Chapter 11

Skip-Counting and Equivalent Sets
Making a Quilt ✏️

Make a quilt by arranging squares in a pattern.

STEP 1 **Making Rectangles**

Arrange your squares to make a rectangle.
How many different rectangles can
you make with all four squares? _____ rectangles

Draw the different rectangles.

STEP 2 **Making a Group Quilt**

Combine your squares with the others in your group.
Make a big quilt in the shape of a rectangle. Draw the quilt.

STEP 3 **Making Quilt Patterns**

Decorate the quilt with a pattern.
Describe your pattern.

_____

_____

_____

_____

Investigation

Dear Family,

Today we started Chapter 11 of *Think Math!* In this chapter, I will explore how to multiply by combining equivalent sets and how to divide by making fair shares. There are NOTES on the Lesson Activity Book pages to explain what I am learning every day.

Here are some activities for us to do together at home. These activities will help me understand multiplication and division.

Love,

_____

Family Fun

How Many?

Work with your child to play this game. Your child will play a similar game in Lesson 2.

- You will need a recording sheet like the one shown below, a number cube, and pennies or other small items like buttons or cereal pieces.

How many items are in each set?	How many sets are there?	How many items are there in all?

- You and your child take turns. For each turn, toss a number cube two times. The first toss shows how many items to put in a set. The second toss shows how many sets to make.
- Find the total number of items.
- Play until you and your child each take 5 turns.

Sharing Cookies

Work with your child to share amounts of cookies fairly.

- You will need 3 plates and a handful of cookies or other small food items.
- Count out any number of cookies into a pile.
- Together, see if the cookies can be shared fairly among 3 people by placing the cookies on the plates.
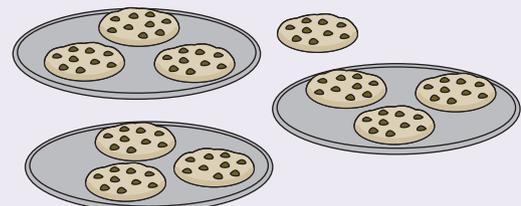
- Could you share the cookies fairly? Try other amounts of cookies and see which amounts can be shared fairly and which cannot.

Chapter 11
Lesson 1

Looking For Patterns in Jumps

NCTM Standards 1, 2, 6, 8, 9, 10

Skip-count on the number lines. Label your jumps.

1.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

2.

0   3   [6]   [ ]   [ ]   [ ]

3.

0   5   [10]   [ ]
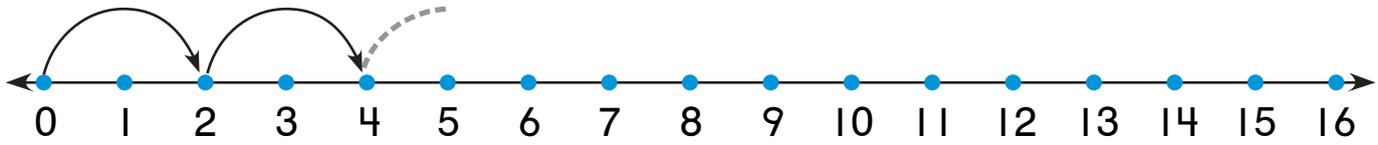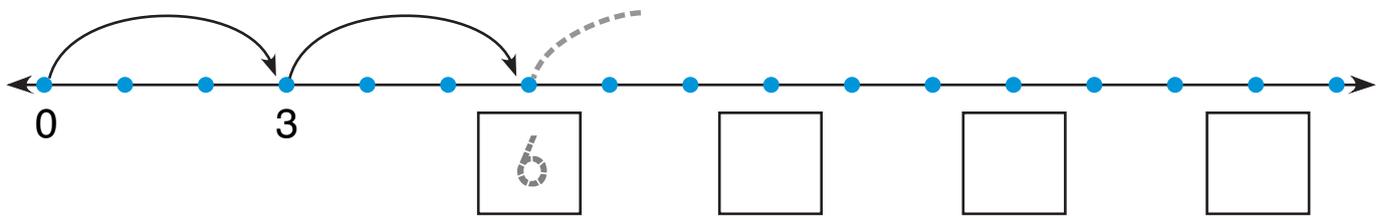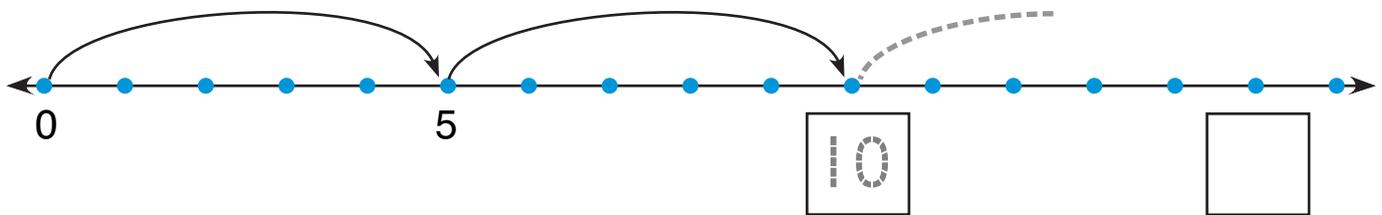
What numbers come next in each pattern?

