3rd Grade Math
Distance Learning Packet
Week 2

Directions:

Daily Directions

Read directions for the topic and follow the examples.

Students should complete approximately 1-2 sections per day

Contact Information:

Teacher Contact Information

School Contact Information
### 2.4 Addition and Subtraction Fact Families (DOK 3)

A fact family is a group of three numbers that can be used for two addition sentences and two subtraction sentences.

<table>
<thead>
<tr>
<th>Example 1</th>
<th>Example 2</th>
<th>Example 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The three numbers are 5, 4, and 9.</td>
<td>The three numbers are 12, 14, and 26.</td>
<td>The three numbers are 107, 254, and 361.</td>
</tr>
</tbody>
</table>

You can make two true **addition** sentences with these numbers:  
5 + 4 = 9 or  
4 + 5 = 9.  
You can make two true **addition** sentences with these numbers:  
12 + 14 = 26 or  
14 + 12 = 26.  
You can make two true **addition** sentences with these numbers:  
107 + 254 = 361 or  
254 + 107 = 361.  
You can make two true **subtraction** sentences with these numbers:  
9 − 5 = 4 or  
9 − 4 = 5.  
You can make two true **subtraction** sentences with these numbers:  
26 − 12 = 14 or  
26 − 14 = 12.  
You can make two true **subtraction** sentences with these numbers:  
361 − 107 = 254 or  
361 − 254 = 107.

Write two true addition sentences and two true subtraction sentences for each group of numbers. (DOK 3)

1. 8, 14, 22
2. 15, 22, 37
3. 145, 210, 355

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Chapter 2 Addition and Subtraction

4. 7, 11, 18  
5. 33, 44, 77  
6. 510, 406, 916

7. 16, 47, 63  
8. 241, 708, 949  
9. 368, 27, 395

Use your knowledge of fact families to fill in the blanks below. (DOK 3)

Addition

10. 647 + _________ = 718
11. 652 – _________ = 312
12. 285 + _________ = 607
13. 750 – _________ = 458
14. 108 + _________ – 362
15. 839 – _________ – 107
16. 106 + _________ = 217
17. 577 – _________ = 468
Fact families can be used to double check your arithmetic. If you know $2 + 3 = 5$, then given the subtraction problem $5 - 2$, you know the answer is 3. This fact family contains the three numbers 2, 3, and 5. A fact family shows the relationship between addition and subtraction.

Solve each addition problem in column 1, and write your answer on the first line. Then choose a subtraction sentence from column 2 that is in the same fact family, and write the letter on the second line. The first problem is done for you. (DOK 3)

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. $17 + 23 = \underline{40}$ G</td>
<td>A) $25 - 11 = 14$</td>
</tr>
<tr>
<td>19. $15 + 11 = \underline{\phantom{100}}$</td>
<td>B) $34 - 11 = 23$</td>
</tr>
<tr>
<td>20. $11 + 14 = \underline{\phantom{100}}$</td>
<td>C) $88 - 71 = 17$</td>
</tr>
<tr>
<td>21. $23 + 71 = \underline{\phantom{100}}$</td>
<td>D) $26 - 15 = 11$</td>
</tr>
<tr>
<td>22. $11 + 23 = \underline{\phantom{100}}$</td>
<td>E) $31 - 14 = 17$</td>
</tr>
<tr>
<td>23. $71 + 17 = \underline{\phantom{100}}$</td>
<td>F) $94 - 23 = 71$</td>
</tr>
<tr>
<td>24. $14 + 17 = \underline{\phantom{100}}$</td>
<td>G) $40 - 17 = 23$</td>
</tr>
</tbody>
</table>
Chapter 3
Multiplication

3.1 Multiplying (DOK 2, 3)

Each part of a multiplication sentence has a name. Look at the sentence $3 \times 4 = 12$.

3 and 4: The numbers that are multiplied together are called factors.

12: The answer is called the product.

$\times$: The times sign means you should multiply the two numbers.

=: The equal sign separates the problem from the answer.

Multiplying is a faster way of adding.

Anna has 3 rows of 4 apples. To find how many apples Anna has in all, she can add $4 + 4 + 4$ or $3 + 3 + 3 + 3$. Both answers are 12.

