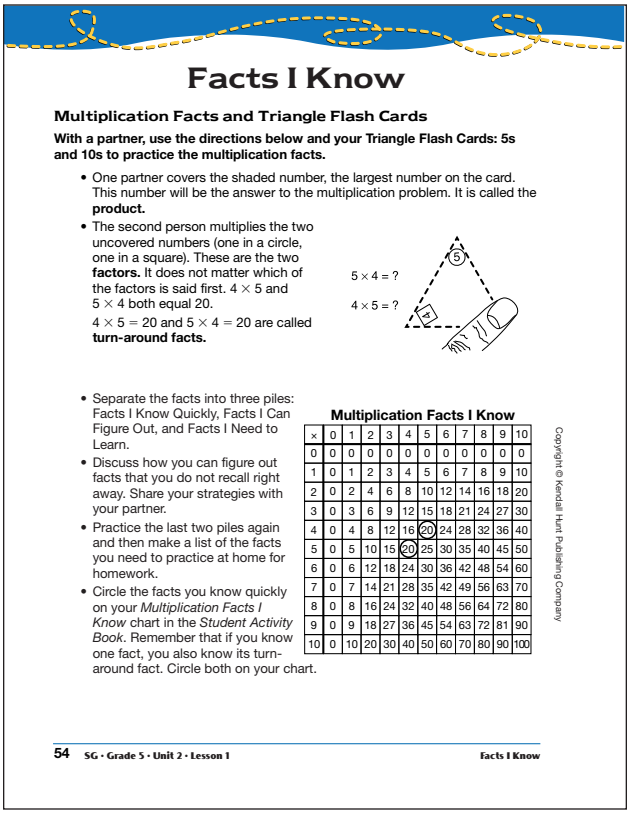
Student Guide

Facts I Know (SG pp. 54–57)
Questions 1–11

1. $20 \div 4 = 5$ squares
2. $20 \div 5 = 4$ squares
3. The rectangles are the same. If you cut one out and turn it around, you can lay it directly on top of the other.
4. $4 \times 5 = 20$ and $5 \times 4 = 20$



Facts I Know

Multiplication Facts and Triangle Flash Cards

With a partner, use the directions below and your Triangle Flash Cards: 5s and 10s to practice the multiplication facts.

- One partner covers the shaded number, the largest number on the card. This number will be the answer to the multiplication problem. It is called the **product.**
- The second person multiplies the two uncovered numbers (one in a circle, one in a square). These are the two **factors.** It does not matter which of the factors is said first. 4×5 and 5×4 both equal 20.
  $4 \times 5 = 20$ and $5 \times 4 = 20$ are called **turn-around facts.**

5 × 4 = ?
4 × 5 = ?

- Separate the facts into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.
- Discuss how you can figure out facts that you do not recall right away. Share your strategies with your partner.
- Practice the last two piles again and then make a list of the facts you need to practice at home for homework.
- Circle the facts you know quickly on your *Multiplication Facts I Know* chart in the *Student Activity Book*. Remember that if you know one fact, you also know its turn-around fact. Circle both on your chart.

