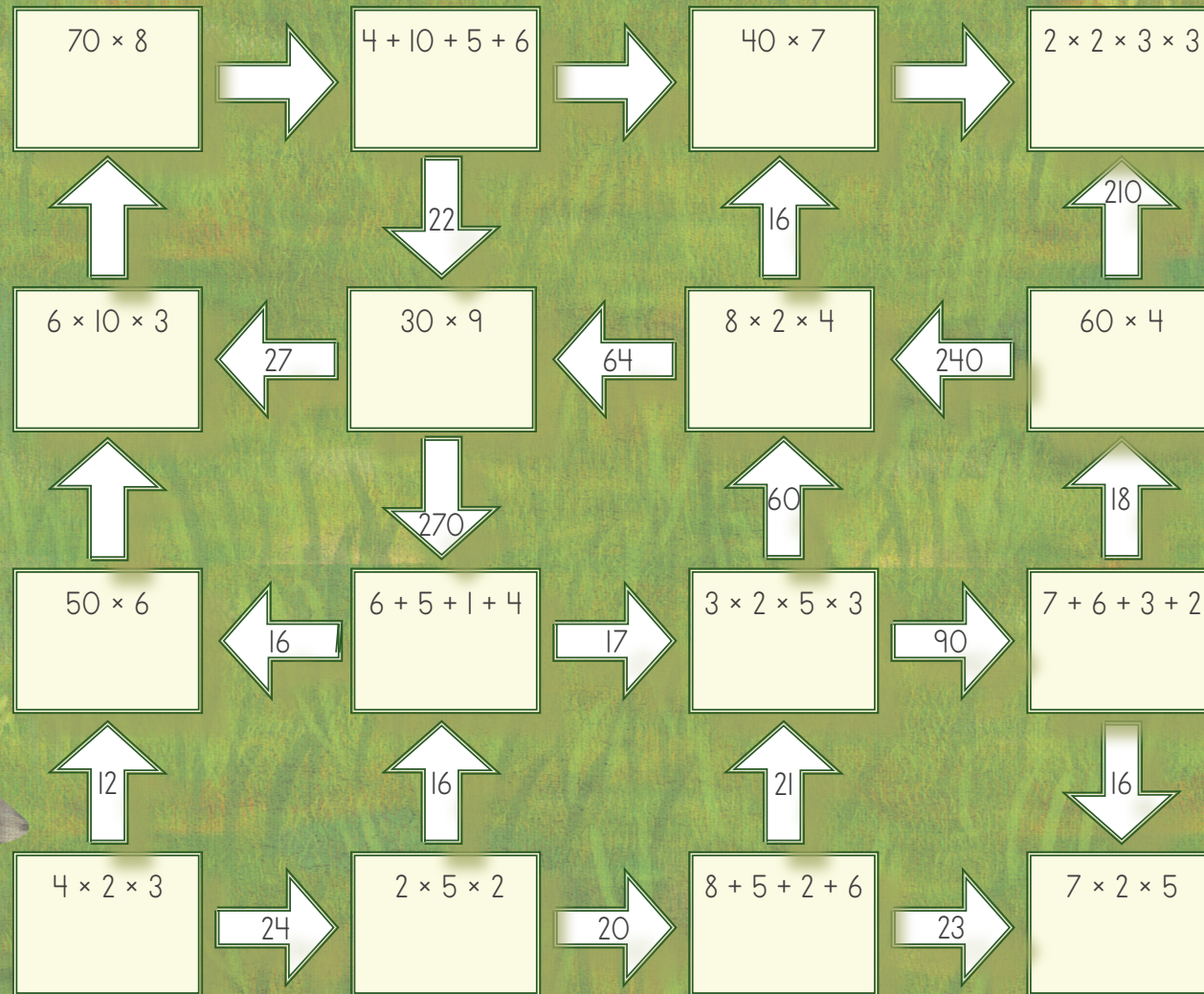
- Student Worksheet: Find the Cheese

- Bonus Activity: Coordinate Multiplication #1

How? Follow the directions listed on the "Lesson 3—Bonus Activity" page included with this lesson.

