Name Date Time

HOME LINK 4•1

Multiplication Number Stories

Family Note Today your child learned about another tool to use when solving number stories, a multiplication/division diagram. It can help your child organize the information in a number story. With the information organized, your child can decide which operation (×, ÷) will solve the problem. Refer to pages 259 and 260 in the *Student Reference Book* for more information.

Please return this Home Link to school tomorrow.

For the number story:

- Fill in a multiplication/division diagram. Write ? for the number you will find. Then write the numbers you know.
- Use counters or draw pictures to help you find the answer.
- Write the answer and unit. Check whether your answer makes sense.

1. Elsa buys 5 packages of apples for the party. There are 6 apples in each package. How many apples does she have?

Answer: _____ (unit)

Does your answer make sense?

packages	apples per package	apples in all

2. Find equal groups of objects in your home, or around your neighborhood. Record them on the back of this page.

Examples

3 lights on each traffic light, 12 eggs per carton

3. Write a multiplication number story about one of your groups. Use the back of this paper. Solve the number story.

Name Date Time

HOME LINK 4•2

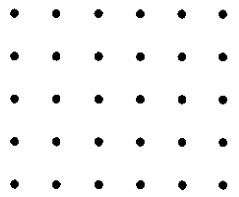
Arrays

Family Note Your child is learning how to represent multiplication problems using pictures called *arrays.* An array is a group of items arranged in equal rows and equal columns. Help your child use counters, such as pennies or macaroni, to build the array in each problem. Your child should record each solution on the dots next to the problem.

Please return this Home Link to school tomorrow.

SRB 64 65

For the next few weeks, look for pictures of items arranged in equal rows and columns, or **arrays.** Look in newspapers or magazines. Have people in your family help you. Explain that your class is making an Arrays Exhibit.



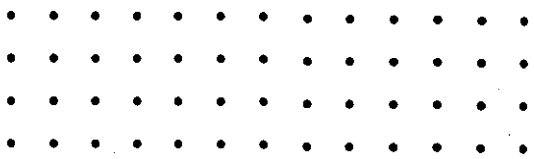
This is a 5-by-6 array. There are 5 rows. There are 6 dots in each row. There are 30 dots in all, since $5 \times 6 = 30$.

Make an array with counters. Mark the dots to show the array.

1. 4 rows with 6 counters per row

a **4-by-6 array**

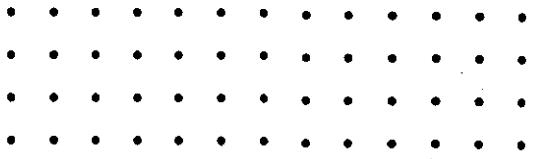
_____ counters



2. 3 rows with 8 counters per row

a **3 × 8 array**

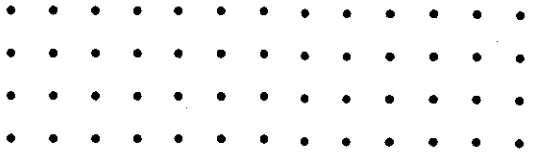
_____ counters



3. 2 rows with 12 counters per row

a **2 × 12 array**

_____ counters



Practice

Write these problems on the back of this page. Solve. Show your work.

4. 331 + 27 = _____

5. _____ = 187 + 17

6. 907 − 479 = _____

Unit

Name Date Time

HOME LINK 4•3

Division with Counters

Family Note Your child is beginning to use division to solve number stories. A first step is to use counters, such as uncooked macaroni or pennies, to represent each problem. This helps your child to understand the meaning of division.

Please return this Home Link to school tomorrow.

Show someone at home how to do division using pennies, uncooked macaroni, or other counters.

1. 25 counters are shared equally by 5 people.

_____ counters per person

_____ counters remaining

2. 25 counters are shared equally by 10 people.

_____ counters per person

_____ counters remaining

3. 31 days in January
7 days per week

_____ weeks in January

_____ days remaining

4. 22 children
5 children per team

_____ teams

_____ children remaining

5. Mrs. Blair has 34 pencils to give to her 15 students. How many pencils can she give each student?

_____ pencils _____ pencils left over

6. Caleb shared 22 jelly beans with his sister. How many jelly beans did each child get?

_____ jelly beans _____ jelly beans left over

Practice

Write these problems on the back of this page. Solve. Show your work.

Unit

7. _____ = 614 − 37 **8.** 23 + 8 = _____

9. 123 + 678 = _____

Name Date Time

HOME LINK 4•4

Division Number Stories

Family Note Help your child solve the division number stories by using counters such as pennies or uncooked macaroni to model the problems. Refer to pages 73, 74, 259, and 260 in the *Student Reference Book*. Your child is not expected to know division facts at this time.