Multiplication Facts I Know

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

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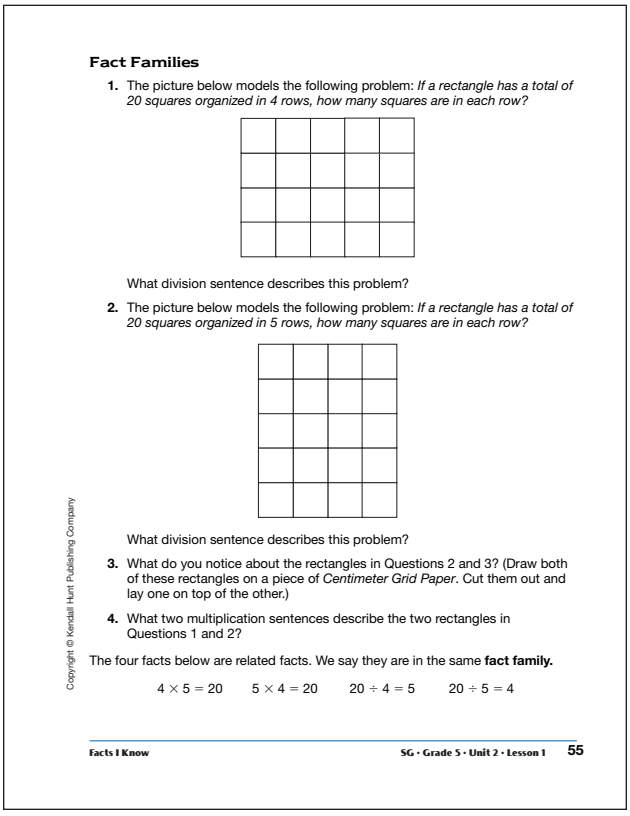
54 SG • Grade 5 • Unit 2 • Lesson 1 Facts I Know

***Student Guide* - Page 54**



Fact Families

1. The picture below models the following problem: *If a rectangle has a total of 20 squares organized in 4 rows, how many squares are in each row?*

What division sentence describes this problem?

2. The picture below models the following problem: *If a rectangle has a total of 20 squares organized in 5 rows, how many squares are in each row?*

What division sentence describes this problem?

3. What do you notice about the rectangles in Questions 2 and 3? (Draw both of these rectangles on a piece of *Centimeter Grid Paper*. Cut them out and lay one on top of the other.)
4. What two multiplication sentences describe the two rectangles in Questions 1 and 2?

The four facts below are related facts. We say they are in the same **fact family.**

$4 \times 5 = 20$ $5 \times 4 = 20$ $20 \div 4 = 5$ $20 \div 5 = 4$

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Facts I Know SG • Grade 5 • Unit 2 • Lesson 1 55

***Student Guide* - Page 55**

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5. Solve each pair of related facts. Name two other facts in the same fact family.

   A. $5 \times 2 = ?$ and $2 \times 5 = ?$ **B.** $10 \times 3 = ?$ and $3 \times 10 = ?$

   C. $10 \times 5 = ?$ and $50 \div 10 = ?$ **D.** $6 \times 5 = ?$ and $30 \div 5 = ?$

6. For each related fact, write the complete number sentence.

   A. $8 \times 5 =$ _____
   _____ $\div 5 =$ _____
   _____ $\div 8 =$ _____
   $5 \times$ _____ = _____

   B. $7 \times 10 =$ _____
   _____ $\div$ _____ $= 7$
   _____ $\div 7 =$ _____
   $10 \times$ _____ = _____

   C. $90 \div$ _____ $= 9$
   _____ $\times 10 =$ _____
   _____ $\div 9 =$ _____
   _____ $\times 9 =$ _____

   D. $5 \times$ _____ $= 45$
   $45 \div$ _____ = _____
   $9 \times$ _____ = _____
   $45 \div$ _____ = _____

7. What is 5×5? Name a related fact for 5×5. Is there more than one?

8. What is 10×10? Name a related fact for 10×10. Is there more than one?

9. The numbers 25 and 100 are square numbers. How are the fact families for the square numbers different from other fact families?

10. Solve the given fact. Then name other facts in the same fact family.

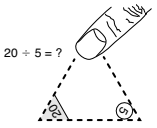
    A. $10 \times 6 = ?$ **B.** $20 \div 10 = ?$ **C.** $7 \times 5 = ?$ **D.** $80 \div 8 = ?$

    E. $15 \div 3 = ?$ **F.** $4 \times 10 = ?$ **G.** $3 \times 5 = ?$ **H.** $10 \div 2 = ?$

Division Facts and Triangle Flash Cards

With a partner, use the directions and your Triangle Flash Cards: 5s and 10s to practice the division facts.

