

## Grade 3 Mathematics

## Student At-Home Activity Packet

This At-Home Activity Packet includes 26 sets of practice problems that align to important math concepts your student has worked with so far this year.

We recommend that your student completes one page of practice problems each day.

Encourage your student to do the best they can with this content—the most important thing is that they continue developing their mathematical fluency and skills.

See the Grade 3 Math concepts covered in this packet!



## Grade 3 Math concepts covered in this packet

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Understanding Multiplication 1		Understanding of Multiplication Models	
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Practicing Multiplication	5	Multiplying with 4	8
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Using Properties of Multiplication	11	Using Grouping to Multiply	14
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## Grade 3 Math concepts covered in this packet (Continued)

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1 Show  $3 \times 5$  by drawing equal groups of 5.

Show  $3 \times 5$  by drawing an array.

Complete the equation.  $3 \times 5 =$  \_\_\_\_\_

2 Write an equation that matches the array.

Write an equation that matches the picture.









4 Use words to describe the drawing for problem 3.

## Multiplying with 2, 5, and 10

2 
$$2 \times 5 =$$
\_\_\_\_\_

1 
$$5 \times 2 =$$
 \_\_\_\_\_ 2  $2 \times 5 =$  \_\_\_\_ 3  $2 \times 10 =$  \_\_\_\_ 4  $10 \times 2 =$  \_\_\_\_\_

**5** 
$$10 \times 5 =$$
 \_\_\_\_\_ **6**  $5 \times 10 =$  \_\_\_\_ **7**  $6 \times 2 =$  \_\_\_\_ **8**  $2 \times 6 =$  \_\_\_\_

9 
$$3 \times 10 =$$
 \_\_\_\_\_ 10  $10 \times 3 =$  \_\_\_\_ 11  $7 \times 2 =$  \_\_\_\_ 12  $2 \times 7 =$  \_\_\_\_

13 
$$4 \times 10 =$$
 \_\_\_\_\_ 14  $10 \times 4 =$  \_\_\_\_ 15  $5 \times 4 =$  \_\_\_\_ 16  $4 \times 5 =$  \_\_\_\_

16 
$$4 \times 5 =$$

18 
$$5 \times 5 =$$
\_\_\_\_\_

18 
$$5 \times 5 =$$
 \_\_\_\_\_ 19  $10 \times 10 =$  \_\_\_\_\_

- What patterns do you notice in the problems? Explain.
- 21 Draw a model to show how you solved one of the problems.

Write the missing digits in the boxes to make each multiplication problem true.

$$3 \times 1 = \boxed{ 0 \times 7 = \boxed{ 1 \times 0 = \boxed{ }}$$

$$0 \times 7 =$$

$$1 \times 7 =$$

$$4 \times \boxed{\phantom{0}} = 4 \qquad \qquad 9 \times \boxed{\phantom{0}} = 0$$

$$\times 1 = 3$$

$$\times$$
 9 = 9

$$\times$$
 8 = 0

$$\times$$
 6 = 0

Write two factors to make each multiplication problem true.

Write a digit in the box to make the multiplication problem true. Then use words to write about the groups.

$$\times 0 = 0$$

1 
$$2 \times 3 =$$
 \_\_\_\_ 2  $3 \times 2 =$  \_\_\_ 3  $10 \times 3 =$  \_\_\_ 4  $3 \times 10 =$  \_\_\_\_

3 
$$10 \times 3 =$$

9 
$$9 \times 3 =$$
 \_\_\_\_\_ 10  $3 \times 9 =$  \_\_\_\_ 11  $1 \times 3 =$  \_\_\_\_ 12  $3 \times 1 =$  \_\_\_\_\_

13 
$$8 \times 3 =$$
 \_\_\_\_\_ 14  $3 \times 8 =$  \_\_\_\_\_ 15  $6 \times 3 =$  \_\_\_\_\_ 16  $3 \times 6 =$  \_\_\_\_\_

17 
$$7 \times 3 =$$
 \_\_\_\_\_ 18  $3 \times 7 =$  \_\_\_\_\_ 19  $0 \times 3 =$  \_\_\_\_\_ 20  $3 \times 3 =$  \_\_\_\_\_

- Tell how you could check that your answer to problem 9 is correct.
- 22 Draw a model to show how you solved one of the problems.

