"What's My Rule?"

> **Family Note** Today your child practiced adding, subtracting, multiplying, and dividing in "What's My Rule?" problems. Children were introduced to the "What's My Rule?" routine in *Kindergarten Everyday Mathematics.* In *First* and *Second Grade Everyday Mathematics*, they continued to use the routine to practice addition and subtraction. You can find an explanation of function machines and "What's My Rule?" tables on pages 74-75 in the *Student Reference Book.* Ask your child to explain how they work. Help your child fill in all the missing parts for these problems.
>
> ***Please return this Home Link to school tomorrow.***

Complete the "What's My Rule?"problems. Make up problems of your own for the last table. Explain to someone how you figured out the *in* and *out* numbers.

SRB 74-75

(1) in → Rule: Subtract 7 → out

in	out
14	
7	
12	
15	
10	
21	

(2) in → Rule: Multiply by 5 → out

in	out
1	5
	25
4	
	30
2	

(3) in → Rule: _____ → out

in	out
70	100
20	
	60
90	120
50	

(4) in → Rule: _____ → out

in	out

79

Solving Problems with Estimation

Family Note Today your child used close-but-easier numbers and estimation to solve problems. Ask your child to explain what a close-but-easier number is and when it might make sense to use an estimate rather than an exact answer. Using mental math in making estimates is important in everyday life and in *Everyday Mathematics.*

Please return this Home Link to school tomorrow.

SRB
106-107

(1) Use close-but-easier numbers to estimate the answer to this problem.

$$78 + 43 = ?$$

My close-but-easier numbers are _____.

My estimate is _____.

(2) At their October meeting, the school's book club set a goal for its members to read 1,000 books before the end of the year. In October the book club read 221 books, and in November they read 387 books. Without using a pencil and paper, use close-but-easier numbers to make an estimate of about how many books the club will need to read in December to reach its goal.

My close-but-easier numbers are _____.

The club needs to read about _____ books in December.

Partial-Sums Addition

Family Note Today your child learned about adding 3-digit numbers using partial-sums addition.
Your child may choose to use partial-sums addition or may prefer a different method.

Please return this Home Link to school tomorrow.

Solve each addition problem. You may want to use partial-sums addition.
Use an estimate to check that your answer makes sense. Write a
number model to show your estimate.

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(1) Estimate: _____

$$\begin{array}{r} 2\ 4\ 5 \\ +\ \ \ 9\ 2 \\ \hline \end{array}$$

(2) Estimate: _____

$$\begin{array}{r} 1\ 2\ 4 \\ +2\ 1\ 5 \\ \hline \end{array}$$

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(3) Estimate: _____

$$\begin{array}{r} 2\ 4\ 5 \\ +3\ 1\ 7 \\ \hline \end{array}$$

(4) Estimate: _____

$$\begin{array}{r} 3\ 6\ 6 \\ +2\ 0\ 8 \\ \hline \end{array}$$

84

Multidigit Addition

Family Note Today your child learned column addition, a strategy for adding multidigit numbers. Discuss the example with your child.

Please return this Home Link to school tomorrow.

Tell someone about column addition.

Example: $248 + 79 = ?$

Estimate: _____ *200 + 100 = 300* _____

100s	10s	1s
2	4	8
+	7	9
2	11	17
2	12	7
3	2	7

Add each column of numbers.

There are two digits in the ones column, so trade 10 ones for 1 ten, then move 1 ten to the tens column.

There are two digits in the tens column, so trade 10 tens for 1 hundred, then move 1 hundred to the hundreds column.

248 + 79 = 327

For the problem below, estimate the sum. Then use column addition to solve. Show your work. Use your estimate to check whether your answer makes sense.

$89 + 26 = ?$

Estimate: _____

$89 + 26 =$ _____

87

Counting-Up Subtraction

Family Note Today your child reviewed the counting-up method for subtraction. Discuss the example problem with your child.
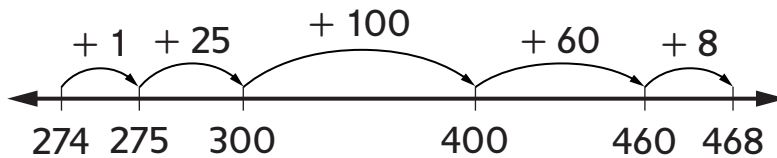
Please return this Home Link to school tomorrow.