		1st	2nd	3rd	4th	5th	6th	7th	8th	9th
4.	2	2	4	6						
5.	3	3	6	9						
6.	5	5	10	15						

NOTE: Your child is working more with skip-counting. Together, look for patterns when skip-counting by fives.

Skip-count on the number lines. Label your jumps.

7.

| 30 | | | | | |

8.

| 12 | | | | | |

9.

| 60 | | | | | |
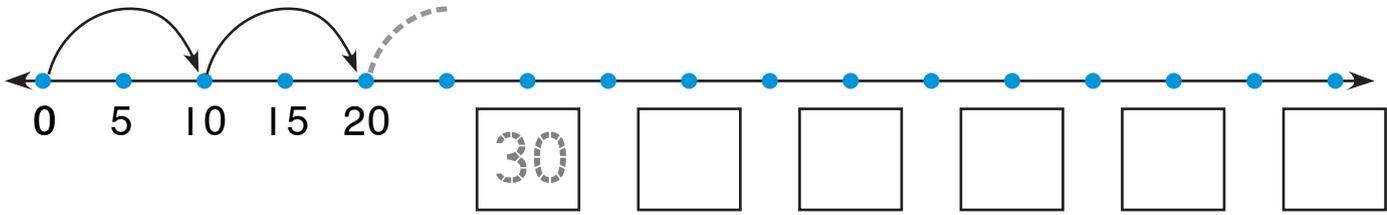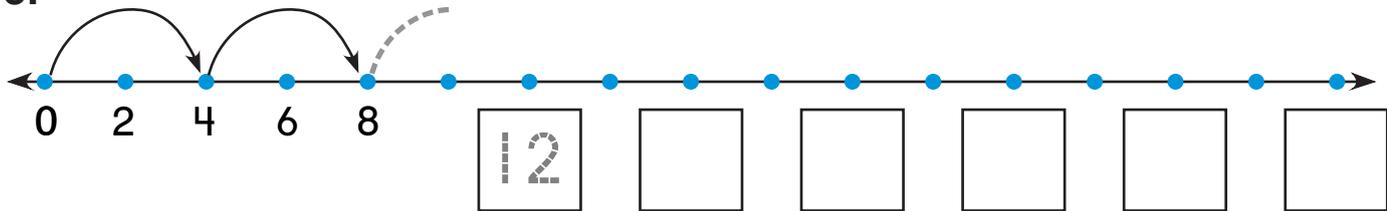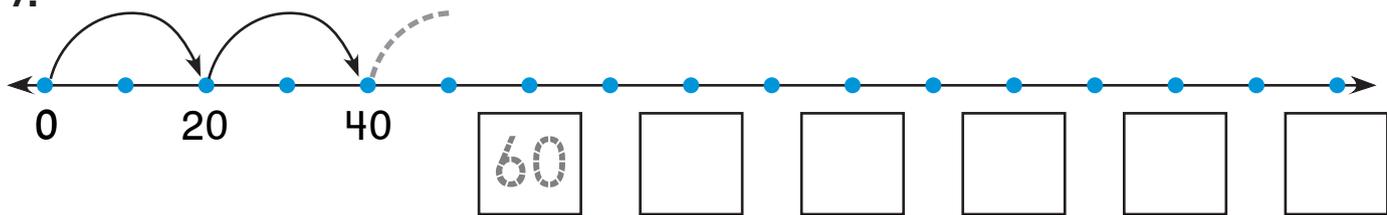
What numbers come next in each pattern?

10. 10	10	20	30				
11. 4	4	8	12				
12. 20	20	40	60				

Problem Solving

13. Mike gets 1 nickel each day. How much money will he have in 7 days? Explain. _____¢

_____

_____

Name _____ Date/Time _____

Combining Equivalent Sets

NCTM Standards 1, 2, 6, 7, 8, 9, 10

How many are there in all?

1.
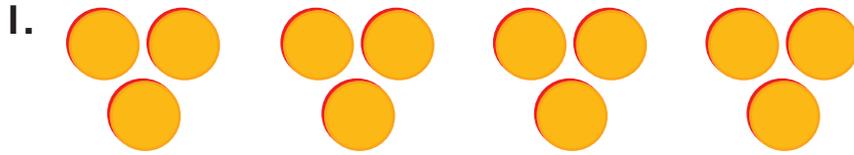
> This is 4 sets of 3, or four threes.

___12___ counters

2.

_____ counters

3.

_____ cubes

4.
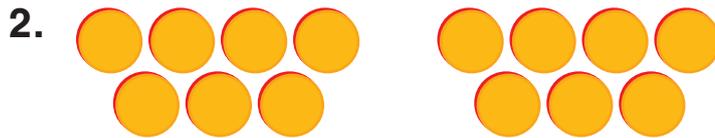
_____ cubes

5. Draw equivalent sets. Find how many in all.

NOTE: Your child is learning to combine equivalent sets of objects and find the total.

Draw sets of circles. How many are there in all?

