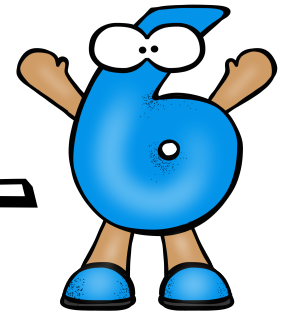


Grade 3

Everyday Math:

Unit



More Operations

Study Guide

EDM Version 4



Thank you!

Catherine Wiist @ Abc 123is4me

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Credits:

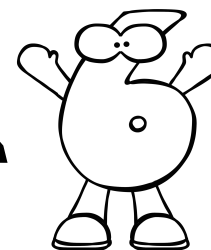


Name: _____

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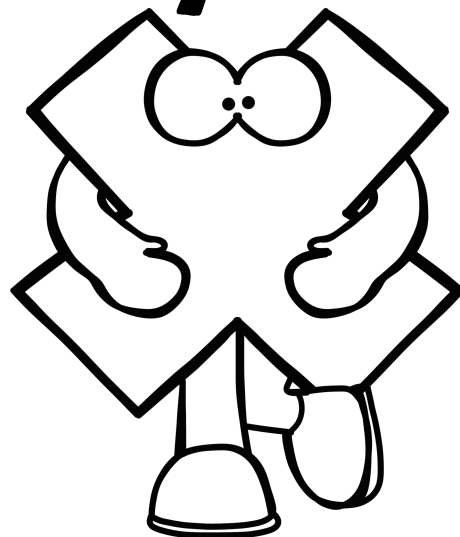
Grade 3

Everyday Math: Unit



More Operations

Study Guide



Unit Vocabulary:

appropriate, efficient, equation, fact power, multiplication/division diagram,
order of operations, parentheses, trade-first subtraction

Lesson 6.1:

How do you use the trade-first method to solve subtraction problems?

Fill in the unit box. Then solve.

$$\begin{array}{r} \text{a. } 642 \\ - 247 \\ \hline \end{array}$$

$$\text{b. } 441 - 269 = \underline{\hspace{2cm}}$$

Unit

Lesson 6.2:

Why is increasing your multiplication fact fluency important?

In *Baseball Multiplication*, the greater the product from the dice roll, the better the hit.

For each pair of facts below, circle the one that would give a better hit.

a. 5×5 **or** 4×7

b. 8×8 **or** 7×9

c. 4×2 **or** 7×1

Lesson 6.3:

How do you use square products as helper facts to find the products of near squares?

Show a multiplication strategy that can be used to solve this fact:

$$9 \times 4 = ?$$

$$9 \times 4 = \underline{\hspace{2cm}}$$

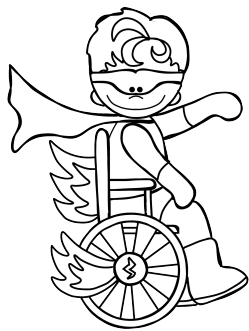
Lesson 6.4:

How can you use your multiplication strategies to improve your fact fluency?

In the boxes below, record three facts for which you have “fact power.”

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Record one fact that you are still practicing or you think might be challenging for someone else. Show how you can figure it out efficiently.

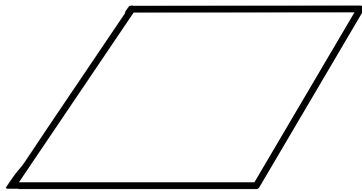


Lesson 6.5:

Exploration A: How do you construct quadrilaterals to match written descriptions?

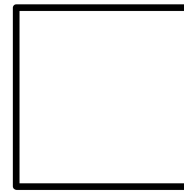
This shape is a:

- a. rhombus
- b. square
- c. both



This shape is a:

- a. parallelogram
- b. rhombus
- c. both

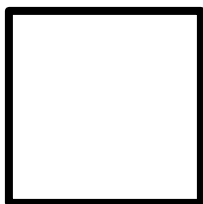


Exploration B: How do you measure to the nearest $\frac{1}{2}$ inch?
Find the measurement of the line below to the nearest $\frac{1}{2}$ inch.



_____ inches

Exploration C: How do you calculate the perimeter of a polygon?



Perimeter: _____ inches

Distance traveled: _____

(unit)

Lesson 6.6:

How do you use multiplication/division diagrams to make sense of and solve number stories?

You have 54 gumballs and want to divide them equally among 6 small bags. How many gumballs do you put in each bag?

- Write a number model to fit the story. Use a letter to represent what you want to find out. You may complete the diagram below to help.
- Solve the number story
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: _____ for _____.

bags	gumballs per bag	gumballs in all

(number model with letter)

Answer: _____
(unit)

(number model with answer)

Lesson 6.7:

How can you use multiplication strategies to multiply larger factors?

