

EVERYDAY MATHEMATICS—3rd Grade

Unit 3 Review: Operations

Complete the tables. Write your own number pair in the last row of each table.

1)

Rule
Add 3

in	out
6	
	14
12	
	21
	35

2)

Rule

in	out
24	16
16	8
40	
	33
	28

For each problem, use rounding to estimate and then solve.
Use your estimate to check whether your answer makes sense.
Show your work.

3) a. Estimate: _____

b.

$$\begin{array}{r}
 236 \\
 + 78 \\
 \hline
 \end{array}$$

4) a. Estimate: _____

b.

$$\begin{array}{r}
 73 \\
 - 45 \\
 \hline
 \end{array}$$

c. Does your answer make sense? Explain.

Unit 3 Review (continued)

5) a. Estimate: _____

b.

$$\begin{array}{r} 475 \\ + 258 \\ \hline \end{array}$$

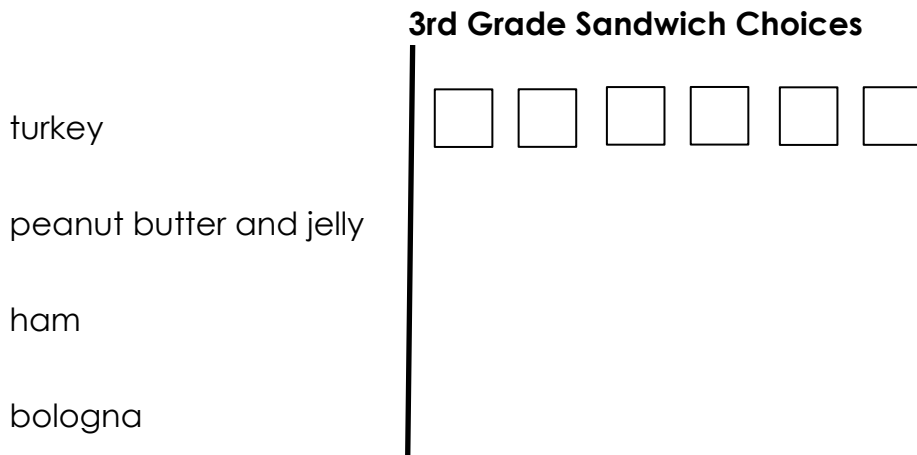
6) a. Estimate: _____

b.

$$\begin{array}{r} 316 \\ - 79 \\ \hline \end{array}$$

7) Use the tally chart and the key to complete the picture graph.

3rd Grade Sandwich Choices	
Kind of Sandwich	Number of Children
turkey	
peanut butter and jelly	
ham	
bologna	



Key: = 5 children

Unit 3 Review (continued)

8) Use the turn-around rule to solve and draw arrays for each fact.

a. $5 \times 4 =$ _____

$4 \times 5 =$ _____

b. $10 \times 6 =$ _____

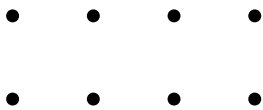
$6 \times 10 =$ _____

c. How does drawing arrays for these fact pairs help you understand the turn-around rule?

Unit 3 Review (continued)

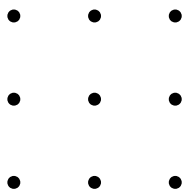
9) Write a number sentence to match each array.

a.



Number sentence: _____

b.



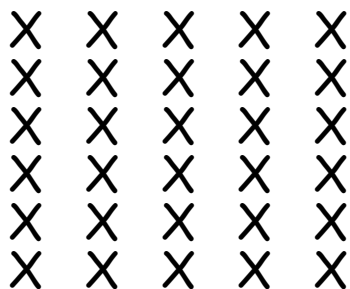
Number sentence: _____

c. Which array, a or b, in Problem 9 shows a multiplication square? Explain.

10) Victoria does not know the answer to 7×5 .

She does know that $6 \times 5 = 30$, so she uses it as a helper fact.

Victoria starts by drawing this array for $6 \times 5 = 30$:



Show on the picture and explain how Victoria can use this array to help her figure out 7×5 .

Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 3 Challenge Review

1) Joshua like to skip count equal groups when he is multiplying.
He has to solve 5×6 .

a. 5×6 means _____ groups of _____.

6×5 means _____ groups of _____.

b. How are 5×6 and 6×5 alike?

c. Would it be easier for Joshua to skip count 6 groups of 5 or 5 groups of 6? Explain.

Unit 3 Challenge Review (continued)

2) Avery wants to solve 6×7 . She knows $10 \times 7 = 70$.

a. 10×7 means _____ groups of _____.

6×7 means _____ groups of _____.

b. Avery uses the subtracting-a-group strategy with 10×7 to help her figure out 6×7 . Use numbers, pictures, or words to explain what Avery did.

$$6 \times 7 = \underline{\hspace{2cm}}$$

Name: _____ Date: _____

EVERYDAY MATHEMATICS—3rd Grade
Unit 3 Open Response Review

Finding a Mistake in a Subtraction Problem

Jordan wants to solve the problem: $453 - 254 = ?$
He begins by making an estimate.

Estimate: 450 - 250 = 200

Then he uses expand-and-trade subtraction to find an exact answer, but his answer is not close to his estimate. This is his work.

$$\begin{array}{r} 453 \\ - 254 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} 400 \\ - 200 \\ \hline 200 \end{array} \quad \begin{array}{r} + 50 \\ + 50 \\ \hline 90 \end{array} \quad \begin{array}{r} + 3 \\ + 4 \\ \hline + 9 \end{array} \quad \begin{array}{r} 140 \\ 40 \\ 13 \\ \hline 299 \end{array}$$

"Oops," says Jordan, "I didn't cross out 400 and write 300."
Explain **why** not changing 400 to 300 is a mistake.

(Hint: Use what you know about place value in your answer.)

EVERYDAY MATHEMATICS—3rd Grade

Unit 3 Review: Operations

Complete the tables. Write your own number pair in the last row of each table.

1)

Rule
Add 3

in	out
6	9
11	14
12	15
18	21
32	35

2)

Rule
- 8 or subtract 8

in	out
24	16
16	8
40	32
41	33
36	28

For each problem, use rounding to estimate and then solve.
Use your estimate to check whether your answer makes sense.
Show your work.

3) a. Estimate: $240 + 80 = 320$

b.

$$\begin{array}{r}
 1 1 \\
 2 3 6 \\
 + 7 8 \\
 \hline
 3 1 4
 \end{array}$$

4) a. Estimate: $70 - 50 = 20$

b.

$$\begin{array}{r}
 6 13 \\
 7 3 \\
 - 4 5 \\
 \hline
 2 8
 \end{array}$$

c. Does your answer make sense? Explain.

Yes, 73 is close to 70 and 45 is close to 50. The difference should be close to 20.

Unit 3 Review (continued)

ANSWER KEY

5) a. Estimate: $480 + 260 = 740$

b.

$$\begin{array}{r} 2 \\ 475 \\ + 258 \\ \hline 733 \end{array}$$

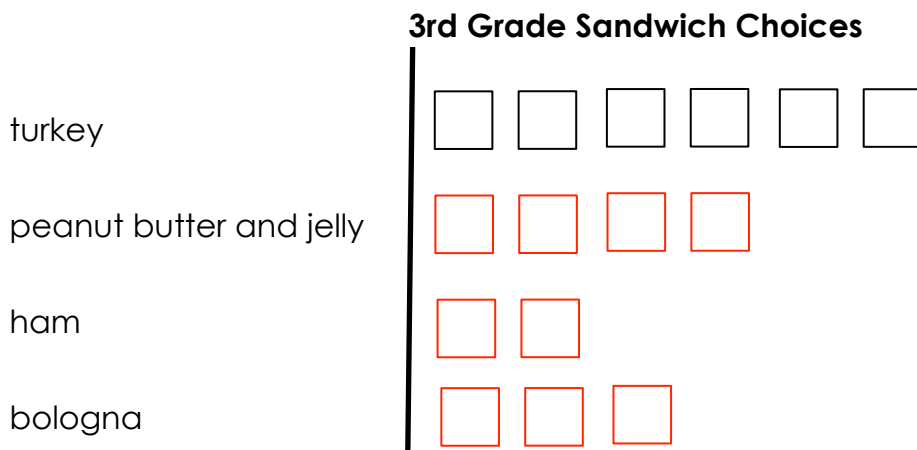
6) a. Estimate: $320 - 80 = 240$

b.