6. 3 sets of 6

_____ in all

7. 4 sets of 5

_____ in all

8. Make your own.

_____ sets of _____   _____ in all

Problem Solving

9. Luke buys 3 bags of carrots with 5 carrots in each bag. Molly buys 2 bags of carrots with 10 carrots in each bag. Who buys more carrots?

_____

Use words, numbers, or pictures to explain.

Chapter 11
**Lesson 3**

Organizing Equivalent Sets

NCTM Standards 1, 2, 6, 7, 8, 9, 10

There will be 4 children at Lynn's party. Each child will get 9 cookies. How many cookies does Lynn need to make?
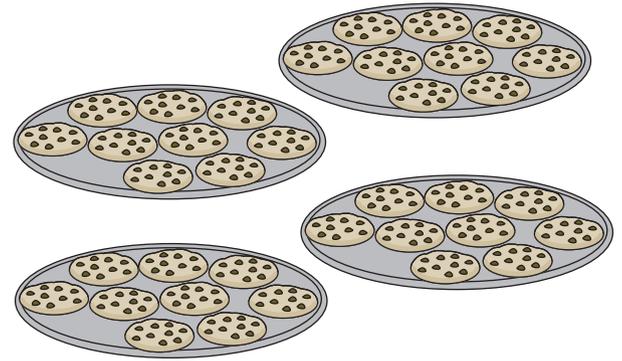
1. Put the cookies in rows so they are easier to count. Draw them on the cookie sheet. Write how many.
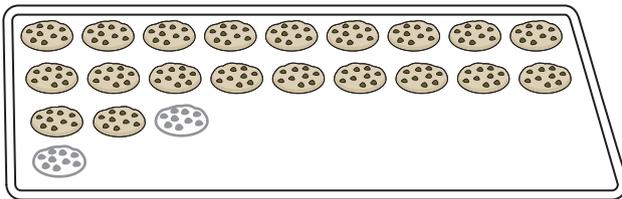
_4_

_____ rows of _____ cookies

_____ cookies in all

2. Now draw the cookies in this grid. Write how many.
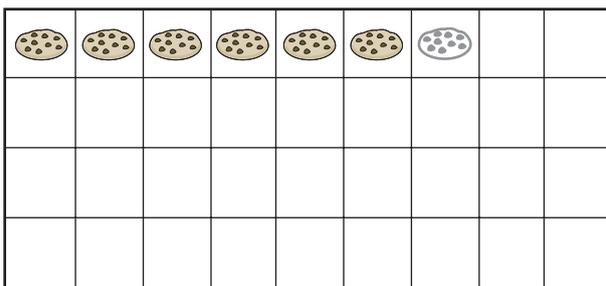
_4_

_____ rows and _____ columns

_____ cookies in all

🏠 **NOTE:** Your child is learning to arrange objects in an array to make counting easier.

What is missing?

3.
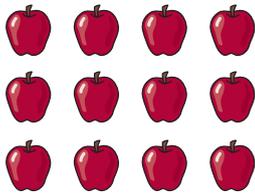
Number of rows	Number in each row	Total
3	4	12

4.
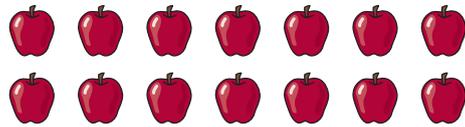
Number of rows	Number in each row	Total
2		

5.
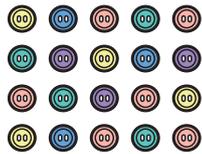
Number of rows	Number of columns	Total
	5	

6.

Number of rows	Number of columns	Total

7.
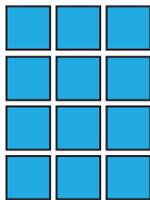
Number of rows	Number of columns	Total
	3	

8.
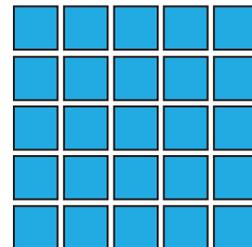
Number of rows	Number of columns	Total

Problem Solving

9. Bob has 3 rows of 8 chairs. How else could he put all of the chairs in equal rows? Use words, numbers, or pictures to explain.

Adding Equivalent Sets

NCTM Standards 1, 2, 5, 6, 7, 8, 9, 10

How many are there in all? Write an addition sentence.

1.
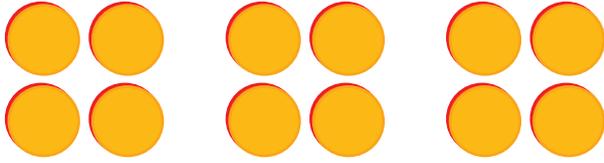
___4___ ___4___ ___4___ ___12___

2.

