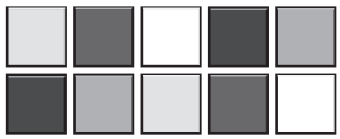
Name ______________________________

Use Color Tiles to build each array.
Write the multiplication sentence for each array.

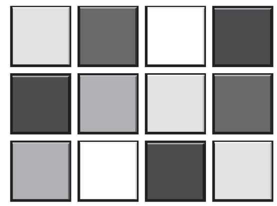
1.



___ rows of ___ tiles

____

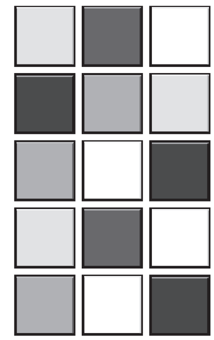
2.



___ rows of ___ tiles

____

3.



___ rows of ___ tiles

____

Build each array using Color Tiles. Then sketch the model below.
Write each multiplication sentence.

4. 2 rows of 9 tiles

____

5. 7 rows of 4 tiles

____

6. 5 rows of 6 tiles

____

Find the answer to each multiplication problem.

7. $8 \times 5 =$ ________

8. $2 \times 7 =$ ________

9. $4 \times 4 =$ ________

10. $6 \times 3 =$ ________

11. $3 \times 5 =$ ________

12. $7 \times 6 =$ ________

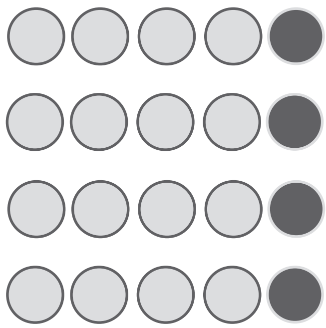
Name ________________________________

Challenge! Which two problems from the previous page can be used to demonstrate the Commutative Property of Multiplication? Model the arrays that show both multiplication expressions.

Name ______________________________

Use Two-Color Counters to build the multiples of 5 shown. Write the multiplication fact for each multiple of 5 modeled by the darker counters.

1.



_____ × _____ = _____

_____ × _____ = _____

_____ × _____ = _____

_____ × _____ = _____

Build each multiplication fact using Two-Color Counters. Then sketch the model and use a Hundred Chart to find the next two multiples of 5.

2. 4 × 5 = 20

_____ × _____ = _____   _____ × _____ = _____

3. 8 × 5 = 40

_____ × _____ = _____   _____ × _____ = _____

Write the next four multiples of 5.

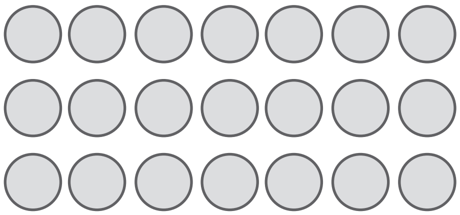
4. 2 × 5 = 10	**5.** 5 × 5 = 25	**6.** 7 × 5 =35
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____
____ × ____ = ____	____ × ____ = ____	____ × ____ = ____

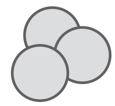
Name ___________________________________

Challenge! When you use Two-Color Counters and a Hundred Chart to find all the multiples of 5 less than or equal to 100, how many numbers do you color? Describe the pattern of the colored numbers.

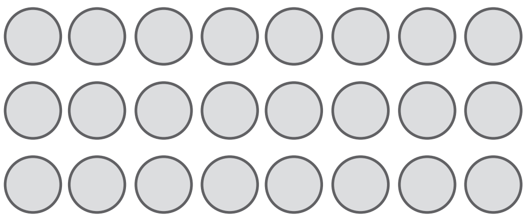
Name ______________________________

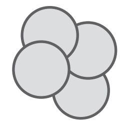
Use Two-Color Counters to build each array. Rearrange the counters into groups of the size shown. Complete each division sentence.

1. 

put into groups of 

______ ÷ ______ = ______

2. 

put into groups of 

______ ÷ ______ = ______

Build each array using Two-Color Counters. Group the counters to be able to complete each division sentence.

3. 45 into 9 groups

45 ÷ ____ = ____

4. 32 into 4 groups

32 ÷ ____ = ____

5. 30 into 6 groups

30 ÷ ____ = ____

Write each division sentence. Write a related multiplication sentence.

6. 15 into 3 groups

15 ÷ ____ = ____

____ × ____ = 15

7. 28 into 7 groups

28 ÷ ____ = ____

____ × ____ = 28

8. 20 into 2 groups

20 ÷ ____ = ____

____ × ____ = 20

9. 35 into 5 groups

35 ÷ ____ = ____

____ × ____ = 35

10. 48 into 8 groups

48 ÷ ____ = ____

____ × ____ = 48

11. 81 into 9 groups

81 ÷ ____ = ____

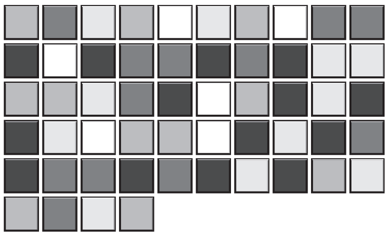
____ × ____ = 81

Name ___________________________________

Challenge! Problem 2 shows three rows of 8 Two-Color Counters for a total of 24 counters. Write a fact family for the model shown. Write a fact family for the model you create from the 24 counters. Explain how the number 24 can have two different fact families.