Please return this Home Link to school tomorrow.

Use counters or draw pictures to show someone at home how you can use division to solve number stories. Fill in the diagrams.

1. Jamal gave 24 marbles to 4 friends. Each friend got the same number of marbles. How many marbles did each friend get?

friends	marbles per friend	marbles in all

_____ marbles

How many marbles were left over? _____ marble(s)

2. Ellie had 29 cookies to put in 14 lunch bags. She put the same number in each bag. How many cookies did she put in each bag?

bags	cookies per bag	cookies in all

_____ cookies

How many cookies were left over? _____ cookie(s)

3. A sheet of stamps has 46 stamps. A complete row has 10 stamps. How many complete rows are there?

complete rows	stamps per row	stamps in all

_____ complete rows

How many stamps were left over? _____ stamp(s)

Name Date Time

HOME LINK 4•5

Multiplication-Fact Shortcuts

Family Note Your child is learning the basic multiplication facts. Listen to your child explain multiplication-fact shortcuts as he or she works the problems. Review some 1s, 2s, 5s, and 10s multiplication facts (facts like $1 \times 3 = ?$, $? = 2 \times 4$, $5 \times 5 = ?$, and $10 \times 4 = ?$).

Please return this Home Link to school tomorrow.

Tell someone at home about multiplication-fact shortcuts.

The turn-around rule: $3 \times 4 = 12$ helps me know $4 \times 3 = 12$.

1. $2 \times 5 =$ _____ and $5 \times 2 =$ _____

2. _____ $= 5 \times 3$ and _____ $= 3 \times 5$

3. $10 \times 2 =$ _____ and $2 \times 10 =$ _____

If 1 is multiplied by any number, the product is that number.
The same is true if any number is multiplied by 1.

4. _____ $= 1 \times 9$ and _____ $= 9 \times 1$

5. $1 \times 90 =$ _____ and $90 \times 1 =$ _____

6. $365 \times 1 =$ _____ and $1 \times 365 =$ _____

If 0 is multiplied by any number, the product is 0.
The same is true if any number is multiplied by 0.

7. $0 \times 12 =$ _____ and $12 \times 0 =$ _____

8. $99 \times 0 =$ _____ and $0 \times 99 =$ _____

9. _____ $= 9{,}365 \times 0$ and _____ $= 0 \times 9{,}365$

Think about counting by 2s, 5s, and 10s.

10. $\begin{array}{r} 10 \\ \times\ 2 \\ \hline \end{array}$ **11.** $\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$ **12.** $\begin{array}{r} 9 \\ \times\ 2 \\ \hline \end{array}$ **13.** $\begin{array}{r} 2 \\ \times\ 7 \\ \hline \end{array}$ **14.** $\begin{array}{r} 5 \\ \times\ 3 \\ \hline \end{array}$ **15.** $\begin{array}{r} 10 \\ \times\ 5 \\ \hline \end{array}$

Name Date Time

HOME LINK 4•6

×, ÷ Fact Triangles

Family Note

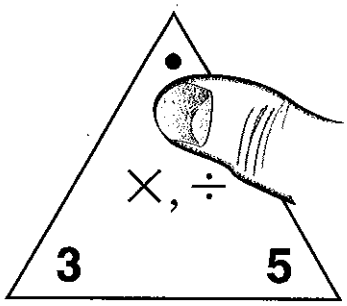
Fact Triangles build mental-math reflexes. They are the *Everyday Mathematics* version of traditional flash cards. Fact Triangles are better tools for memorizing, however, because they emphasize fact families.

A **fact family** is a group of facts made from the same 3 numbers. For 6, 4, and 24, the multiplication and division fact family is $4 \times 6 = 24$, $6 \times 4 = 24$, $24 \div 6 = 4$, $24 \div 4 = 6$.

Use Fact Triangles to practice basic facts with your child. Cut out the triangles from the two attached sheets.

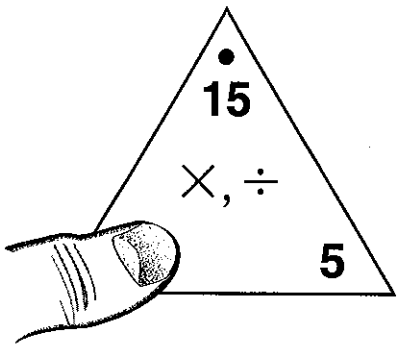
To practice multiplication:

Cover the number under the large dot—the product.