1 
$$2 \times 4 =$$
 \_\_\_\_\_ 2  $3 \times 4 =$  \_\_\_\_ 3  $10 \times 4 =$  \_\_\_\_ 4  $5 \times 4 =$  \_\_\_\_\_

9 1 
$$\times$$
 4 = \_\_\_\_\_ 10 4  $\times$  5 = \_\_\_\_ 11 0  $\times$  4 = \_\_\_\_ 12 4  $\times$  10 = \_\_\_\_\_

11 
$$0 \times 4 =$$
\_\_\_\_\_

13 
$$4 \times 3 =$$
 \_\_\_\_\_ 14  $4 \times 2 =$  \_\_\_\_ 15  $4 \times 1 =$  \_\_\_\_ 16  $4 \times 4 =$  \_\_\_\_

- Tell what strategy you used to solve  $6 \times 4$ .
- Draw a model to show how you solved one of the problems.

1 
$$5 \times 6 =$$
 \_\_\_\_\_ 2  $3 \times 6 =$  \_\_\_\_ 3  $10 \times 6 =$  \_\_\_\_ 4  $2 \times 6 =$  \_\_\_\_

**5** 
$$7 \times 6 =$$
 \_\_\_\_\_ **6**  $4 \times 6 =$  \_\_\_\_ **7**  $8 \times 6 =$  \_\_\_\_ **8**  $1 \times 6 =$  \_\_\_\_

9 
$$9 \times 6 =$$
 \_\_\_\_\_ 10  $6 \times 5 =$  \_\_\_\_ 11  $0 \times 6 =$  \_\_\_\_ 12  $6 \times 10 =$  \_\_\_\_

13 
$$6 \times 3 =$$
 \_\_\_\_\_ 14  $6 \times 2 =$  \_\_\_\_\_ 15  $6 \times 5 =$  \_\_\_\_\_ 16  $6 \times 6 =$  \_\_\_\_\_

- Tell a strategy you can use to show  $5 \times 6$ .
- Explain how problem 2 and problem 13 are related.

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

12 
$$0 \times 7 =$$
\_\_\_\_\_

$$7 \times 5 =$$

#### **Answers**

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

**Answers** 

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

17 
$$9 \times 5 =$$
\_\_\_\_\_

**Answers** 

Write the missing numbers in the boxes to make each multiplication problem true.

$$4 \times 5 =$$

$$6 \times 5 = \boxed{\phantom{0}}$$

$$6 \times 2 =$$

$$5 \times 4 =$$

$$3 \times 8 =$$

$$4 \times 7 =$$

$$8 \times 3 =$$

$$9 \times 2 = \boxed{\phantom{0}}$$

$$\times$$
 5 = 15

$$2 \times | = 18$$

$$\times$$
 7 = 56

$$\times$$
 10 = 70

$$\times$$
 5 = 10

$$3 \times \boxed{\phantom{0}} = 12$$

$$5 \times | = 10$$

$$\times$$
 3 = 12

1 Look at  $6 \times 5$  and  $5 \times 6$ . How does the order of the factors change the product?

2 Draw two arrays to show  $4 \times 7$  and  $7 \times 4$ .

Draw parentheses around the numbers you want to multiply first. Then find the product.

$$16 \times 3 \times 2$$

$$24 \times 3 \times 3$$

$$35 \times 2 \times 8$$

$$6 \times 3 \times 2$$

$$6 \times (3 \times 2)$$

$$6 \times 6 = 36$$

Sample Student Work:

$$3 \times 2 = 6$$
;  $6 \times 6 = 36$ 

$$48 \times 2 \times 4$$

$$5 2 \times 2 \times 7$$

$$66 \times 5 \times 2$$

$$7 3 \times 3 \times 7$$

$$82\times4\times5$$

$$97\times4\times2$$

10 
$$6 \times 3 \times 3$$

11 
$$3 \times 3 \times 10$$

12 
$$2 \times 3 \times 4$$

- 13 How did you decide which factors to group?
- 14 Choose one problem. Tell two ways you can group the factors. Then explain which way is easier for you to solve.