_____ _____ _____
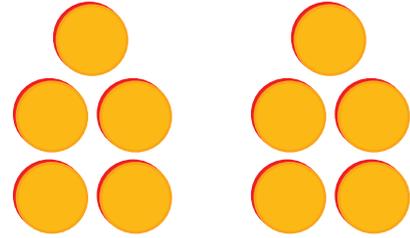
3.

_____ _____ _____ _____
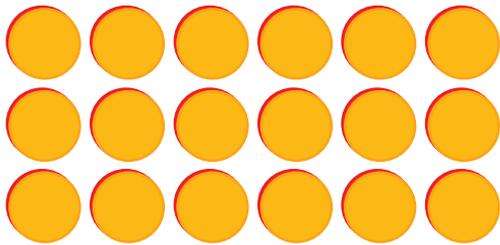
4.

_____
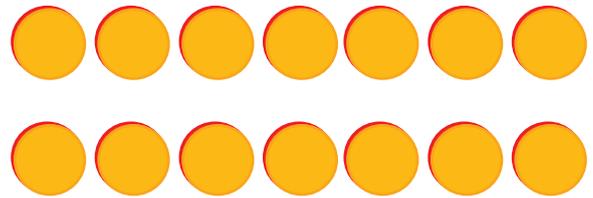
5.

_____
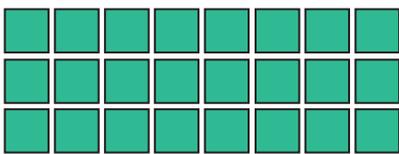
6.

_____
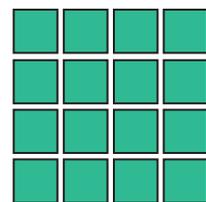
NOTE: Your child is learning to write addition sentences to add equivalent sets.

The town keeps track of how many vehicles use their bridge every day.

Vehicles Using the Bridge Today								
cars	😊	😊	😊	😊	😊	😊	😊	
trucks	😊	😊	😊					
vans	😊	😊	😊					
buses	😊	😊						

Kind of Vehicle

**Key: Each 😊 stands for 8 vehicles.**

Write an addition sentence to find the total for each kind of vehicle.

7. cars _____ _____ cars

8. trucks _____ _____ trucks

9. vans _____ _____ vans

10. buses _____ _____ buses

---

11. Write your own question about the pictograph. Show how to solve the problem.

_____

_____

Problem Solving

12. Alex wrote 3   3   3   3   3   15 for an array. What other number sentence could he write for the same array?

_____

Draw a picture to explain.

Name _____   Date/Time _____

Working with Rectangular Arrays

NCTM Standards 1, 2, 6, 7, 8, 9, 10

What is missing?

1.
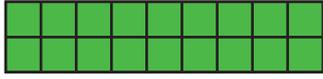
Rows	Columns	Squares
2	9	

2 _____   9 _____   _____

2.
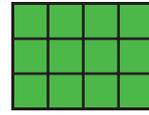
Rows	Columns	Squares

_____   _____   _____

3.
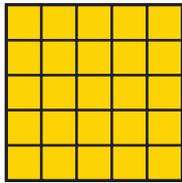
Rows	Columns	Squares

_____   _____   _____

4.
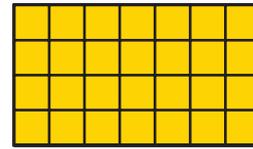
Rows	Columns	Squares

_____   _____   _____

5.

Rows	Columns	Squares

_____   _____   _____

6.
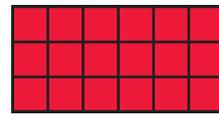
Rows	Columns	Squares

_____   _____   _____

NOTE: Your child is learning to write multiplication sentences for arrays.

Write one addition sentence and one multiplication sentence for each array.

7.

3 ___ 5 ___ ___

5 + 5 + 5 = ___

8.

___ ___ ___

___
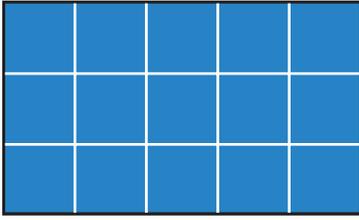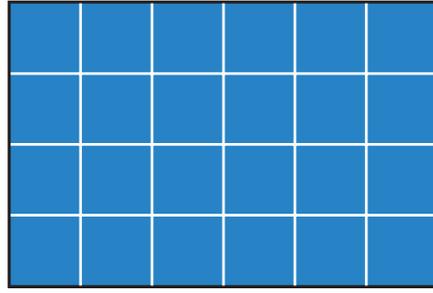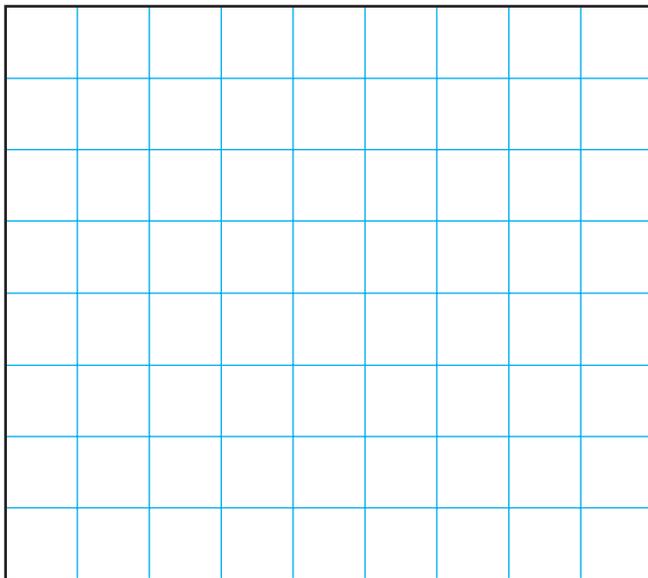
9. Make your own array.