Explain counting-up subtraction to someone at home. Use it to solve Problems 1 and 2. Show what you did on an open number line or with number sentences. Compare your answers to your estimates to check whether your answers make sense.

SRB
122-123

Example: $468 - 274 = ?$

Estimate: ___$500 - 300 = 200$___

$+1$ $+25$ $+100$ $+60$ $+8$

274 275   300   400   460 468

$1 + 25 + 100 + 60 + 8 = 194$

$$274 + \boxed{1} = 275$$
$$275 + \boxed{25} = 300$$
$$300 + \boxed{100} = 400$$
$$400 + \boxed{60} = 460$$
$$460 + \boxed{8} = 468$$

$1 + 25 + 100 + 60 + 8 = 194$

$468 - 274 =$ ___194___

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① $531 - 329 = ?$

Estimate: _____

$531 - 329 =$ _____

② $331 - 209 = ?$

Estimate: _____

$331 - 209 =$ _____

Expand-and-Trade Subtraction

Family Note Today your child used expand-and-trade subtraction to find differences between 3-digit numbers. This method reinforces children's understanding of place value. Learning different strategies helps children think flexibly and apply strategies that make sense to them.

Please return this Home Link to school tomorrow.

Fill in the unit. Estimate and then solve the problems. You may use any strategy you like. Use your estimates to check that your answers make sense. On the back of this Home Link, explain how you solved one of the problems.

Unit

SRB
119

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① Estimate:

_____

$$\begin{array}{r} 4\ 6\ 8 \\ -\ 2\ 7\ 4 \\ \hline \end{array}$$

② Estimate:

_____

$$\begin{array}{r} 5\ 3\ 1 \\ -\ 3\ 2\ 9 \\ \hline \end{array}$$

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③ Estimate:

_____

$$\begin{array}{r} 3\ 3\ 1 \\ -\ 2\ 0\ 9 \\ \hline \end{array}$$

④ Estimate:

_____

$$\begin{array}{r} 6\ 5\ 3 \\ -\ 4\ 4\ 7 \\ \hline \end{array}$$

Scaled Bar Graph

**Family Note** Today your child sorted pattern blocks and created a bar graph with a scale of more than 1 to represent the data. Scales on bar graphs should have equally spaced intervals to represent data, such as below, where the scale is marked in intervals of 2.

Please return this Home Link to school tomorrow.

Talk to someone at home about the data shown on the bar graph below. Then use the information shown on the graph to answer the questions.

Favorite Math Games
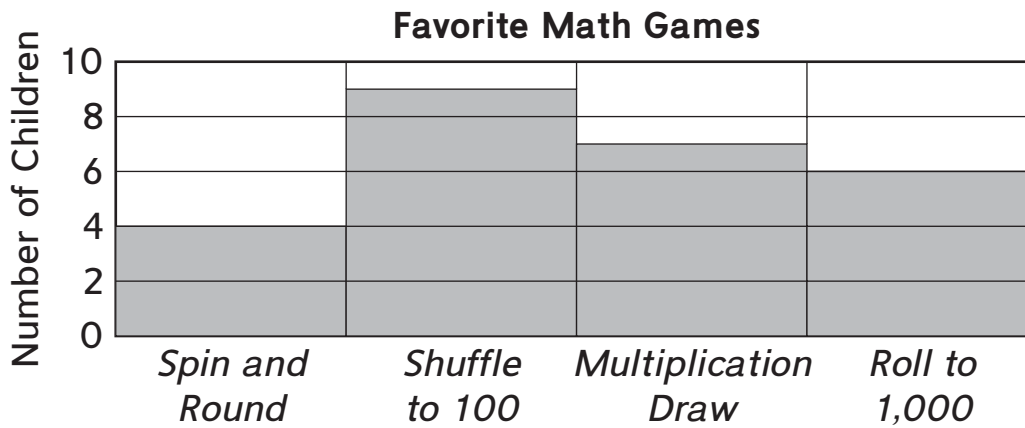
1. How many more children chose *Shuffle to 100* than *Multiplication Draw*? ____