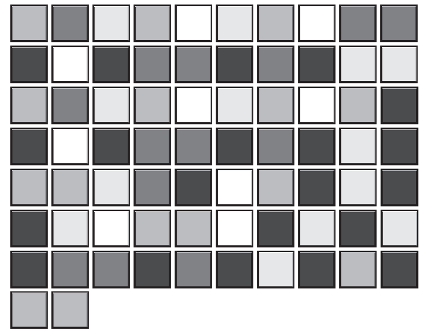
Name ______________________________

Use Centimeter Cubes to match the set shown. Divide the set into equal groups of the given size. Write a number sentence to show the quotient.

1. 

Divide into groups of 9.

____

2. 

Divide into groups of 8.

____

Using Centimeter Cubes, model the division problem. Sketch the model. Write a number sentence for the model.

3. 39 cubes into 13 groups

____

Write a number sentence for each quotient.

4. 81 cubes into 9 groups

____

5. 77 cubes into 11 groups

____

6. 70 cubes into 14 groups

____

7. 63 cubes into 7 groups

____

8. 96 cubes into 8 groups

____

9. 75 cubes into 15 groups

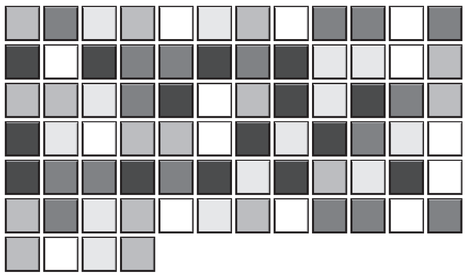
____

Name ___________________________________

Challenge! For Problems 7–9, write a different division sentence using the same numbers and the same quotient. Choose one and draw a picture to support your sentence.

Name ______________________________

Use Centimeter Cubes and index cards to model the division problem. Divide the cubes equally among the index cards. Write the quotient.

1. 

76 ÷ 19 = ______

Using Centimeter Cubes and index cards, model each division. Sketch the cubes on the cards shown below. Write the division sentence.

2. 51 cubes

51 ÷ 17 = _______

3. 84 cubes

84 ÷ 14 = _______

Find each quotient.

4. 75 ÷ 15 = _______

5. 72 ÷ 12 = ________

6. 80 ÷ 16 = ________

7. 105 ÷ 15 = ______

8. 162 ÷ 18 = _______

9. 91 ÷ 13 = ________

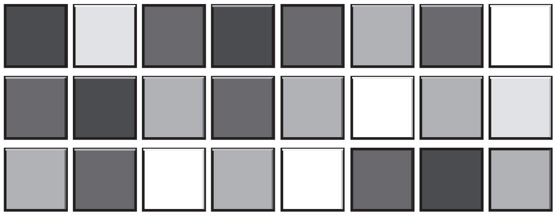
Name ___________________________________

Challenge! When you use Centimeters Cubes and index cards to model division, do the cubes or the index cards represent the dividend? What represents the quotient? Explain your answers.

Name ______________________________

Use Color Tiles to model each array. Complete the multiplication sentence. Write a related division sentence.

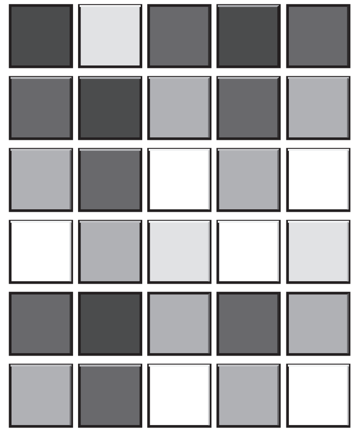
1.



3 × _______ = 24

____

2.



6 × _______ = 30

____

Using Color Tiles, model an array for each number sentence. Sketch the model. Complete the multiplication sentence. Write a related divison sentence.

3. 8 × _______ = 48

____

4. 5 × _______ = 20

____

Complete each multiplication sentence. Write a related division sentence.

5. 7 × _______ = 42

____

6. 4 × _______ = 36

____

7. 8 × _______ = 40

____

8. 7 × _______ = 56

____

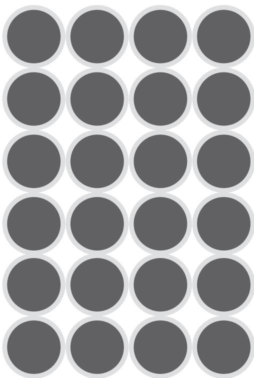
Name ___________________________________

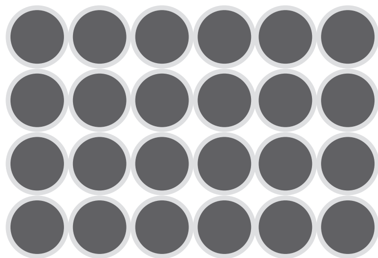
Challenge! Write another division sentence for Problem 1. Describe the model for this division sentence. Write the other two sentences in this fact family.