$$\begin{array}{r} 2 \text{ } 10 \text{ } 16 \\ 316 \\ - 79 \\ \hline 237 \end{array}$$

7) Use the tally chart and the key to complete the picture graph.

3rd Grade Sandwich Choices	
Kind of Sandwich	Number of Children
turkey	
peanut butter and jelly	
ham	
bologna	



Key: = 5 children

Unit 3 Review (continued)

ANSWER KEY

8) Use the turn-around rule to solve and draw arrays for each fact.

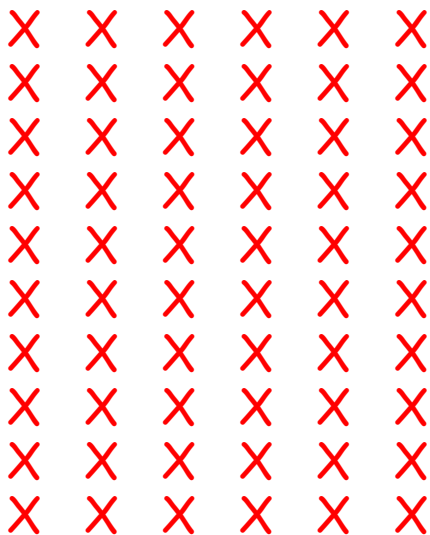
a. $5 \times 4 = \underline{20}$



$4 \times 5 = \underline{20}$



b. $10 \times 6 = \underline{60}$



$6 \times 10 = \underline{60}$



c. How does drawing arrays for these fact pairs help you understand the turn-around rule?

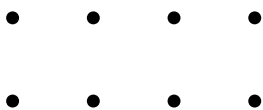
Answers will vary.

Unit 3 Review (continued)

ANSWER KEY

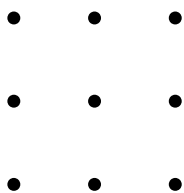
9) Write a number sentence to match each array.

a.



Number sentence: $4 \times 2 = 8$ or $2 \times 4 = 8$

b.



Number sentence: $3 \times 3 = 9$

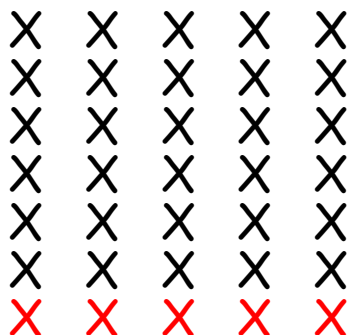
c. Which array, a or b, in Problem 9 shows a multiplication square? Explain.

Array b, $3 \times 3 = 9$, shows a multiplication square. Both factors are the same, so the array forms a 3 by 3 square.

10) Victoria does not know the answer to 7×5 .

She does know that $6 \times 5 = 30$, so she uses it as a helper fact.

Victoria starts by drawing this array for $6 \times 5 = 30$:



Show on the picture and explain how Victoria can use this array to help her figure out 7×5 .

Possible answer: Victoria can add another row of 5 to make 7 rows.

She just has to add 5 to 30. $30 + 5 = 35$, so 7×5 is 35.

EVERYDAY MATHEMATICS—3rd Grade Unit 3 Challenge Review

1) Joshua like to skip count equal groups when he is multiplying.
He has to solve 5×6 .

a. 5×6 means 5 groups of 6.

6×5 means 6 groups of 5.

b. How are 5×6 and 6×5 alike?

Possible answer: 5×6 and 6×5 are turn-around facts. 5 groups of 6 is the same as 6 groups of 5. They both equal 30. The products are the same.

c. Would it be easier for Joshua to skip count 6 groups of 5 or 5 groups of 6? Explain.