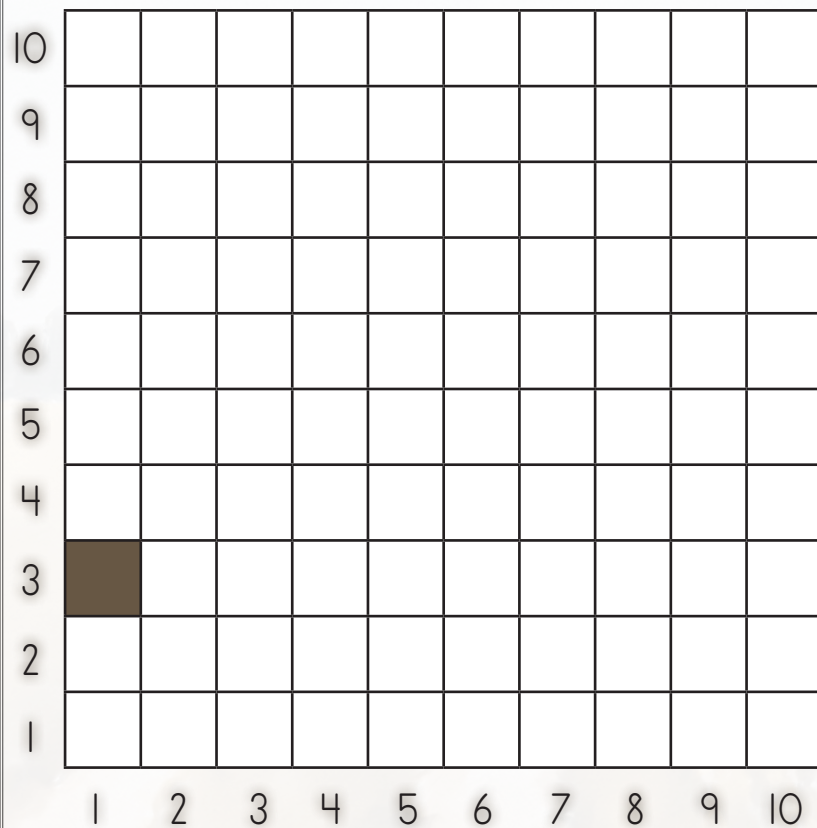
Find the Cheese

Help the mouse find the path through the meadow to the cheese by solving the problems in the boxes and following the arrows with the correct answers. Color in the arrows as you go. If the arrow is blank, write in the correct answer.



Coordinate Multiplication #1

Find the missing factor in each multiplication problem. Use the two factors as coordinates to color in the grid and discover the mystery picture. Don't forget that when plotting coordinates, the first number is the number listed across the bottom and the second number is the number running vertically on the left-hand side of the grid. The first one is done for you.



Brown

$1 \times \underline{3} = 3$	$3 \times \underline{\quad} = 9$	$6 \times \underline{\quad} = 24$	$8 \times \underline{\quad} = 64$
$1 \times \underline{\quad} = 4$	$3 \times \underline{\quad} = 12$	$6 \times \underline{\quad} = 30$	$8 \times \underline{\quad} = 80$
$1 \times \underline{\quad} = 5$	$3 \times \underline{\quad} = 15$	$6 \times \underline{\quad} = 36$	$9 \times \underline{\quad} = 18$
$1 \times \underline{\quad} = 6$	$3 \times \underline{\quad} = 18$	$6 \times \underline{\quad} = 42$	$9 \times \underline{\quad} = 27$
$1 \times \underline{\quad} = 8$	$3 \times \underline{\quad} = 21$	$6 \times \underline{\quad} = 48$	$9 \times \underline{\quad} = 36$
$1 \times \underline{\quad} = 9$	$3 \times \underline{\quad} = 24$	$7 \times \underline{\quad} = 28$	$9 \times \underline{\quad} = 45$
$2 \times \underline{\quad} = 4$	$3 \times \underline{\quad} = 30$	$7 \times \underline{\quad} = 49$	$9 \times \underline{\quad} = 54$
$2 \times \underline{\quad} = 6$	$4 \times \underline{\quad} = 16$	$7 \times \underline{\quad} = 56$	$9 \times \underline{\quad} = 63$
$2 \times \underline{\quad} = 8$	$4 \times \underline{\quad} = 28$	$7 \times \underline{\quad} = 63$	$9 \times \underline{\quad} = 72$
$2 \times \underline{\quad} = 10$	$4 \times \underline{\quad} = 32$	$8 \times \underline{\quad} = 8$	$9 \times \underline{\quad} = 90$
$2 \times \underline{\quad} = 12$	$4 \times \underline{\quad} = 36$	$8 \times \underline{\quad} = 16$	$10 \times \underline{\quad} = 30$
$2 \times \underline{\quad} = 14$	$5 \times \underline{\quad} = 20$	$8 \times \underline{\quad} = 24$	$10 \times \underline{\quad} = 40$
$2 \times \underline{\quad} = 16$	$5 \times \underline{\quad} = 25$	$8 \times \underline{\quad} = 32$	$10 \times \underline{\quad} = 50$
$2 \times \underline{\quad} = 20$	$5 \times \underline{\quad} = 30$	$8 \times \underline{\quad} = 40$	$10 \times \underline{\quad} = 60$
$3 \times \underline{\quad} = 3$	$5 \times \underline{\quad} = 35$	$8 \times \underline{\quad} = 48$	$10 \times \underline{\quad} = 80$
$3 \times \underline{\quad} = 6$	$5 \times \underline{\quad} = 40$	$8 \times \underline{\quad} = 56$	$10 \times \underline{\quad} = 90$