___ ___ ___

___

Challenge

10. Write two different multiplication sentences for this array.

___ ___ ___   ___ ___ ___
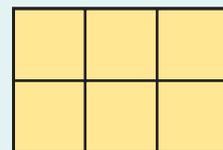
Building Multiples

NCTM Standards 1, 2, 6, 8, 9, 10

How many are there?

1. How many eggs are in the box?

6 eggs in each row
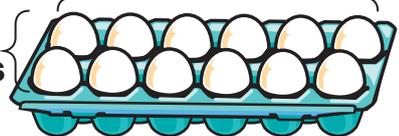
2 rows

2 6 _____   6 2 _____

_____ eggs in all

2. How many cookies are on the tray?

6 cookies in each row
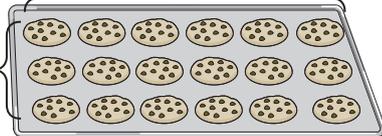
3 rows

3 6 _____   6 3 _____

_____ cookies in all

3. How many legs are on 3 dogs?

3 dogs
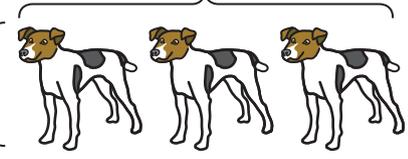
4 legs on each dog

4 3 _____   3 4 _____

_____ legs in all

4. How many flowers are in 2 vases?

2 vases
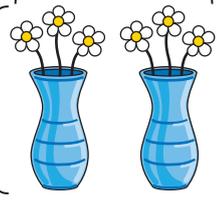
3 flowers in each vase

2 3 _____   3 2 _____

_____ flowers in all

5. How many fingers are on 4 hands?

4 hands
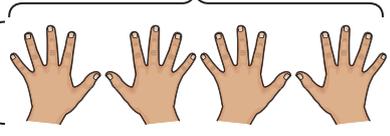
5 fingers on each hand

4 5 _____   5 4 _____

_____ fingers in all

6. How many days are in 4 weeks?

7 days in each week

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
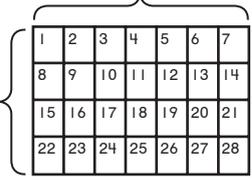
4 weeks

7 4 _____   4 7 _____

_____ days in all

NOTE: Your child is learning to find multiples of a number. Together find how many shoes are in the house.

Complete each table.

7. How many wheels are on 9 tricycles?

Number of Tricycles	1	2	3	4	5	6	7	8	9
Number of Wheels	3	6							

8. How many legs are on 9 chairs?

Number of Chairs	1	2	3	4	5	6	7	8	9
Number of Legs	4	8							

9. A spider has 8 legs. How many legs do 9 spiders have? Make a table to find out. _____ legs

## Problem Solving

10. Steve has 6 weeks to finish a project. There are 7 days in a week. How many days does Steve have to finish the project? _____ days

Chapter 11
Lesson 7

Sharing Between Two Children

NCTM Standards 1, 2, 6, 7, 8, 9, 10

Try it with counters.

How many does each child get? Draw to share each amount equally between 2 children.

1. 16 cookies
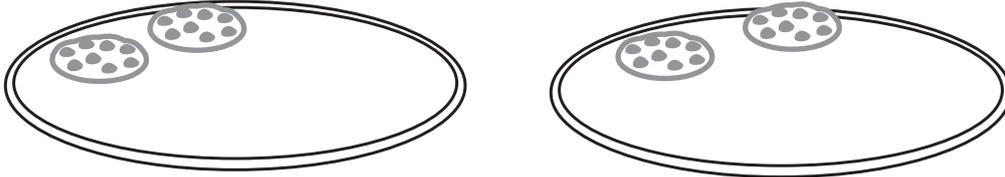
Each child gets ___8___ cookies.

2. 10 cookies
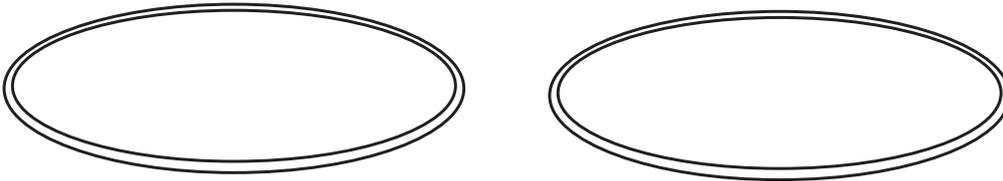
Each child gets _____ cookies.