If Anna knew how to multiply, she could find the answer faster.

$3 \times 4 = 12$ and $4 \times 3 = 12$. 
Jack has 2 bags of bananas. Each bag has 5 bananas in them. Set up a multiplication sentence to find how many bananas Jack has in all.

First, find the two factors: 2 bags of 5 bananas. The factors are 2 and 5.

Go to the multiplication table below to find the answer. Choose 2 along the left side of the table and 5 on the top row of the table. Then follow the row and column to the middle where they meet and find the answer.

Answer: $2 \times 5 = 10$

Marta has 4 bags of plums. Each bag has 4 plums in them. Set up a multiplication sentence to find how many plums Marta has in all.

First, find the two factors: 4 bags of 4 plums. The factors are 4 and 4.

Go to the multiplication table below to find the answer. Choose 4 on the top row of the table and 4 along the left side of the table. Then, follow the row and column to the middle where they meet and find the answer.

Answer: $4 \times 4 = 16$
Use the multiplication table to find the product of the factors. Write your answers on the lines. (DOK 2)

**Multiplication Table**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>72</td>
<td>81</td>
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<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

1. $5 \times 6 = \underline{\hspace{2cm}}$
2. $10 \times 8 = \underline{\hspace{2cm}}$
3. $2 \times 4 = \underline{\hspace{2cm}}$
4. $7 \times 9 = \underline{\hspace{2cm}}$
5. $1 \times 6 = \underline{\hspace{2cm}}$
6. $8 \times 2 = \underline{\hspace{2cm}}$
7. $3 \times 3 = \underline{\hspace{2cm}}$
8. $5 \times 4 = \underline{\hspace{2cm}}$
9. $6 \times 7 = \underline{\hspace{2cm}}$
10. $4 \times 8 = \underline{\hspace{2cm}}$
11. $2 \times 6 = \underline{\hspace{2cm}}$
12. $9 \times 3 = \underline{\hspace{2cm}}$
13. $7 \times 7 = \underline{\hspace{2cm}}$
14. $8 \times 3 = \underline{\hspace{2cm}}$
15. $5 \times 9 = \underline{\hspace{2cm}}$
16. $2 \times 2 = \underline{\hspace{2cm}}$
17. $5 \times 10 = \underline{\hspace{2cm}}$
18. $9 \times 4 = \underline{\hspace{2cm}}$

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Find the products of each problem in both columns below. Then match the products from column A to the products in column B, and write the letter of the product in column B on the second line in column A. The first one is done for you. (DOK 3)

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. $2 \times 6 =$</td>
<td>$12$</td>
</tr>
<tr>
<td>20. $4 \times 2 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>21. $3 \times 8 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>22. $7 \times 2 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>23. $5 \times 4 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>24. $9 \times 3 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>25. $6 \times 6 =$</td>
<td>$____$</td>
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<tr>
<td>26. $8 \times 4 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>27. $5 \times 8 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>28. $7 \times 4 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>29. $3 \times 6 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>30. $2 \times 5 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>31. $5 \times 6 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>32. $6 \times 8 =$</td>
<td>$____$</td>
</tr>
<tr>
<td>33. $1 \times 9 =$</td>
<td>$____$</td>
</tr>
</tbody>
</table>

A) $2 \times 7 =$
B) $10 \times 4 =$
C) $3 \times 9 =$
D) $9 \times 2 =$
E) $1 \times 8 =$
F) $3 \times 10 =$
G) $4 \times 8 =$
H) $4 \times 3 =$
I) $10 \times 1 =$
J) $3 \times 3 =$
K) $2 \times 10 =$
L) $8 \times 6 =$
M) $4 \times 7 =$
N) $4 \times 6 =$
O) $9 \times 4 =$
### 3.2 Finding the Missing Number (DOK 2)

Find the missing numbers in multiplication problems by asking yourself a question based on where the missing number is in the multiplication problem.

| 3 × _______ = 12 Ask yourself “3 times what number equals 12?” |
| Answer: 3 × 4 = 12 |
| _______ × 6 = 36 Ask yourself “What number times 6 equals 36?” |
| Answer 6 × 6 = 36 |
| 4 × 5 = _______ Ask yourself “4 times 5 equals what product?” |
| Answer 4 × 5 = 20 |