2. How many more children chose *Roll to 1,000* than *Spin and Round*? ____

3. How many fewer children chose *Shuffle to 100* than the combined total of children who chose *Roll to 1,000* and *Multiplication Draw*? ____

4. Write your own question about the graph. Then write the answer.

_____

_____

_____

Interpreting a Picture Graph

Family Note Today your child learned to read and draw picture graphs with a scale of more than one. The key on a picture graph shows a symbol that represents the scale.

Please return this Home Link to school tomorrow.

The picture graph shows how many fish each child caught on a fishing trip.

Number of Fish Caught at Clear Lake

Beth | ⊂⊃ ⊂⊃ ⊂⊃ ⊂⊃ ⊂⊃ ⌣⌒
Maria | ⊂⊃ ⊂⊃
Amy | ⊂⊃
Max | ⊂⊃ ⊂⊃ ⊂⊃ ⌣⌒
Chen | ⊂⊃ ⊂⊃ ⊂⊃ ⊂⊃
Bill | ⊂⊃ ⊂⊃ ⊂⊃ ⊂⊃ ⊂⊃
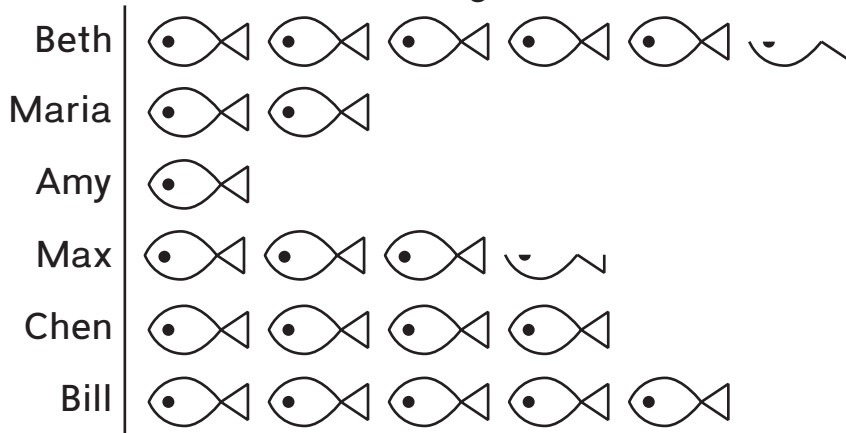
Key: ⊂⊃ = 2 fish

Use the graph to answer the questions.

(1) How many fish did Amy catch? ____ fish

(2) How many fish did Chen catch? ____ fish

(3) How many more fish did Bill catch than Maria? ____ fish

(4) Maria catches 3 more fish. Now how many has she caught in all? ____ fish

Revise the picture graph to show the number of fish Maria caught in all.

(5) Did Chen and Max or Beth and Bill catch more fish? How many more? Explain your answer.

_____

_____

_____

99

Multiplication Squares

Family Note Today your child learned about multiplication squares, such as 3 × 3 = 9 and 7 × 7 = 49. Help your child practice multiplication squares by completing the Rolling and Recording Squares activity below. If you don't have a 10-sided die, you will need a set of cards numbered 1 through 10, preferably two or more of each. You can use a regular deck of playing cards 2–10, using the aces as 1s.

Continue to help your child practice multiplication with the included Fact Triangles.

Please return this Home Link to school tomorrow.

Rolling and Recording Squares

Directions

① Work with a family member.

② Roll a 10-sided die (or draw a card) and make a multiplication square using that number as both factors.

③ Figure out the product. Shade the first open box above that product.

④ Take turns until one column is filled. (If drawing cards, reuse them.)

1	4	9	16	25	36	49	64	81	100

Practice

Fill in the unit box. Write these problems on the back of this page and show your work there. Write a number sentence for your estimate. Use any method you wish to solve each problem.