3. 22 cookies
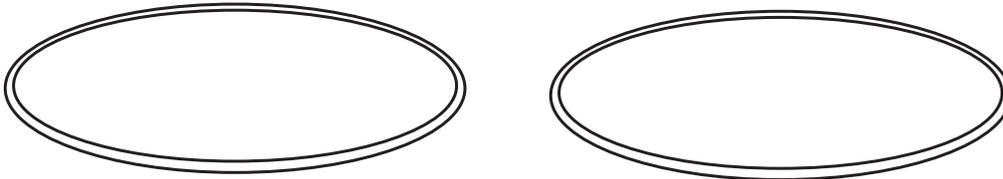
Each child gets _____ cookies.

4. Make your own. _____ cookies
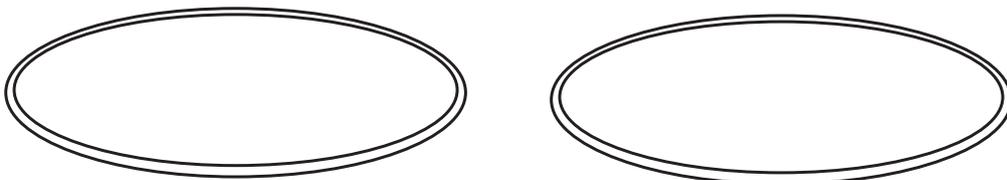
Each child gets _____ cookies.

NOTE: Your child is learning to divide amounts into two equivalent sets.

Share each amount in 2 equivalent sets.
Use a different color for each set.

5. ○○○○○○○○○○○○○○
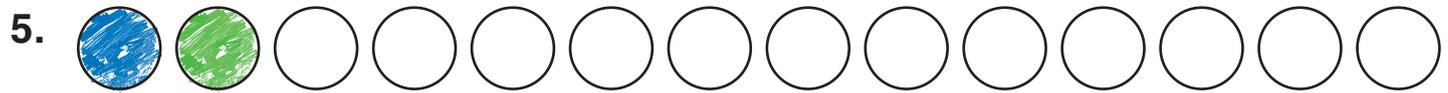
| 14 balls | ➡ | 2 shares | ➡ | _7_ balls each |

6. ♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡♡

| 20 hearts | ➡ | 2 shares | ➡ | _____ hearts each |

7. ▢▢▢▢▢▢▢▢▢▢▢▢▢▢▢▢▢▢

| 18 blocks | ➡ | 2 shares | ➡ | _____ blocks each |

8. Draw any number of objects. Try to make 2 equivalent sets. Explain what you did.

_____

_____

_____

Problem Solving

9. I have 8 of the same coins. I share the coins equally in 2 pockets. How much money might be in each pocket?

_____ ¢

Show how you solved the problem.

Chapter 11
Lesson 8
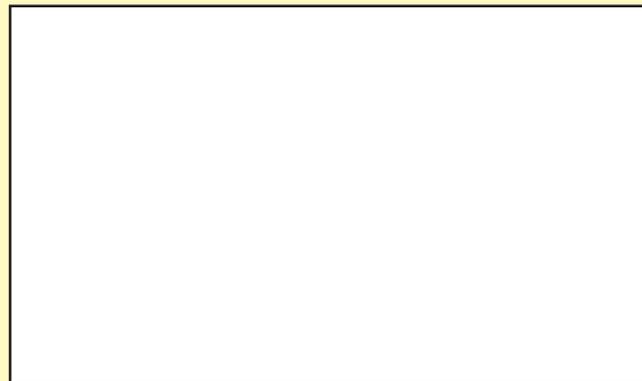
Sharing Among Three Children

NCTM Standards 1, 2, 6, 7, 8, 9, 10

How many does each child get? Draw to share each amount equally among 3 children.

1. 12 cookies

Each child gets ___4___ cookies.

2. 21 cookies

Each child gets _____ cookies.

3. 30 cookies

Each child gets _____ cookies.

4. Make your own. _____ cookies
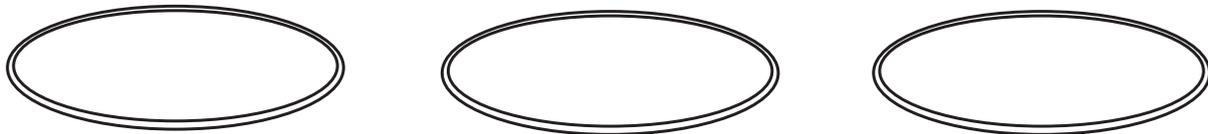
Each child gets _____ cookies.

NOTE: Your child is learning to divide amounts equally into three sets. Together, try to divide a bunch of pennies equally into 3 piles.

Share each amount in 3 equivalent sets.
Use a different color for each set.