Order and group the factors to show how you want to multiply. Then find the product.

$$15 \times 7 \times 2$$

$$5 \times 2 \times 7$$

$$(5 \times 2) \times 7$$

$$10 \times 7 = 70$$

$$23 \times 5 \times 3$$

$$34 \times 8 \times 2$$

$$42 \times 9 \times 5$$

$$62\times8\times2$$

$$7 3 \times 9 \times 3$$

$$85 \times 2 \times 6$$

9 
$$4 \times 5 \times 2$$

10 
$$2 \times 9 \times 2$$

$$11 3 \times 8 \times 2$$

13 What strategies did you use to decide how to order and group the factors?

14 Why do you need to reorder factors in some problems?

## **Understanding of Division Models**

Name: \_\_\_\_\_

1 Draw a model to show  $12 \div 6$ . Show 6 equal groups. How many are in each group?

There are 12 in all. There are 6 equal groups. There are \_\_\_\_ in each group.  $12 \div 6 =$  \_\_\_\_\_ in each group.

2 Draw a model to show  $12 \div 6$ . Show 6 in each group. How many groups are there?

There are 12 in all. There are 6 in each group. There are  $\_$  groups.  $12 \div 6 = \_$ 

- 3 Draw an array to find 21  $\div$  3.
- 4 Draw an array to find  $20 \div 4$ .

$$21 \div 3 =$$
\_\_\_\_\_

**5** What situation could be modeled with the equation  $40 \div 8 = 5$ ?













1 There are 24 marbles. Each bag has 4 marbles.

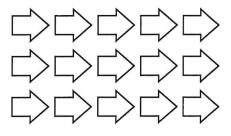
Write an equation that shows the number of bags.

There are 24 marbles. An equal number of marbles are in 6 bags.

Write an equation that shows the number of marbles in each bag.

- There are 6 bags of marbles. 4 marbles are in each bag.

  Write two different equations that show the total number of marbles.
- Write 2 multiplication equations and 2 division equations for this array.



Find the value of ? to complete each fact.

**5** 
$$6 \times ? = 48$$

6 
$$? \times 5 = 45$$

$$763 \div 9 = ?$$

8 
$$32 \div ? = 8$$

$$48 \div 6 = ?$$

$$45 \div ? = 5$$

$$? \times 9 = 63$$

$$8 \times ? = 32$$

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

**Answers:** 

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Write the missing numbers in the boxes to make each multiplication or division problem true.

$$\div 5 = 7$$

$$81 \div \boxed{\phantom{0}} = 9$$

$$\div 4 = 4$$

$$54 \div \boxed{\phantom{0}} = 6 \qquad \qquad 63 \div \boxed{\phantom{0}} = 9 \qquad \qquad 40 \div 8 = \boxed{\phantom{0}}$$

$$\div 8 = 6$$

$$\div$$
 7 = 7

1 Write 3 possible answers for the equation  $36 \div =$ 

#### Solve. Look for patterns.

### 1 Subtract.

200 - 100 = \_\_\_\_\_

## 2 Multiply.

$$8 \times 10 =$$
\_\_\_\_\_

$$3 \times 9 =$$

$$4 \times 9 =$$

$$8 \times 9 =$$
\_\_\_\_\_

3 Describe the patterns that you notice in the problems you just solved.

## **Solving Problems About Equal Groups**

Name: \_\_\_\_\_

#### Read and solve each problem. Show your work.

- Heather has 18 photographs of rockets. She wants to hang them on 3 different walls in her room. Each wall will have the same number of photographs. How many photographs will hang on each wall?
- There are 24 people who want to play volleyball. The coach divides the players into teams of 6. How many teams can she make?

There will be \_\_\_\_\_ photographs on each wall.

The coach can make \_\_\_\_\_ teams.

- At an art show, there are 7 groups of paintings with 6 paintings in each group. How many paintings are there in all?
- Jasmine reads for 10 minutes each night. If she reads for 5 nights, how many minutes will she read in all?

There are \_\_\_\_\_ paintings.

Jasmine will read for \_\_\_\_\_ minutes.

- Rhonda plants 28 tomato plants in her garden. She plants 7 tomato plants in each row. How many rows does she plant?
- 6 Mr. Jones buys 6 packages of pencils. There are 8 pencils in each package. How many pencils does Mr. Jones buy?

Rhonda plants \_\_\_\_\_ rows.

Mr. Jones buys \_\_\_\_\_ pencils.

**7** Choose one problem. Describe the strategy you used to solve it.

## **Solving Problems About Arrays**

Name: \_\_\_\_\_

#### Read and solve each problem. Show your work.

- 1 A parking lot has 6 rows of parking spaces. There are 5 spaces in each row. How many parking spaces are in the lot?
- Jack has 36 toy robots. He wants to display 9 on each shelf in his room. How many shelves will Jack need to display all of the robots?

There are \_\_\_\_\_ parking spaces.