Name ______________________

Use Two-Color Counters to build each model. Write number sentences that show the Commutative Property of Multiplication.

1.





______________ ______________

Using Two-Color Counters, model the Commutative Property of Multiplication for each pair of factors. Sketch the models. Write both number sentences.

2. 4, 8

____

____

3. 3, 7

____

____

Write two number sentences using each pair of factors that show the Commutative Property of Multiplication.

4. 2, 8

____

____

5. 5, 9

____

____

6. 6, 7

____

____

7. 3, 1

____

____

8. 8, 3

____

____

9. 6, 9

____

____

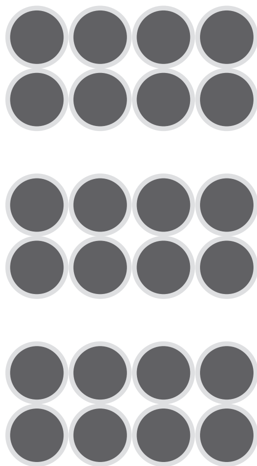
Name ___________________________________

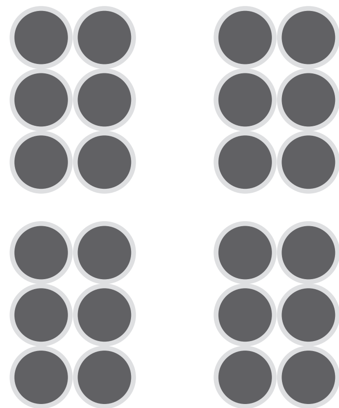
Challenge! Problems 1 and 8 both have products of 24. Use 24 Two-Color Counters to find another pair of factors for 24. Describe your model. Write two multiplication sentences for your model that show the Commutative Property of Multiplication.

Name

Use Two-Color Counters to build each model. Write two number sentences that show the Associative Property of Multiplication.

1.





Using Two-Color Counters, model the Associative Property of Multiplication for each set of factors. Sketch the models. Write number sentences for both models.

2. 3, 5, 6

Write two number sentences for each set of factors that show the Associative Property of Multiplication.

3. 2, 3, 5

4. 2, 4, 5

5. 3, 6, 8

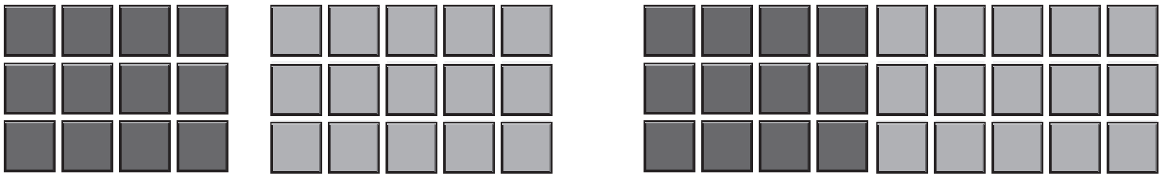
Name ___________________________________

Challenge! In Problem 4, one way that you can associate the numbers makes the problem simpler because you get a multiple of 10 multiplied by a single-digit number. In what other problem on the previous page can you use the Associative Property to get a multiple of 10 times a single-digit number? Write the number sentence showing the association.

Name ______________________________

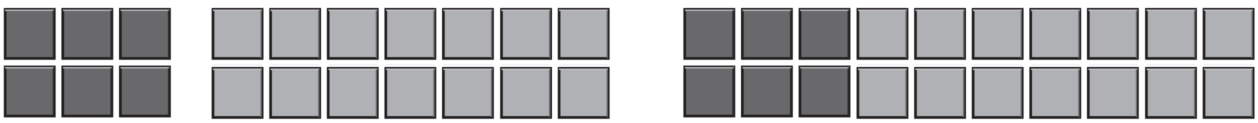
Use Color Tiles to model each array. Write the multiplication expression for each array. Then write the Distributive Property sentence modeled by the arrays.

1.



__________ __________ ____________________

2.



__________ __________ ____________________

Using Color Tiles, model arrays to show the Distributive Property. Sketch the models. Write the sentence modeled.

3. (3 × 3) + (3 × 4)

4. (5 × 2) + (5 × 7)

____________________ ____________________

Write a number sentence for the total using the Distributive Property. Then find the total.

5. (2 × 4) + (2 × 6)

____

6. (3 × 8) + (3 × 1)

____

7. (4 × 3) + (4 × 7)

____

8. (6 × 2) + (6 × 3)

____

Name ________________________________

Challenge! Problems 1 and 6 both simplify to 27. Explain how this can be correct even though the problems have different numbers being multiplied. Draw pictures to help.