Unit

⑤ Estimate: _____

   $49 + 768 =$ _____

⑥ Estimate: _____

   $356 + 598 =$ _____

101

×, ÷ Fact Triangles: Multiplication Squares
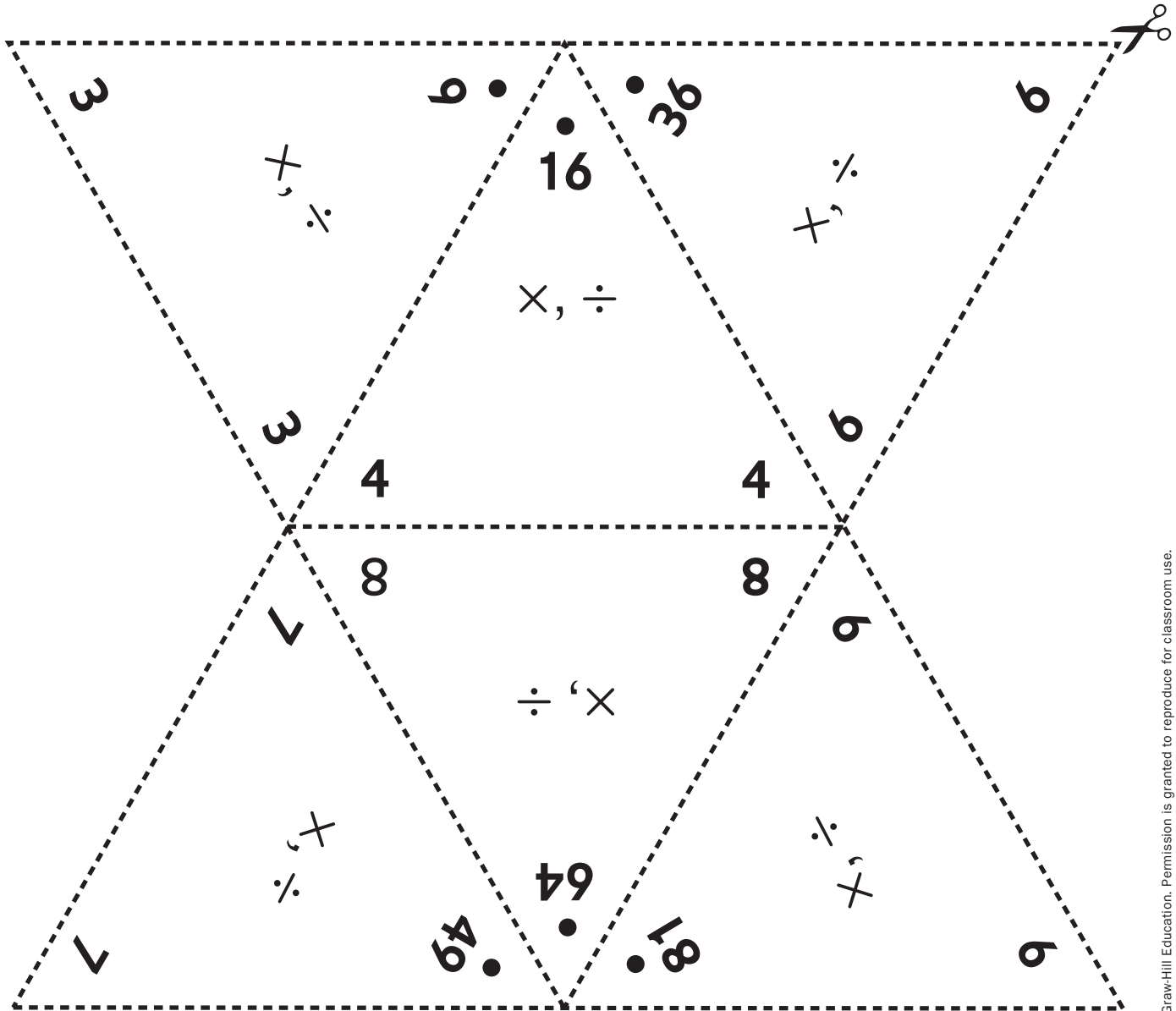
3