Jack will need \_\_\_\_\_ shelves.

- There are 24 dancers. The teacher has them stand in 3 equal rows. How many dancers are in each row?
- Emily is putting away plates. She puts 6 plates each in 3 stacks. How many plates does she put away?

There are \_\_\_\_\_ dancers in each row.

Emily puts away \_\_\_\_\_ plates.

- A farmer picks 54 pumpkins. She places an equal number of pumpkins in 9 wagons. How many pumpkins are in each wagon?
- The school band marches in rows at the parade. There are 24 band members and they form rows with 4 members in each row. How many rows are there?

There are \_\_\_\_\_ pumpkins in each wagon.

There are \_\_\_\_\_ rows.

**7** Choose one problem. Describe and use a strategy to check your answer.

### **Solving Problems About Area**

Name: \_\_\_\_\_

#### Read and solve each problem. Show your work.

- 1 Nya covers a rectangular tray with 1-square-inch tiles. She uses 42 tiles, arranged in 7 rows. How many tiles are in each row?
- Jacob uses tiles to cover a rectangular hallway. Each tile has an area of 1 square foot. He uses 3 rows of tiles, with 8 tiles in each row. What is the area of the hallway?

There are \_\_\_\_\_ tiles in each row.

The area of the hallway is \_\_\_\_\_square feet.

- Sara covers the top of a box with squares of paper that are 1 square centimeter. She uses 48 squares, with 6 squares in each row. How many rows did she make?
- There are 64 squares on Rasha's chessboard. Each square is 1 square inch. There are 8 rows of squares on her chessboard. How many squares are in each row?

Sara made \_\_\_\_\_ rows.

There are \_\_\_\_\_ squares in each row.

- A rectangular patio at an outdoor restaurant is made of 35 tiles. Each tile is 1 square yard. If there are 5 tiles in each row, how many rows are there?
- Mr. Reilly uses square pieces of fabric that are each 1 square inch for a rectangular wall hanging. He uses 81 squares. If he makes 9 rows of squares, how many squares will be in each row?

There are rows of tiles.

There will be \_\_\_\_\_ squares in each row.

- **7** Choose one problem. Describe the strategy you used to solve it.
- **8** Explain why you chose that strategy to solve the problem.

# Solving Two-Step Word Problems Using Two Equations

Name:		
Name,		

Read and solve each problem by writing an equation for each step. Use letters for the unknown numbers. Show your work.

- 1 Hirami has 12 cups of flour in a bag and 6 cups of flour in a jar. He is making batches of bread that each call for 3 cups of flour. How many batches of bread can Hirami make?
- 2 Cassi bought 50 pounds of dirt. She used 10 pounds to fill a hole in her yard. Then she filled pots with 5 pounds of soil in each pot. How many pots could she fill?

Hirami can make \_\_\_\_\_ batches of bread.

Cassi can fill \_\_\_\_\_ pots.

- Becky has 6 packages of clay that each weigh 5 pounds. To make a bowl, she needs 3 pounds of clay. How many bowls can Becky make?
- Marc has 36 pounds of apples to use to make pies. He uses 4 pounds of apples for each pie. Marc uses all of the apples to make pies, and then sells each pie for \$8. How much money does Marc collect for all the pies?

Becky can make \_\_\_\_\_ bowls.

Marc collects \$ \_\_\_\_\_ for all the pies.

5 Choose one problem. Tell how you could solve the problem in a different way.

# Solving Two-Step Word Problems Using One Equation

Name: _		
Maille, _	 	

## Read and solve each problem by writing one equation. Show your work.

- 1 Mrs. Nelson has one \$10-bill and one \$20-bill. She wants to buy as many movie tickets as she can with this money. If movie tickets cost \$6 each, how many tickets, t, can she buy?
- Daisy has a goal of reading 75 minutes in one week. She reads 9 minutes a day for 5 days. How many more minutes, *m*, will she have to read to reach her goal?

Mrs. Nelson can buy \_\_\_\_\_ tickets.

Daisy will have to read \_\_\_\_\_ more minutes.

- Mr. Garcia buys 3 bags of cat food that each weigh 9 pounds and another bag of cat food that weighs 7 pounds. How many pounds, p, of cat food did Mr. Garcia buy?
- Jackson has 48 trading cards. His sister gives him 12 more cards. Then he puts all his trading cards in 6 equal stacks. How many cards, c, are in each stack?

Mr. Garcia bought \_\_\_\_\_ pounds of cat food.

