

Fraction Power Up

Multiply fractions by whole numbers.

GRADE 4 • 4.NF.B.4b

CCSS.Math.Content.4.NF.B.4b "Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times \frac{2}{5}$ as $6 \times \frac{1}{5}$..."

NAME _____

DATE _____

MAKE EQUAL GROUPS

To multiply a fraction by a whole number, multiply the numerator by the whole number and keep the denominator the same. You can also think of the fraction as copies of a unit fraction.

WORKED EXAMPLE

Find $4 \times \frac{3}{8}$.

1. Write $\frac{3}{8}$ as $3 \times \frac{1}{8}$.
2. Multiply the whole numbers: $4 \times 3 = 12$.
3. Keep the denominator: $4 \times \frac{3}{8} = \frac{12}{8}$.
4. Rename $\frac{12}{8}$ as $1 \frac{1}{2}$.

Answer: $1 \frac{1}{2}$

PRACTICE 6 problems

1 Find $2 \times \frac{1}{5}$.

ANSWER _____

2 Find $5 \times \frac{2}{7}$.

ANSWER _____

3 Find $6 \times \frac{1}{6}$.

ANSWER _____

4 Find $7 \times \frac{5}{11}$.

ANSWER _____

5 Find $10 \times \frac{7}{12}$.

ANSWER _____

6 Find $11 \times \frac{2}{13}$.

ANSWER _____

APPLY IT Show your work

- 1** At robotics club, Maya uses $\frac{2}{5}$ meter of wire for each of 6 mini circuits. How many meters of wire does she use?

WORK SPACE

ANSWER _____

- 2** For 5 days, Luis adds $\frac{7}{11}$ mile to his virtual hiking map each day. How many miles does he add altogether?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Explain why $6 \times \frac{5}{13}$ is the same as $30 \times \frac{1}{13}$. Then find the product.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $2 \times \frac{1}{5}$.	$\frac{2}{5}$
2	Find $5 \times \frac{2}{7}$.	$1 \frac{3}{7}$
3	Find $6 \times \frac{1}{6}$.	1
4	Find $7 \times \frac{5}{11}$.	$3 \frac{2}{11}$
5	Find $10 \times \frac{7}{12}$.	$5 \frac{5}{6}$
6	Find $11 \times \frac{2}{13}$.	$1 \frac{9}{13}$

PART 2 • APPLY IT

- $2 \frac{2}{5}$ meters** Multiply $6 \times \frac{2}{5} = \frac{12}{5}$. Rename $\frac{12}{5}$ as $2 \frac{2}{5}$.
- $3 \frac{2}{11}$ miles** Multiply $5 \times \frac{7}{11} = \frac{35}{11}$. Rename $\frac{35}{11}$ as $3 \frac{2}{11}$.

CHALLENGE

Each $\frac{5}{13}$ is 5 copies of $\frac{1}{13}$, so 6 groups of $\frac{5}{13}$ are 30 copies of $\frac{1}{13}$. The product is $\frac{30}{13}$, or $2 \frac{4}{13}$.

Accept equivalent fraction forms, including improper fractions and simplified mixed numbers. For the challenge, accept an explanation that identifies 30 copies of $\frac{1}{13}$ and gives $\frac{30}{13}$ or $2 \frac{4}{13}$.