Tan

$4 \times \underline{\quad} = 4$	$6 \times \underline{\quad} = 12$
$4 \times \underline{\quad} = 8$	$7 \times \underline{\quad} = 7$
$4 \times \underline{\quad} = 12$	$7 \times \underline{\quad} = 14$
$5 \times \underline{\quad} = 5$	$7 \times \underline{\quad} = 21$
$5 \times \underline{\quad} = 10$	
$6 \times \underline{\quad} = 6$	

Black

$4 \times \underline{\quad} = 20$	$2 \times \underline{\quad} = 18$
$4 \times \underline{\quad} = 24$	$3 \times \underline{\quad} = 27$
$7 \times \underline{\quad} = 35$	$8 \times \underline{\quad} = 72$
$7 \times \underline{\quad} = 42$	$9 \times \underline{\quad} = 81$

Pink

$5 \times \underline{\quad} = 15$
$6 \times \underline{\quad} = 18$

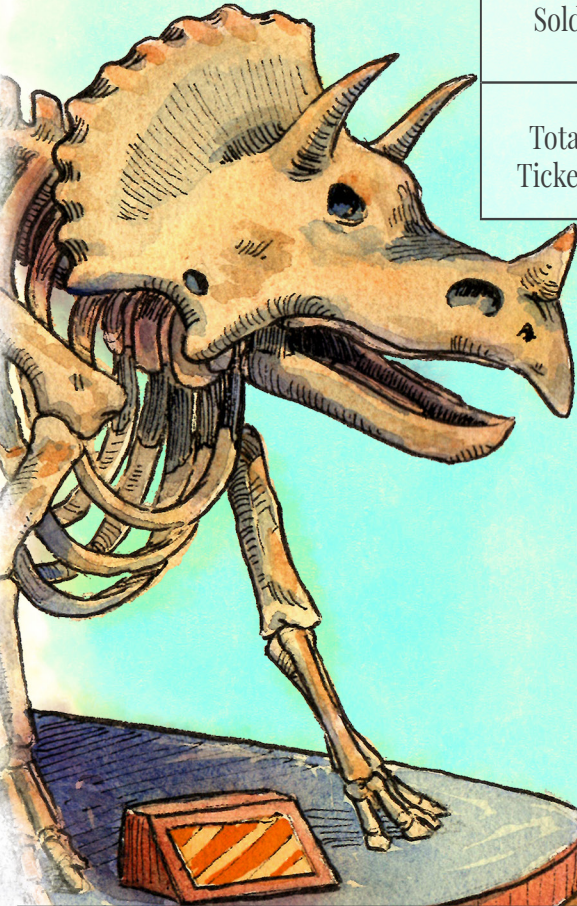
Gray

Mental Math

at the Museum

Use mental math strategies to find the total number of tickets sold each day. Then solve the word problems at the bottom of the page.