Kate used doubling to solve 8×7 .

This is what she did:

		7	
	4	$4 \times 7 = 28$	
8	4	$4 \times 7 = 28$	

$$8 \times 7 = 4 \times 7 + 4 \times 7$$

$$8 \times 7 = 28 + 28$$

$$8 \times 7 = 56$$

a. Explain Kate's work.

b. Use doubling to solve 3×6 .

Draw a picture and write number models.

You may use Kate's work to help.

Lesson 6.8:

How do you use parentheses in number sentences?

Lilly and Fran solved this number sentence: $4 \times (5 + 3) = ?$

Lilly says the answer is 23, and Fran says the answer is 32.

Who is correct? Explain.

Lesson 6.9:

How do you write a two-step number story to fit a number sentence?

Write a number story to fit this number sentence.

$$15 - (5 \times 2) = 5$$

Lesson 6.10:

How do you apply the order of operations to solve multistep problems?

Stephen used the order of operations to solve this number sentence.

$$4 + 5 \times 5 = 29$$

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Stephen's steps for solving the number sentence.

Lesson 6.11:

How do you solve two-step number stories and represent them with equations?

Solve.

Mr. Roger's class has 7 tables with 4 children at each table and a table with 2 children. How many children are in Mr. Roger's class?

Number model: $(7 \times 4) + 2 = C$

- a. Solve the number story using any strategy. Show your work.

Answer: _____
(unit)

- b. Explain how the number model fits the story.

ANSWER KEY

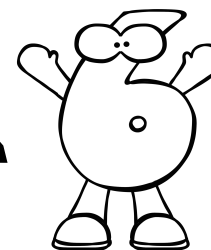


Name: Answer Key

Test Date: ___ - ___ - ___

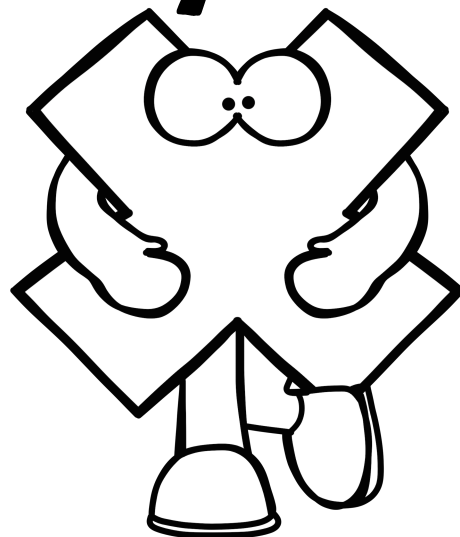
Grade 3

Everyday Math: Unit



More Operations

Study Guide



Unit Vocabulary:

appropriate, efficient, equation, fact power, multiplication/division diagram,
order of operations, parentheses, trade-first subtraction

Lesson 6.1:

How do you use the trade-first method to solve subtraction problems?

Fill in the unit box. Then solve.

$$\begin{array}{r} \text{a. } 642 \\ - 247 \\ \hline 395 \end{array}$$

$$\text{b. } 441 - 269 = \underline{172}$$

Unit

Answers
will vary

Lesson 6.2:

Why is increasing your multiplication fact fluency important?

In *Baseball Multiplication*, the greater the product from the dice roll, the better the hit.

For each pair of facts below, circle the one that would give a better hit.

a. 5×5 or 4×7

b. 8×8 or 7×9

c. 4×2 or 7×1

Lesson 6.3:

How do you use square products as helper facts to find the products of near squares?

Show a multiplication strategy that can be used to solve this fact:

$$9 \times 4 = ?$$

Strategies vary

$$9 \times 4 = \underline{36}$$

Lesson 6.4:

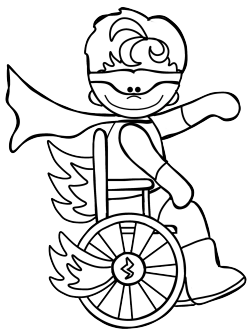
How can you use your multiplication strategies to improve your fact fluency?

In the boxes below, record three facts for which you have “fact power.”



Answers will vary		
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Record one fact that you are still practicing or you think might be challenging for someone else. Show how you can figure it out efficiently.



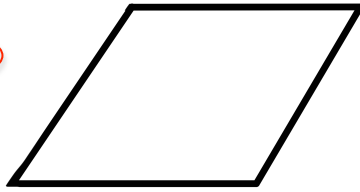
Answers will vary

Lesson 6.5:

Exploration A: How do you construct quadrilaterals to match written descriptions?