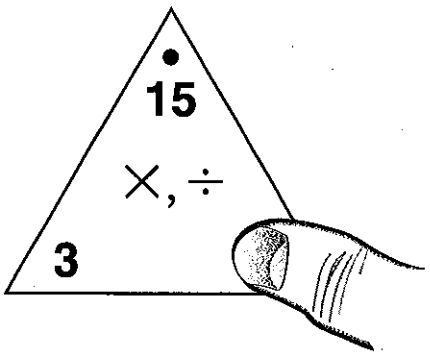


Your child should name one or two multiplication facts: $3 \times 5 = 15$, or $5 \times 3 = 15$.

To practice division, cover one of the smaller numbers.



Your child should name the division fact $15 \div 5 = 3$.



Your child should name the division fact $15 \div 3 = 5$.

If your child misses a fact, flash the other two problems and then return to the fact that was missed. *Example:* Ravi can't answer $15 \div 3$. Flash 3×5, and then $15 \div 5$, and finally $15 \div 3$ a second time.

Make this activity brief and fun. Spend about 10 minutes each night for the next few weeks, or until your child learns them all. The work you do at home will support the work we are doing at school.

*Please return the **second page** of this Home Link to school tomorrow.*

Name Date Time

HOME LINK 4•7

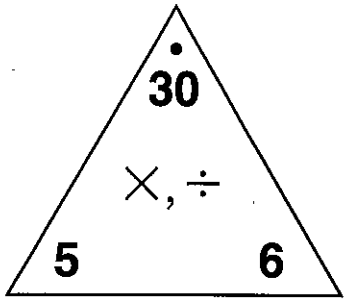
Fact Families

Family Note Your child continues to practice multiplication in school. You can help by stressing the relationship between multiplication and division: With the three nonzero numbers in a multiplication fact, two division facts can be formed. Fact Triangles are designed to help children understand this concept.

Please return this Home Link to school tomorrow.

Write the fact family for each Fact Triangle.

1.



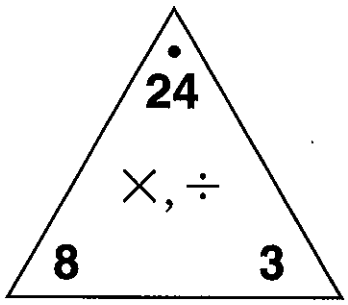
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

2.



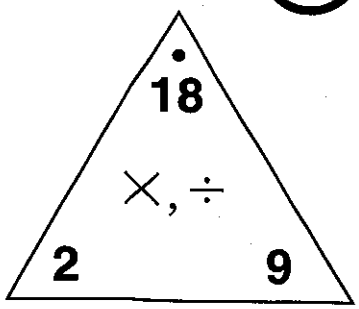
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

3.



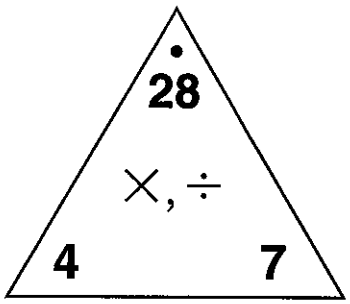
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

4.



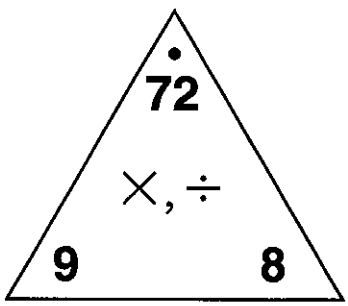
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

5.



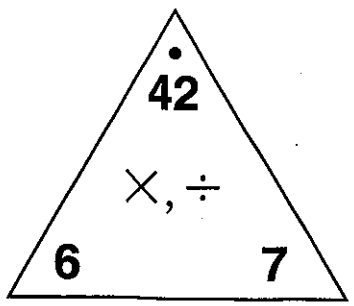
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

6.



____ × ____ = ____

____ × ____ = ____

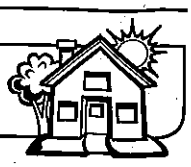
____ ÷ ____ = ____

____ ÷ ____ = ____

Name Date Time

HOME LINK 4•8

Arrays and Areas



Family Note Your child uses the same procedure for finding the area of a rectangle that is used for finding the number of dots in an array. For Problem 3 it does not matter whether your child draws an array with 4 rows of 8 dots or 8 rows of 4 dots. What is important is that the array has two sides that have 4 dots and two sides that have 8 dots. The same concept is true for Problem 4.