Day of the Week	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Admission Tickets Sold	Adult tickets 68	Adult tickets 34	Adult tickets 17	Adult tickets 46	Adult tickets 32	Adult tickets 59	Adult tickets 71
	Child tickets 15	Child tickets 88	Child tickets 19	Child tickets 38	Child tickets 24	Child tickets 34	Child tickets 28
Total Tickets							



How many tickets were sold on Saturday and Sunday?

How many tickets were sold on Monday and Wednesday?

How many tickets were sold on Tuesday and Thursday?

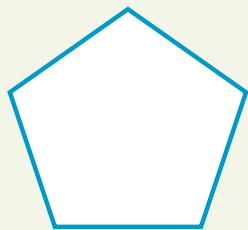
Lesson 10

Multi-Digit Subtraction Strategies

Materials:
• standard supplies

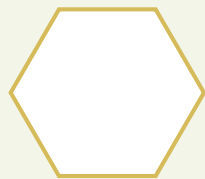
Daily Dose

○ **Perimeter:** Name each shape aloud and find each perimeter. Don't forget to label the units of the answer.



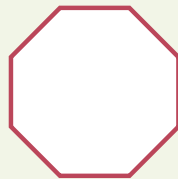
6 ft

Perimeter: _____



4 ft

Perimeter: _____



3 ft

Perimeter: _____

○ **Solve for the unknown in each equation:**

$$12 \times b = 60$$

$$b = \boxed{}$$

$$t \times 12 = 24$$

$$t = \boxed{}$$

$$12 \times q = 96$$

$$q = \boxed{}$$

$$r \times 12 = 120$$

$$r = \boxed{}$$

Math Activity Kit: *My Math Journal*

Standard Supplies: dry-erase board, dry-erase marker



Student



"Landscape with Animals (An African Scene)" by Ramsay Richard Reinagle (1775–1862), 1828, photo credit: Heritage Doncaster

○ **Safari Painting**

Look at this beautiful painting of an African landscape. What kind of animals do you see? Notice the artist's use of light and shadow. Which direction do you think the light is coming from?

Mental Math Strategy: Number Line Jumping

Suppose you are on an African safari. In one area there are a total of 85 animals gathering at a water hole to have a drink. After a while 42 animals leave the water.

Circle the operation you would use to find out how many animals remain at the water hole.

+

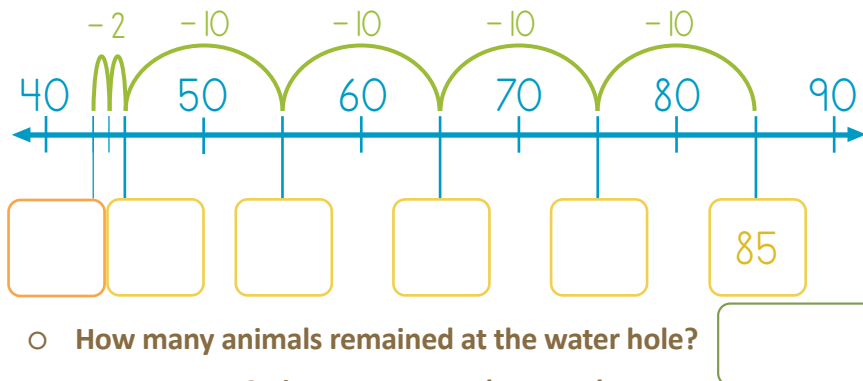
-

×

÷

To answer the story problem, you need to solve $85 - 42$. Start by picturing a number line in your head.

- Starting at 85, jump backward by tens 4 times. **Write those numbers in the yellow boxes.**
- Then jump back 2 ones and write your answer in the orange box.



- How many animals remained at the water hole?
- Turn to page 27 in your *My Math Journal*.
- Beside the first problem on the page, copy the number line (above) and the explanation (at the top of the next column).

When subtracting, picture a number line in your head. First, jump backwards the number of tens being subtracted, and then jump backwards the number of ones being subtracted.



Parent/Teacher

Mental Math Strategy: Take Away Tens Then Ones

Let's suppose there are 55 animals at the water hole and 38 leave. Let's figure out how many animals are left. To solve this problem, we will use a different mental math subtraction strategy called **Take Away Tens Then Ones**.