5. ⬤ ⬤ ⬤ ○ ○ ○ ○ ○ ○

9 balls	➡	3 shares	➡	3

_____ balls each

6. ♡

24 hearts	➡	3 shares	➡

_____ hearts each

7. ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱ ▱

15 blocks	➡	3 shares	➡
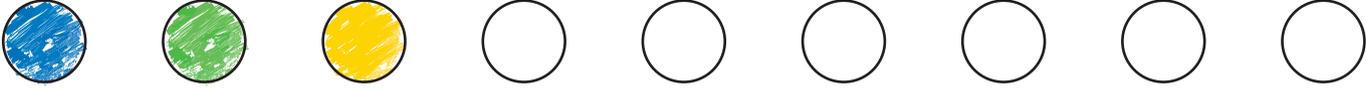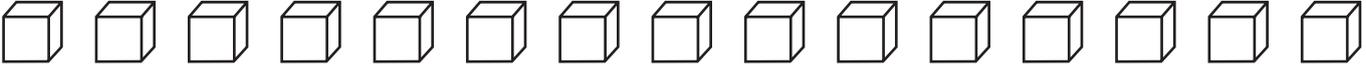
_____ blocks each

8. Look back at Problems 5 to 7. Which of these sets can also be divided into 2 equivalent sets? Tell how you know.

_____

_____

_____

Challenge

9. What is missing?

3	6	9			18	21	
1	2	3	4				8

Chapter 11
Lesson 9

How Many Packages?

NCTM Standards 1, 2, 6, 8, 9, 10

How many packages can you fill? Complete each order. Use counters or draw a picture.

The factory can put any number of wheels in a package for special orders.

1. Start with 15 wheels.
   Put 5 in each package.
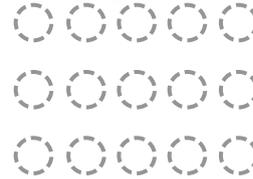
   Fill __3__ packages.

2. Start with 24 wheels.
   Put 4 in each package.

   Fill _____ packages.

3. Start with 27 wheels.
   Put 3 in each package.

   Fill _____ packages.

4. Start with 48 wheels.
   Put 6 in each package.

   Fill _____ packages.

Make your own.

5. Start with _____ wheels.

   Put _____ in each package.

   Fill _____ packages.

NOTE: Your child is learning to divide amounts into equivalent sets and find how many sets.

How many sets can you make?

6.

28	→	21	→		→	
− 7		− 7		− 7		− 7
21						
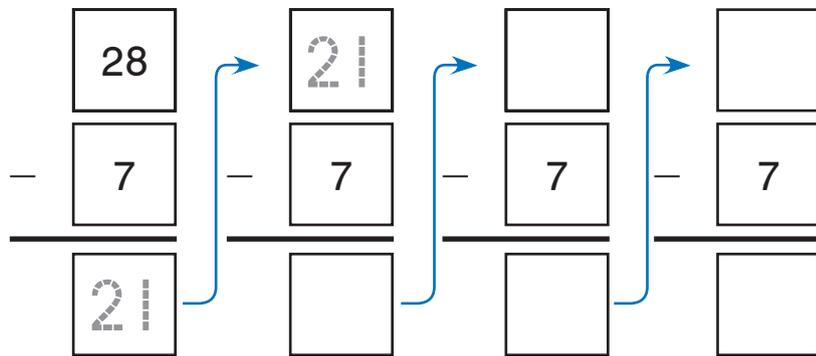
There are ___4___ sets of 7 in 28.

7.

20	→		→		→	
− 5		− 5		− 5		− 5
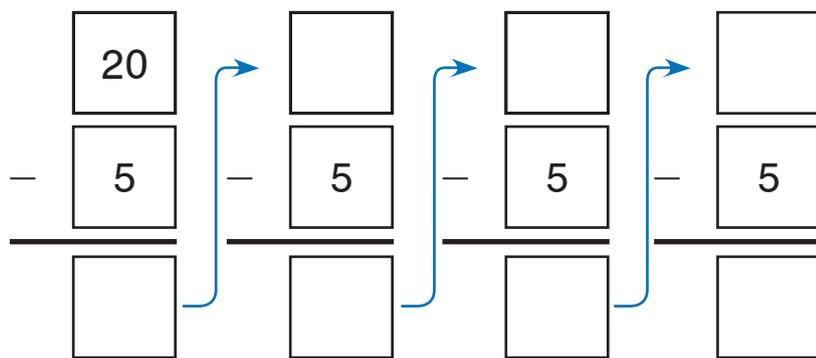
There are _____ sets of 5 in 20.

8.

24	→		→	
− 8		− 8		− 8
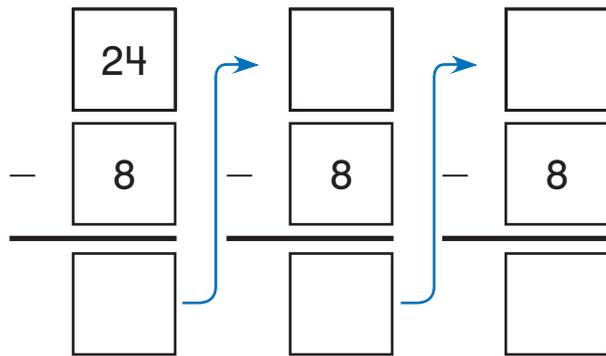
There are _____ sets of 8 in 24.

Problem Solving

9. Larry is packing an order of wheels. He fills
3 packages of 6 wheels each. He has 12 wheels
left to pack. How many wheels are in the total order?   _____ wheels

Name _____ Date/Time _____

Problem Solving Strategy
Make a List

NCTM Standards 1, 2, 4, 5, 6, 7, 8, 9, 10

Understand
Plan
Solve
Check
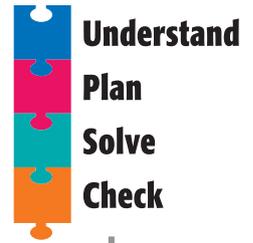
1. Erasers come in packs of 4. Pencils come in packs of 6. I want to buy the same number of erasers and pencils. How many packs of erasers and pencils do I need to buy?

