

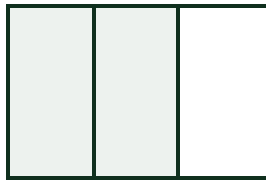


ANCHOR CHART · GRADE 5 · 5.NF.B.4

Multiplying Fractions

$$\frac{1}{4} \times \frac{2}{3} = \text{one fourth OF two thirds}$$

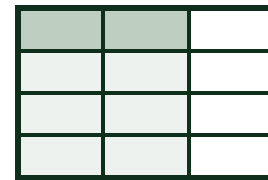
1 Start With What You Have



2/3 shaded

Draw **two thirds** with up-and-down cuts.

2 Take a Fourth of It



cut into 4 rows, keep 1

Side-to-side cuts make **twelfths**. The dark cells are 1/4 of the 2/3.

3 The Rule the Picture Proves

$$\frac{1}{4} \times \frac{2}{3} = \frac{1 \times 2}{4 \times 3} = \frac{2}{12} = \frac{1}{6}$$

multiply across the top, across the bottom

Tops count the kept cells; bottoms count all the cells. That's why the rule works.

4 Does It Make Sense?

· A fourth **of** something is **smaller** than the something - so the answer should shrink. $\frac{1}{6} < \frac{2}{3}$

$$\frac{2}{3} \checkmark$$

· Multiplying by a fraction less than 1 always shrinks. That surprise is worth saying out loud.

· Whole numbers ride on top: $3 \times \frac{2}{5} = \frac{6}{5}$.

"of" shrinks; the picture shows why.