Possible answer: It would be easier for Joshua to skip count 6 groups of 5 because it's easier to count by 5s than by 6s.

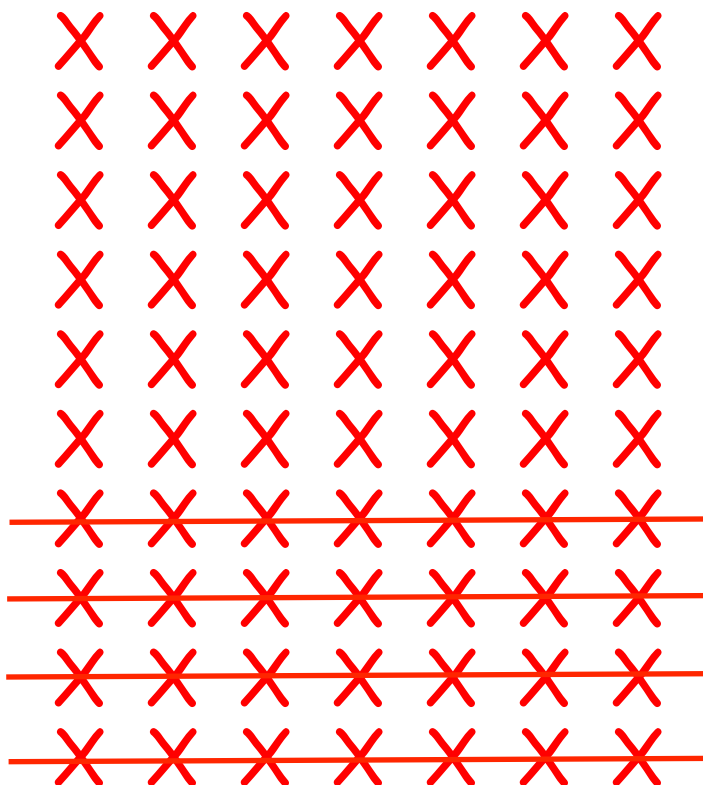
Unit 3 Challenge Review (continued) *ANSWER KEY*

2) Avery wants to solve 6×7 . She knows $10 \times 7 = 70$.

a. 10×7 means 10 groups of 7.

6×7 means 6 groups of 7.

b. Avery uses the subtracting-a-group strategy with 10×7 to help her figure out 6×7 . Use numbers, pictures, or words to explain what Avery did.



Possible answer: Since 6 groups of 7 is 4 fewer groups than 10 groups of 7, Jordan can start from 70 and take away 4 groups of 7. $70 - 28 = 42$.

$6 \times 7 = \underline{42}$

EVERYDAY MATHEMATICS—3rd Grade
Unit 3 Open Response Review

Finding a Mistake in a Subtraction Problem

Jordan wants to solve the problem: $453 - 254 = ?$
 He begins by making an estimate.

Estimate: 450 - 250 = 200

Then he uses expand-and-trade subtraction to find an exact answer, but his answer is not close to his estimate. This is his work.

$$\begin{array}{r}
 453 \\
 - 254 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{r}
 400 \\
 - 200 \\
 \hline
 200
 \end{array}
 \begin{array}{r}
 140 \\
 40 \\
 + 50 \\
 + 50 \\
 \hline
 90
 \end{array}
 \begin{array}{r}
 13 \\
 + 3 \\
 + 4 \\
 + 9 \\
 \hline
 299
 \end{array}$$

“Oops,” says Jordan, “I didn’t cross out 400 and write 300.”
 Explain **why** not changing 400 to 300 is a mistake.

(Hint: Use what you know about place value in your answer.)

Possible answer: Jordan needed to change 400 to 300 because he
could not take 5 tens away from 4 tens. He took 1 hundred for the
tens to get 140 to be able to subtract in the tens place, but he
forgot to cross out the 400 and change it to 300. It is a mistake
because the hundreds were not regrouped. If Jordan regrouped
the hundreds, his estimate would have been close.