First, we split the number that is being subtracted into expanded form (tens + ones). The expanded form of 38 is $30 + 8$.

$$55 - 38 =$$

$\swarrow \quad \searrow$
 $(30 + 8)$

Then, we subtract the tens amount. Write the answer to 55 minus 30 in the orange box after the equal sign.

$$55 - 30 = \boxed{}$$

Lastly, we subtract the ones. Write the number that you wrote in the orange box on the previous page in the orange box below. Then take away 8 from that number and write the answer in the red box.

$$\boxed{} - 8 = \boxed{}$$

As you become familiar with this strategy, you will be able to visualize the steps in your head. Turn to page 27 in your *My Math Journal* and copy this strategy along with the explanation listed below next to the second problem.

When subtracting the smaller number from the larger number, first subtract the tens, and then subtract the ones.

Practice

The Number Line Jumping and the Take Away Tens Then Ones strategies are very similar to each other. In the Number Line Jumping Strategy, you picture in your mind jumping down the number line, first by the number of the tens and then the ones. In the Take Away Tens Then Ones Strategy, you picture the actual numbers by first taking away the tens and then the ones. Which strategy do you like to use in your mind?

One at a time, write each of the following problems on the dry-erase board. Have the child verbalize the steps as he or she solves each problem using the mental math strategy that he or she prefers.

$$78 - 49 = \quad 51 - 17 = \quad 63 - 32 =$$

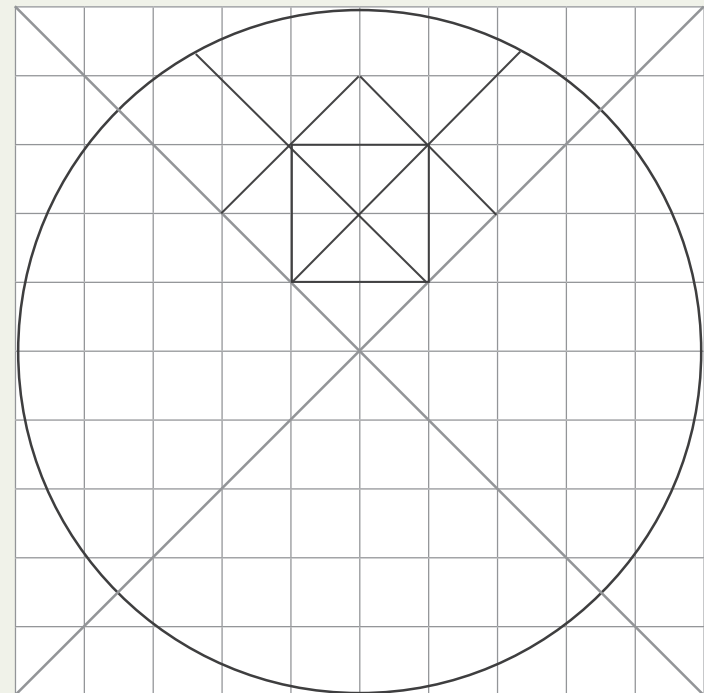
Independent Activities

○ **Student Worksheet:** Mental Math Mixer

○ **Bonus Activity:** Spin and Draw #1

How? Spin the circle by rotating it. Use the grid lines and lines of symmetry to draw the pattern in each of the blank sections of the circle. Once each section is complete, color the pattern for a more vibrant display!

***Note:** An important part of problem-solving is spending time thinking through different possibilities. Encourage the child to work on the puzzle for at least five minutes. If the child is still struggling after five minutes, give him or her some clues or demonstrate one way to work through the puzzle. Answers can be found at <https://themindfulheart.com/pages/the-mindful-heart-math>.*



Mental Math

*Mixer*

Spin a paper clip around the tip of your pencil to find the missing number for each subtraction problem. Then solve the subtraction problem using either the Number Line Jumping or the Take Away Tens Then Ones Strategy.



$$\begin{array}{r} 93 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 85 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 79 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 64 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 92 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 67 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 86 \\ - \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 71 \\ - \square \\ \hline \square \end{array}$$