_____ packs of erasers

_____ packs of pencils

1. 4 erasers, 6 pencils

_____

_____

_____

_____

2. Paula has 3 shirts. One is red, one is yellow, and one is green. She has two skirts. One is black and one is white. How many different outfits can she make?

_____ outfits

3. Sid uses a toothpick to make each side of a triangle. He makes 5 triangles. How many toothpicks does he need?

_____ toothpicks

4. Lisa, Max, and Nate are running in a race. They finish first, second, and third. How many different ways can they finish the race?

_____ ways

NOTE: Your child is exploring different ways to solve problems. Sometimes making a list is an efficient way to solve a problem.

Problem Solving Test Prep

1. At a bus stop, 3 people get on and 2 people get off. Now there are 26 people on the bus. How many people were on the bus before it stopped?

(A) 5 people

(B) 25 people

(C) 26 people

(D) 28 people

2. A snail travels 1 foot every 5 minutes. He starts crawling at 6:15. What time will it be when he has traveled 10 feet?

(A) 6:05

(B) 6:20

(C) 6:50

(D) 7:05

✏️ Show What You Know

3. David has 36 chairs. Half of the chairs have pads. How many chairs do not have pads?

_____ chairs

Explain how you found the answer.

_____

_____

_____

_____

_____

4. Doris has 3 quarters. She wants to buy two notebooks. Each notebook costs 49¢. Does she have enough to buy both notebooks?

_____

Explain how you know.

_____

_____

_____

_____

_____

Chapter 11 **Review/Assessment**

NCTM Standards 1, 2, 6, 7, 8, 9, 10

1. Skip count on the number line. Label your jumps. **Lesson 1**

0   2   ☐   ☐   ☐   ☐
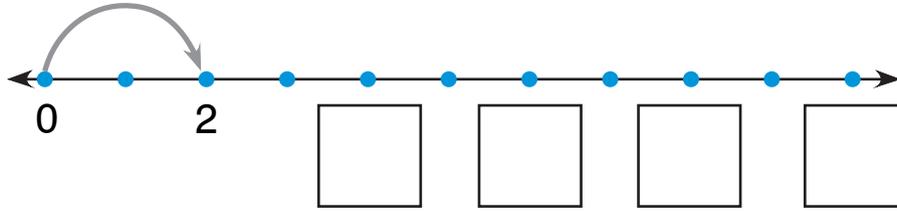
2. How many are there in all? **Lesson 2**

_____ counters in all
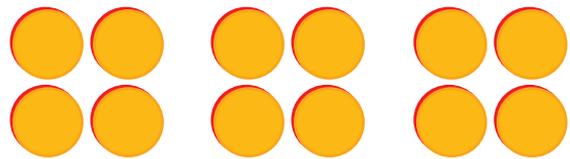
3. What is missing? **Lesson 3**

Number of rows	Number in each row	Total
2		

How many are there in all? Write an addition sentence. **Lesson 4**

4.

____ ____ ____ ____

5.

____ ____ ____

6. Write one addition sentence and one multiplication sentence for the array. **Lesson 5**

_____

_____ ⋅ _____ = _____
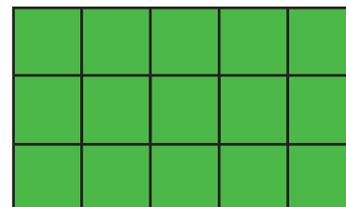
7. How many in all? Complete the table. ✋ Lesson 6

Number of Hands	1	2	3	4	5	6	7	8	9
Number of Fingers	5	10							

8. How many does each child get? Draw to share
12 cookies equally between 2 children. Lesson 7
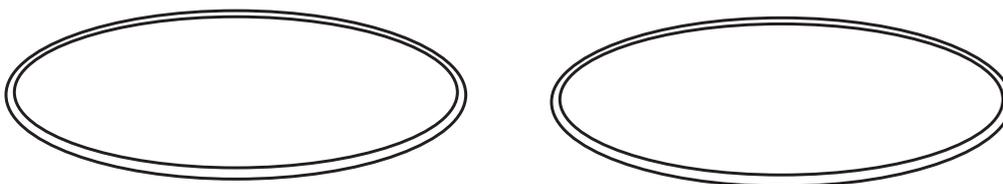
Each child gets _____ cookies.

9. Share 6 balls equally among 3 children. Lesson 8

| 6 balls | ⇒ | 3 shares | ⇒ | _____ balls each |

10. How many packages can you fill?
Complete the order. Use counters
or draw a picture. Lesson 9

Start with 16 wheels.
Put 4 in each package.

Fill _____ packages.

Problem Solving Lesson 10

11. Mary uses a toothpick to make each side of
a square. She makes 5 squares. How many
toothpicks does she need?

_____ toothpicks