- One partner covers the number in the square. This number will be the **quotient**—the answer to a division problem**.** The number in the circle is the **divisor.**
- The second person solves a division fact with the two uncovered numbers as shown.



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***Student Guide* - Page 56**

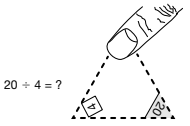
- Separate the facts into three piles: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.
- Discuss how you can figure out facts that you do not recall right away. Share your strategies with your partner.
- Practice the last two piles again and then make a list of the facts you need to practice at home for homework.
- Circle the facts you know quickly on your *Division Facts I Know* chart in the *Student Activity Book.*

  For example, Edward knew $20 \div 5 = 4$. So he circled the 20 in the row for a divisor of 5.

Division Facts I Know

Divisor ×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	(20)	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

- Sort the cards again. This time your partner covers the number in the circle. The number in the square is now the divisor. Solve a division fact with the two uncovered numbers.



- Discuss how you can figure out facts that you do not recall right away. Share your strategies with your partner.
- Practice the last two piles again and then make a list of the facts you need to practice at home for homework.
- Take the list and the flash cards home to practice learning the facts.

11. Compare your *Multiplication Facts I Know* chart to your *Division Facts I Know* chart. Look for facts in the same fact family. Do you know any complete fact families? Which family or families? Explain.

    You will continue to use Triangle Flash Cards to study other groups of facts. You will be reminded to update your *Multiplication* and *Division Facts I Know* charts. If you know one or two of the facts in a fact family, use those facts to help you learn the others.

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***Student Guide* - Page 57**

5. **A.** 10; 10; $10 \div 2 = 5$; $10 \div 5 = 2$

   B. 30; 30; $30 \div 3 = 10$; $30 \div 10 = 3$

   C. 50; 5; $5 \times 10 = 50$; $50 \div 5 = 10$

   D. 30; 6; $5 \times 6 = 30$; $30 \div 6 = 5$

6. **A.** $8 \times 5 = \underline{40}$; $\underline{40} \div 5 = \underline{8}$; $\underline{40} \div 8 = \underline{5}$; $5 \times \underline{8} = \underline{40}$

   B. $7 \times 10 = \underline{70}$; $\underline{70} \div \underline{10} = 7$; $\underline{70} \div 7 = \underline{10}$; $10 \times \underline{7} = \underline{70}$

   C. $90 \div \underline{10} = 9$; $\underline{9} \times 10 = \underline{90}$; $\underline{90} \div 9 = \underline{10}$; $\underline{10} \times 9 = \underline{90}$

   D. $5 \times \underline{9} = 45$; $45 \div \underline{5} = \underline{9}$; $9 \times \underline{5} = \underline{45}$; $45 \div \underline{9} = \underline{5}$

7.* 25; $25 \div 5 = 5$; No.

8.* 100; $100 \div 10 = 10$; No.

9.* There are only two facts in the fact families for square numbers.

10. **A.** 60; $6 \times 10 = 60$; $60 \div 6 = 10$; $60 \div 10 = 6$

    B. 2; $20 \div 2 = 10$; $2 \times 10 = 20$; $10 \times 2 = 20$

    C. 35; $5 \times 7 = 35$; $35 \div 7 = 5$; $35 \div 5 = 7$

    D. 10; $80 \div 10 = 8$; $8 \times 10 = 80$; $10 \times 8 = 80$

    E. 5; $15 \div 5 = 3$; $3 \times 5 = 15$; $5 \times 3 = 15$

    F. 40; $10 \times 4 = 40$; $40 \div 4 = 10$; $40 \div 10 = 4$

    G. 15; $5 \times 3 = 15$; $15 \div 3 = 5$; $15 \div 5 = 3$

    H. 5; $10 \div 5 = 2$; $2 \times 5 = 10$; $5 \times 2 = 10$

11.* Answers will vary.

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***Answers and/or discussion are included in the lesson.**