LESSON MAKER PRO

Fraction Factor Lab

Multiply fractions and check whether each product makes sense.

GRADE 5 · 5.NOS.D.13

5.NOS.D.13 "Apply and extend previous understandings of multiplication to multiply a fraction by a fraction, with one or both factors greater than 1. Estimate products by reasoning about benchmark numbers and assess reasonableness of answers..."

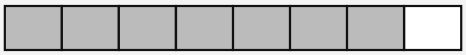
NAME _____ DATE _____

THE BIG IDEA

Multiply the numerators, then multiply the denominators. Before you calculate, compare a factor to 1 to predict whether the product will be larger or smaller than the other factor.

WORKED EXAMPLE

What is 9/7 times the shaded part of the bar?

1 whole 

1. The shaded part is 7/8.
2. 9/7 × 7/8 = 63/56.
3. 63/56 = 9/8 = 1 1/8.
4. Since 9/7 is greater than 1, the product should be greater than 7/8.

Answer: 1 1/8

PRACTICE 4 problems

1 Multiply: 2/3 × 3/2.

ANSWER _____

2 Multiply: 4/3 × 1/2.

ANSWER _____

3 Multiply: 5/2 × 2/5.

ANSWER _____

4 Is 3/2 × 5/4 closer to 1 or 2? Find the exact product.

ANSWER _____

APPLY IT Show your work

1 The shaded part shows the ribbon Leo has left. He needs 4/3 times that amount for a craft. How many yards does he need?

1 yard 

ANSWER _____

2 A video takes 2/3 hour to edit. An animation takes 5/4 times as long. How many hours does the animation take?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The shaded part shows batter for one batch. A club makes 5/2 times that amount. Is the total closer to 1 or 2 pans? Find the exact amount.

1 pan 

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Factor Lab

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Multiply: 2/3 × 3/2.	**1**
2	Multiply: 4/3 × 1/2.	**2/3**
3	Multiply: 5/2 × 2/5.	**1**
4	Is 3/2 × 5/4 closer to 1 or 2? Find the exact product.	**Closer to 2; 15/8, or 1 7/8**

PART 2 · APPLY IT

1. **10/9 yards, or 1 1/9 yards** The shaded ribbon is 5/6 yard. Multiply 5/6 × 4/3 = 20/18 = 10/9 yards.
2. **5/6 hour** Multiply 2/3 × 5/4 = 10/12 = 5/6 hour.

CHALLENGE

Closer to 2 pans; 5/3 pans, or 1 2/3 pans

Accept equivalent simplified fractions or mixed numbers. For estimates, accept the stated benchmark when it matches the exact product.