Please return this Home Link to school tomorrow.

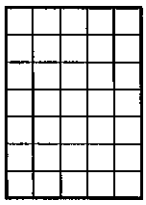
Make a dot inside each small square in one row. Then fill in the blanks.

1. Number of rows: _____

Number of squares in a row: _____

Number model: _____ × _____ = _____

Area: _____ square units

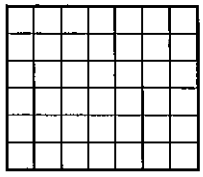


2. Number of rows: _____

Number of squares in a row: _____

Number model: _____ × _____ = _____

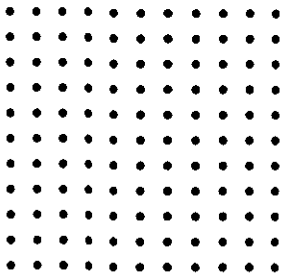
Area: _____ square units



Mark the dots to show each array. Then fill in the blanks.

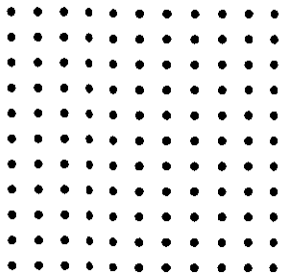
3. Make a 4-by-8 array.

Number model: _____ × _____ = _____



4. Make a 9-by-5 array.

Number model: _____ × _____ = _____



Name Date Time

HOME LINK 4•9

Using a Map Scale

Family Note Your child is just learning how to use a map scale. He or she should use the scale to measure an as-the-crow-flies estimate for each problem. This expression refers to the most direct route between two points, disregarding road distance. Actual road distances are longer than these direct paths.

Please return this Home Link to school tomorrow.

For each question, circle all reasonable answers. (There may be more than one reasonable answer.) All distances are as the crow flies. Be sure to use the map scale on the next page.

1. About how many miles is it from New York to Los Angeles?

about 1,000 miles

more than the distance from Chicago to Dallas

about 2,400 miles

2. About how many miles is it from Chicago to Atlanta?

about 600 miles

more than the distance from Chicago to Seattle

less than the distance from Chicago to Denver

3. About how many miles is it from Seattle to Dallas?

about 2,600 miles

about 5,000 miles

more than the distance from New York to Chicago

4. About how many miles is it from New York to Atlanta?

less than the distance from Denver to Atlanta

more than the distance from New York to Portland

about 750 miles

Name Date Time

HOME LINK 4•10

A Fair Game?

Family Note The class is exploring probability. Play *Rock, Paper, Scissors* with your child. After 20 rounds, have your child decide whether the game is fair and tell you why or why not. (A game is fair if all players have an equal chance of winning or losing.)

Please return this Home Link to school tomorrow.

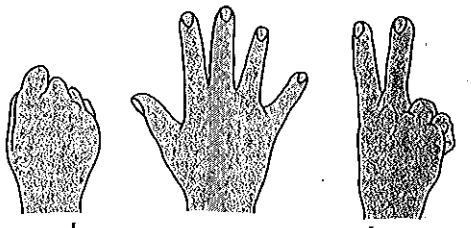
Play the game *Rock, Paper, Scissors* with someone at home. Play at least 20 times. Keep a tally of wins and losses.

Rock, Paper, Scissors

Materials ☐ players' hands

Players 2

Object of the Game To choose a hand position that beats your partner's choice.



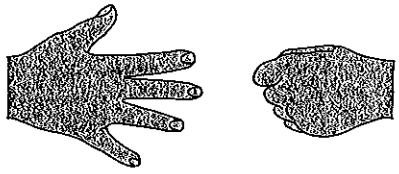
rock paper scissors

Directions

1. Each player hides one hand behind his or her back and puts it in the rock, paper, or scissors position.
2. One player counts, "One, two, three."
3. On "three," both players show their hand positions.
4. Players choose the winner according to these rules.

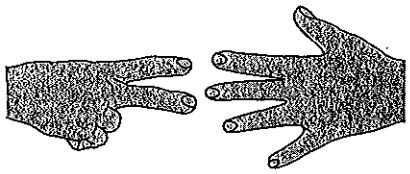
Rock dents scissors.

Rock wins.



Paper covers rock.

Paper wins.



Scissors cut paper.

Scissors wins.

If both players show the same position, no one wins.

1. Is this a fair game? (*Fair* means each player has the same chance of winning.) _____
2. On the back of this paper, explain why or why not.