Chapter 5

# School-Home Letter

Dear Family,

Throughout the next few weeks, our math class will be working with factors, multiples, and patterns. The students will study and learn to find factors and multiples and work with number patterns.

Here is a sample of how your child will be taught.

## Vocabulary

**common factor** A number that is a factor of two or more numbers

**common multiple** A number that is a multiple of two or more numbers

**divisible** A number is divisible by another number if the quotient is a counting number and the remainder is zero.

**composite number** A whole number greater than 1 that has more than two factors

**prime number** A number that has exactly two factors: 1 and itself

## MODEL Find Factor Pairs

Use division to find all the factor pairs for 36.
Divisibility rules can help.

| Factors of 36 | |
|---|---|
| $36 \div 1 = 36$ | 1, 36 |
| $36 \div 2 = 18$ | 2, 18 |
| $36 \div 3 = 12$ | 3, 12 |
| $36 \div 6 = 6$ | 6, 6 |
| $36 \div 9 = 4$ | 9, 4 |

| Divisibility Rules |
|---|
| Every whole number is divisible by 1. |
| The number is even. It's divisible by 2. |
| The sum of the digits is divisible by 3. |
| The number is even, and divisible by 3. |
| The sum of the digits is divisible by 9. |

**Tips**

**Divisibility**
A whole number is divisible by another whole number when the quotient is a whole number and the remainder is 0.

## Activity

Using the divisibility rules, have your child find all the factor pairs for these numbers:
18, 48, 39, 63

Name _____

## Model Factors

**COMMON CORE STANDARD—4.OA.4**
*Gain familiarity with factors and multiples.*

**Use tiles to find all the factors of the product.**
**Record the arrays on grid paper and write the factors shown.**

**1.** 15

$1 \times 15 = 15$
$3 \times 5 = 15$
1, 3, 5, 15

**2.** 30

_____
_____

**3.** 45

_____
_____

**4.** 19

_____
_____

**5.** 40

_____
_____
_____

**6.** 36

_____
_____
_____

**7.** 22

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_____

**8.** 4

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_____
_____

**9.** 26

_____
_____

**10.** 49

_____
_____

**11.** 32

_____
_____

**12.** 23

_____
_____

## Problem Solving Real World

**13.** Brooke has to set up 70 chairs in equal rows for the class talent show. But, there is not room for more than 20 rows. What are the possible number of rows that Brooke could set up?

_____

**14.** Eduardo thinks of a number between 1 and 20 that has exactly 5 factors. What number is he thinking of?

_____

Name _____

# Factors and Divisibility

**COMMON CORE STANDARD—4.OA.4**
*Gain familiarity with factors and multiples.*

**Is 6 a factor of the number? Write *yes* or *no*.**

**1.** 36

**Think:** $6 \times 6 = 36$

yes

**2.** 56 _____

**3.** 42 _____

**4.** 66 _____

**Is 5 a factor of the number? Write *yes* or *no*.**

**5.** 38 _____

**6.** 45 _____

**7.** 60 _____

**8.** 39 _____

**List all the factor pairs in the table.**

**9.**

| Factors of 12 | |
|---|---|
| _____ × _____ = _____ | _____, _____ |
| _____ × _____ = _____ | _____, _____ |
| _____ × _____ = _____ | _____, _____ |

**10.**

| Factors of 25 | |
|---|---|
| _____ × _____ = _____ | _____, _____ |
| _____ × _____ = _____ | _____, _____ |
| | |

**11.** List all the factor pairs for 48. Make a table to help.

_____

_____

## Problem Solving Real World

**12.** Bryson buys a bag of 64 plastic miniature dinosaurs. Could he distribute them equally into six storage containers and not have any left over? **Explain**.

_____

**13.** Lori wants to distribute 35 peaches equally into baskets. She will use more than 1 but fewer than 10 baskets. How many baskets does Lori need?

_____

Name _____

## Problem Solving • Common Factors

**COMMON CORE STANDARD—4.OA.4**
*Gain familiarity with factors and multiples.*

**Solve each problem.**

**1.** Grace is preparing grab bags for her store's open house. She has 24 candles, 16 pens, and 40 figurines. Each grab bag will have the same number of items, and all the items in a bag will be the same. How many items can Grace put in each bag?

Find the common factors of 24, 16, and 40.

1, 2, 4, or 8 items

**2.** Simon is making wreaths to sell. He has 60 bows, 36 silk roses, and 48 silk carnations. He wants to put the same number of items on each wreath. All the items on a wreath will be the same type. How many items can Simon put on each wreath?

_____

**3.** Justin has 20 pencils, 25 erasers, and 40 paper clips. He organizes them into groups with the same number of items in each group. All the items in a group will be the same type. How many items can he put in each group?

_____

**4.** A food bank has 50 cans of vegetables, 30 loaves of bread, and 100 bottles of water. The volunteers will put the items into boxes. Each box will have the same number of food items and all the items in the box will be the same type. How many items can they put in each box?

_____

**5.** A debate competition has participants from three different schools: 15 from James Elementary, 18 from George Washington School, and 12 from the MLK Jr. Academy. All teams must have the same number of students. Each team can have only students from the same school. How many students can be on each team?

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