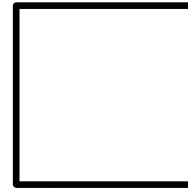
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- c. both

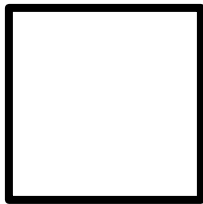


Exploration B: How do you measure to the nearest $\frac{1}{2}$ inch?
Find the measurement of the line below to the nearest $\frac{1}{2}$ inch.



5 1/2 inches

Exploration C: How do you calculate the perimeter of a polygon?



Perimeter: 4 inches

Distance traveled: 4 inches

(unit)

Lesson 6.6:

How do you use multiplication/division diagrams to make sense of and solve number stories?

You have 54 gumballs and want to divide them equally among 6 small bags. How many gumballs do you put in each bag?

- Write a number model to fit the story. Use a letter to represent what you want to find out. You may complete the diagram below to help.
- Solve the number story
- Write the number model with your answer to check that your answer makes the number model true.

Letter and what it represents: G for gumballs per bag.

bags	gumballs per bag	gumballs in all
6	G	54

$$\underline{54 \div 6 = G \text{ OR } 6 \times G = 54}$$

(number model with letter)

Answer: 9 gumballs
(unit)

$$\underline{54 \div 6 = 9 \text{ OR } 6 \times 9 = 54}$$

(number model with answer)

Lesson 6.7:

How can you use multiplication strategies to multiply larger factors?

Kate used doubling to solve 8×7 .

This is what she did:

		7
8	4	$4 \times 7 = 28$
	4	$4 \times 7 = 28$

$$8 \times 7 = 4 \times 7 + 4 \times 7$$

$$8 \times 7 = 28 + 28$$

$$8 \times 7 = 56$$

a. Explain Kate's work.

Kate broke 8 into 4 and 4. She multiplied 4×7 and got 28.

Then she doubled 28 to get 56. $8 \times 7 = 56$.

b. Use doubling to solve 3×6 .

Draw a picture and write number models.

You may use Kate's work to help.

		6
3	3	3
	3×3	3×3

$$3 \times 6 = 3 \times 3 + 3 \times 3$$

$$3 \times 6 = 9 + 9$$

$$3 \times 6 = 18$$

Lesson 6.8:

How do you use parentheses in number sentences?

Lilly and Fran solved this number sentence: $4 \times (5 + 3) = ?$

Lilly says the answer is 23, and Fran says the answer is 32.

Who is correct? Explain.

Fran is correct. The parentheses mean that $5 + 3$ should be done first. So $5 + 3 = 8$ and $4 \times 8 = 32$.

Lesson 6.9:

How do you write a two-step number story to fit a number sentence?

Write a number story to fit this number sentence.

$$15 - (5 \times 2) = 5$$

Answers Vary- Sample: Rita has 5 bags of marbles with 2 marbles in each bag. Her friend Bill want 15 marbles. How many more marbles does Rita need?

Lesson 6.10:

How do you apply the order of operations to solve multistep problems?

Stephen used the order of operations to solve this number sentence.

$$4 + 5 \times 5 = 29$$

Rules for the Order of Operations

1. Do operations inside parentheses first. Follow rules 2 and 3 when computing inside parentheses.
2. Then multiply or divide, in order, from left to right.
3. Finally add or subtract, in order, from left to right.

Explain Stephen's steps for solving the number sentence.

First, Stephen solved 5×5 and got 25. Then he added 4 to 25 and got 29.

Lesson 6.11:

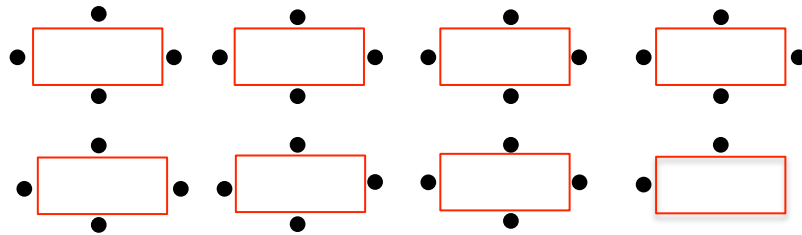
How do you solve two-step number stories and represent them with equations?

Solve.

Mr. Roger's class has 7 tables with 4 children at each table and a table with 2 children. How many children are in Mr. Roger's class?

Number model: $(7 \times 4) + 2 = C$

- a. Solve the number story using any strategy. Show your work.



$$7 \times 4 = 28$$
$$28 + 2 = 30$$

Answer: 30 children
(unit)

- b. Explain how the number model fits the story.

The 7×4 shows the number of children sitting at 7 tables.

The $+2$ shows the number of other children in the class.

Together there are 30 children in the class.