Find the missing numbers. Write your answers on the lines in the problems. (DOK 2)

| 1. 5 × _______ = 25 | 2. 8 × 4 = _______ | 3. _______ × 2 = 16 |
| 4. _______ × 3 = 9 | 5. 6 × _______ = 12 | 6. 8 × 7 = _______ |
| 7. 9 × 3 = _______ | 8. _______ × 8 = 64 | 9. 4 × _______ = 24 |
| 10. _______ × 6 = 30 | 11. 9 × 9 = _______ | 12. 7 × 5 = _______ |
| 13. 1 × 8 = _______ | 14. 4 × _______ = 36 | 15. _______ × 3 = 27 |
| 16. _______ × 4 = 16 | 17. _______ × 7 = 42 | 18. 8 × _______ = 56 |
| 19. 3 × 6 = _______ | 20. 9 × _______ = 18 | 21. 6 × 6 = _______ |
3.3 Multiplying By Tens (DOK 1, 2)

You already know how to multiply whole numbers by ten. The products are called **multiples of ten**. The multiples of ten are 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100.

<table>
<thead>
<tr>
<th>1 × 10 = 10</th>
<th>2 × 10 = 20</th>
<th>3 × 10 = 30</th>
<th>4 × 10 = 40</th>
<th>5 × 10 = 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 × 10 = 60</td>
<td>7 × 10 = 70</td>
<td>8 × 10 = 80</td>
<td>9 × 10 = 90</td>
<td>10 × 10 = 100</td>
</tr>
</tbody>
</table>

Now let’s multiply whole numbers by multiples of 10.

**Example 1**

8 × 20
First, multiply the two whole numbers without the zero.
8 × 2 = 16
Take the product, 16, and add a zero to the end.

160

8 × 20 = 160

**Example 2**

4 × 50
First, multiply the two whole numbers without the zero.
4 × 5 = 20
Take the product, 20, and add a zero to the end.

200

4 × 50 = 200

**Example 3**

9 × 70
First, multiply the two whole numbers without the zero.
9 × 7 = 63
Take the product, 63, and add a zero to the end.

630

9 × 70 = 630

Multiply the whole numbers and multiples of tens below. Write your answer on the lines. (DOK 1)

1. 8 × 60 =
2. 8 × 30 =
3. 7 × 20 =

4. 5 × 40 =
5. 6 × 50 =
6. 4 × 40 =

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Find the missing number for problems 7–14 that will make the sentence in column 1 true. Choose your answer from column 2. Write the letter from column 2 on the blank in column 1. The first one is done for you. (DOK 2)

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. $3 \times \underline{D} \underline{ } - 150$</td>
<td>A) 50</td>
</tr>
<tr>
<td>8. $6 \times 80 = \underline{ } \underline{ }$</td>
<td>B) 7</td>
</tr>
<tr>
<td>9. $\underline{ } \times 20 = 180$</td>
<td>C) 60</td>
</tr>
<tr>
<td>10. $5 \times \underline{ } = 250$</td>
<td>D) 50</td>
</tr>
<tr>
<td>11. $7 \times 70 = \underline{ } \underline{ }$</td>
<td>E) 480</td>
</tr>
<tr>
<td>12. $9 \times \underline{ } = 540$</td>
<td>F) 9</td>
</tr>
<tr>
<td>13. $\underline{ } \times 30 - 210$</td>
<td>G) 320</td>
</tr>
<tr>
<td>14. $4 \times 80 - \underline{ } \underline{ }$</td>
<td>H) 490</td>
</tr>
</tbody>
</table>

15. Jessica bought 4 packages of juice boxes. Each package has 10 juice boxes. There are $4 \times 10$ juice boxes. Which two expressions could be used to find the number of juice boxes? _____ and _____

16. Matthew has 3 rolls of 50 pennies. There are $3 \times 50$ pennies in all. Which two expressions could be used to find the number of pennies Matthew has? _____ and _____
3.4 Multiplication Arrays (DOK 2)

Jerome set up his model cars in rows and columns on the floor of his room like the ones shown below. This is his array of cars. An array is a collection of things arranged in an orderly way.