9 •

• 36

6

×, ÷

×, ÷

16 •

×, ÷

3

6

4

4

8

8

7

9

×, ÷

×, ÷

64 •

49 •

• 81

7

9

The Turn-Around Rule for Multiplication

> **Family Note** Today your child explored the *turn-around rule for multiplication,* which says two numbers may be multiplied in either order and the product will remain the same. *For example:* $2 \times 5 = 10$ and $5 \times 2 = 10$. Knowing this rule can help children multiply more easily. Children also took inventory of the facts they can solve quickly and easily and those they still need to practice.
>
> ***Please return this Home Link to school tomorrow.***

Sketch an array to match each fact. Then sketch that array turned around. Record a number sentence to match the second array.

1

$2 \times 6 = 12$ Number sentence: _____

2

$5 \times 3 = 15$ Number sentence: _____

3 Use Problems 1 and 2 to tell someone why the turn-around rule works.

4 Choose a multiplication fact you need to practice. Write a strategy you can use to figure it out.

My fact: _____ × _____ = _____

Strategy: _____

_____

Adding a Group

Family Note Today your child learned another strategy for solving multiplication facts. Children used familiar facts, or helper facts, including the 2s, 5s, and 10s facts, to figure out facts they didn't know. Today your child learned the adding-a-group strategy. Children added a group to helper 2s and 5s facts to solve other facts. Eventually children will know all their multiplication facts, but in the meantime, practicing strategies such as adding a group helps them figure out facts they do not know and also supports their understanding of multiplication and its properties.

Please return this Home Link to school tomorrow.

Solve.

SRB
47

(1) Jamila has 5 shelves of books with 7 books on each shelf. How many books does she have? Draw an array to show Jamila's books.

$5 \times 7 =$ _____

(2) Jamila's sister gives her 7 more books to fill a new shelf. Now she has 6 rows of 7 books. Add a row of books to your array above. Then figure out how many books Jamila has now.

$6 \times 7 =$ _____

(3) How did 5×7 help you figure out 6×7?

_____

_____

Subtracting a Group

Family Note Today your child learned the subtracting-a-group strategy for solving multiplication facts. Children subtracted groups from 5s and 10s helper facts to solve other facts. For example, to solve 4×6, they might start with $5 \times 6 = 30$ and subtract a group of 6: $30 - 6 = 24$, so $4 \times 6 = 24$. Continue to help your child practice multiplication with the included Fact Triangles.

Please return this Home Link to school tomorrow.

① Use 10×4 and the array below to help figure out 9×4.

$$9 \times 4 = ?$$

Helper fact: $10 \times 4 = 40$

```
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
× × × ×
```

a. Draw on the array above to show how to use 10×4 to figure out 9×4.

b. Solve. $9 \times 4 = $ _____

c. How did knowing 10×4 help you figure out 9×4?

_____

_____

Practice

② $9 \times 10 = $ ___

③ $9 \times 5 = $ ___

④ ___ $= 8 \times 5$

⑤ ___ $= 8 \times 10$

×, ÷ Fact Triangles: 3s and 9s

110

Name-Collection Boxes

> **Family Note** Today your child discussed and wrote equivalent names for numbers in name-collection boxes. You can find an explanation of name-collection boxes on pages 96-97 in the *Student Reference Book.*
>
> ***Please return this Home Link to school tomorrow.***

(1) Write at least 10 names for the number 18 in the name-collection box. Then explain to someone at home how the box works. Have that person add another name for 18.

18

(2) Three of the names do not belong in this box. Cross them out. Then write the name of the box on the tag.

||||| HHT HHT   one dozen
7 + 5
number of months in 1 year
15 − 3   10 + 2
18 − 4   9 − 3

(3) Make up a problem like Problem 2. Do not write the name of the box on the tag. Write 4 names for the number and 2 names that are not names for the number.

To check whether the problem makes sense, ask someone at home to tell you which 2 names do not belong. Then have that person write the name of the box on the tag.