There are \_\_\_\_\_ cards in each stack.

5 Choose one problem. Explain how you decided which operations to use to solve it.

## **Estimating Solutions to Word Problems**

lama.	
Name:	

#### Read each problem. Estimate the answer by rounding to the nearest ten. Then find the actual answer. Show your work.

- 1 Marie has 231 toothpicks in one box and 175 toothpicks in another box. She uses 319 toothpicks to make a bridge. How many toothpicks does she have left?
- 2 Kennedy School has 124 third-grade students. Carter School has 16 fewer third-grade students than Kennedy School. How many third-grade students in all are at Kennedy School and Carter School?

Estimate: There are about \_\_\_\_\_toothpicks left.

Estimate: There are about \_\_\_\_\_students.

Marie has \_\_\_\_\_ toothpicks left.

There are \_\_\_\_\_ students.

- There are 197 oak trees in the park. There are 27 more pine trees than oak trees in the park. How many trees are there in all?
- On the first day of a bus trip, Brian and his dad traveled 341 miles. On the second day, they traveled 39 fewer miles. How many miles did they travel in all after two days?

Estimate: There are about \_\_\_\_\_ trees.

Estimate: They traveled about \_\_\_\_\_ miles.

There are \_\_\_\_\_ trees in all.

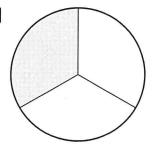
They traveled \_\_\_\_\_ miles.

15 How does an estimate help you decide if your answer is reasonable?

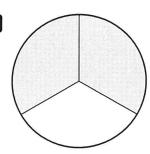


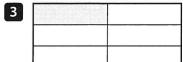
Write the fraction of the figure that is shaded.

1



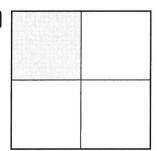
2



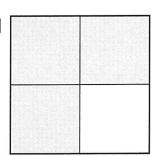


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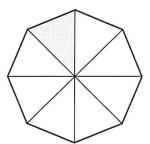
5



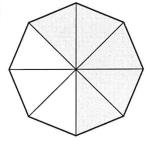
6



7



8



# **Describing Parts of a Whole with Fractions** *continued*

Draw a circle that shows 4 equal parts. Then shade to show  $\frac{2}{4}$ .

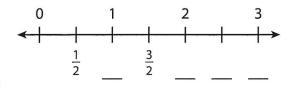
Draw a rectangle that shows 3 equal parts. Then shade to show  $\frac{2}{3}$ .

11 Draw a square that shows 8 equal parts. Then shade to show  $\frac{3}{8}$ .

Draw a circle that shows 6 equal parts. Then shade to show  $\frac{5}{6}$ .

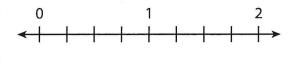
#### Set A

Write the missing labels on the number line.



#### Set B

Use this number line to solve problems 1-4.



1 How many equal parts are between 0 and 1? \_\_\_\_\_

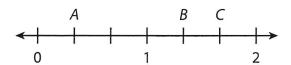
2 How many equal parts are between 1 and 2? \_\_\_\_\_

What fraction does each part show? \_\_\_\_\_

4 Write fractions to label the marks.

Set C

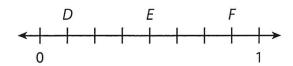
Use this number line to solve problems 5-7.



- **5 A** is \_\_\_\_\_.
- **6 B** is \_\_\_\_\_\_.
- **7** c is \_\_\_\_\_.

Set D

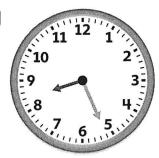
Use this number line to solve problems 8-10.



- **8 D** is \_\_\_\_\_.
- **9 E** is \_\_\_\_\_.
- **10** *F* is \_\_\_\_\_\_.

Write the time the clock shows.

1



2



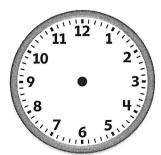
3



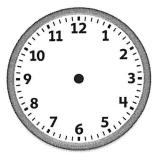


Draw hands on the clock to show the given time.

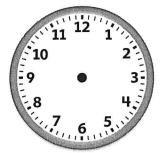
5 16 minutes after 1



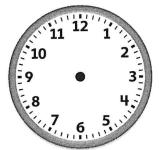
6 7 minutes before 9



7 35 minutes after 3



8 26 minutes before 8



9 Write a word problem that could use one of the times shown on one of the clocks.