As you can see, there are 3 rows, with 4 cars in each row. Or, you could say there are 4 columns and 3 cars in each column. Rows go side to side, and columns go up and down. No matter which way you say it, the number of cars stay the same. Write two multiplication sentences for this array of cars.

First, find the factors: 3 rows and 4 columns or 4 columns and 3 rows.

\[ 3 \times 4 \quad \text{or} \quad 4 \times 3 \]

Now, find the product. \[ 3 \times 4 = 12 \quad 4 \times 3 = 12 \]

There are 12 model cars in Jerome’s array.

Write two multiplication sentences for each array on this page and the next. Write your sentences on the lines. Be sure to include the product. (DOK 2)

1.
3.5 Word Problem Hints

In a word problem, the words "times as many" indicate a multiplication problem. For example, John has 4 cars. Elain has 5 times as many. How many cars does Elain have? \(4 \times 5 = 20\). Elain has 20 cars. The words "more than" indicate addition. For example, Sara ate 3 more cookies than Brittany who ate 2 cookies. How many cookies did Sara eat? \(3 + 2 = 5\). Sara ate 5 cookies.

Write an equation for each problem below and solve.

1. Mike has 4 cars. Terry has 2 more than Mike. How many cars does Terry have?
   
2. Annie has 3 times as many pencils as Stacy who has 2 pencils. How many pencils does Annie have?
   
3. Brad has 5 books. Tommy has 2 times as many books. How many books does Tommy have?
   
4. Marie has 4 dolls. Erin has three more dolls than Maria. How many dolls does Erin have?
   
5. Eli has 5 baseball cards. Bill has 3 more baseball cards than Eli. How many baseball cards does Bill have?
   
6. Two markers belong to Liz. Devin has 3 times as many as Liz. How many markers does Devin have?
   
7. There are 8 students in art class. The teacher gave each student 3 sheets of paper. How many pieces of paper did she give out?
   
8. Anna had 12 dollars. She earned $5 more raking leaves. How much does she have now?
Chapter 4
Division

4.1 Dividing (DOK 2)

Each part of a division sentence has a name. Look at the sentence $8 \div 2 = 4$.

**8**: The largest number is called a **dividend**.

**2**: The next number is called a **divisor**. You divide the dividend by the divisor.

**4**: The answer is called the **quotient**. (pronounced “kwo-shent”)

$\div$: The **division sign** means you should divide.

$=$: The **equal sign** separates the problem from the answer.

Dividing is taking a number or a group of items and separating them into equal amounts or shares.

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Michael has 20 ounces of juice. He wants to divide the juice equally into 4 shares for his 3 friends and himself. How can Michael figure out how many ounces each person should receive? Michael can make a division problem: $20 \div 4 = ?$
Example 1

Lisa has 6 apples. She divides the 6 apples into 2 equal shares. How many apples are in each share?

\[ 6 \div 2 = ? \]

[Image of 6 apples divided into 2 groups]

Lisa divided the 6 apples into 2 groups.

Group 1

Group 2

Lisa has 3 apples in each group. Now she knows that \( 6 \div 2 = 3 \).

Example 2

William has 10 acorns. He divides the acorns into 5 equal shares. How many acorns are in each share?

[Image of 10 acorns divided into 5 groups]

William divided the 10 acorns into 5 equal groups.

Group 1

Group 2

Group 3

Group 4

Group 5

William has 2 acorns in each group. Now he knows that \( 10 \div 5 = 2 \).
For each group of problems, circle the number that belongs in each share. Then fill in the blank to solve the problem. (DOK 2)

1. Sara has 9 gold fish in one fish tank. Sara wants to put an equal share of gold fish into 3 fish tanks. Circle the fish into 3 equal shares.

How many fish will be in each tank? \(9 \div 3 = \)_____

2. James has 12 seashells. He wants to divide the seashells into 3 equal shares. Circle the seashells into 3 equal shares.

How many seashells are in each share? \(12 \div 3 = \)_____ 

3. Bella drew 15 flowers. She wants to cut the flowers out and put them into 5 equal groups. Circle the flowers into 5 equal shares. 
   How many flowers are in each share?

\(15 \div 5 = \)_____

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