

# Multiplying Fractions

- Area Model
- Patterning (times tables)
- Shortcut
- Area Model pt 2 - mixed numbers

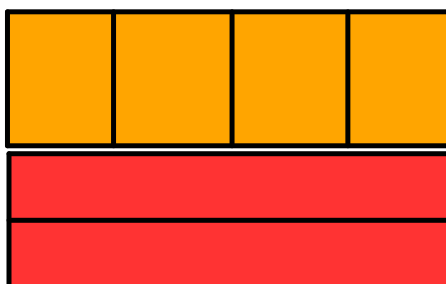
Learning Goal:

By the end of today, I will be able to multiply two fractions together using at least two different techniques.

## Area Model Refresh

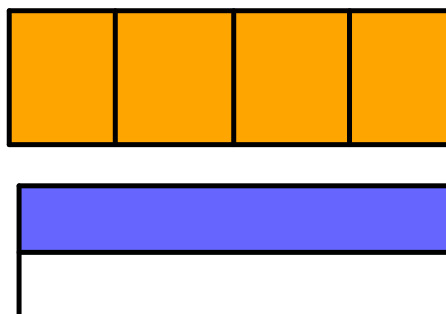
*\*Highlight and drag top table*

$$2 \times 4$$



We are interested in how many rectangles end up with Both colours.

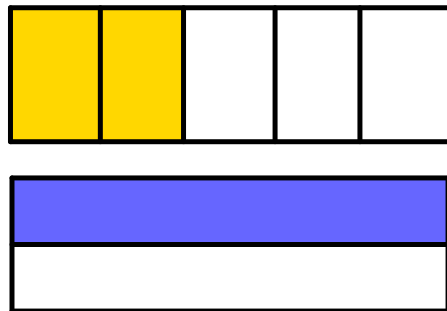
$$\frac{1}{2} \times 4$$



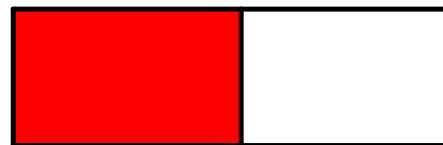
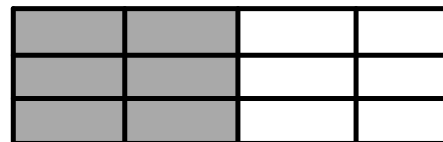
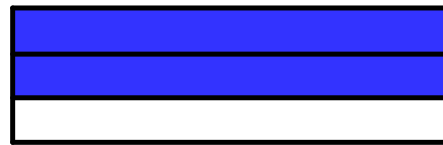
## Area Model Pt 1

*\*Highlight and drag top table*

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



$$\frac{3}{4} \times \frac{2}{3}$$



## Place Holders and Fractions

There are numerator and denominator positions in fractions (top and bottom).

Whole numbers have a place holder of ONE in the denominator position.

Ex.  $5 =$

$$12 =$$

Find the product of:

$$10 \times \frac{1}{2} =$$

## Patterning from Times Tables (half)

$6 \times 3 =$



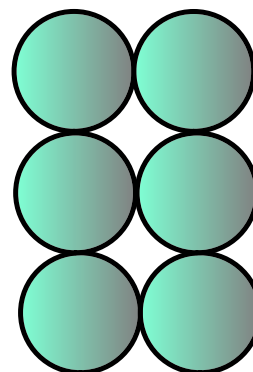
$6 \times 2 =$



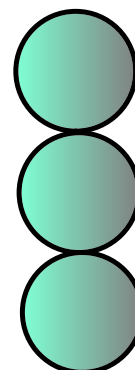
$6 \times 1 =$



$6 \times 0 =$



(drag and drop circles)



$\frac{5}{8} \times \frac{1}{2}$

Two ways to show:  
1/ Half of  $\frac{5}{8}$   
2/ Half of  $\frac{1}{8}$  5 times

Is there a faster way?



Find the product of:

$$\frac{5}{8} \times \frac{1}{2}$$

## Shortcut

When **multiplying** fractions (**not in mixed form**) you can multiply across the numerators and across the denominators to find the product.

So...

"top times top"

"bottom times bottom"

Multiply the following:

$$\frac{1}{2} \times 12 =$$

$$\frac{3}{4} \times 12 =$$

$$\frac{5}{6} \times 12 =$$

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



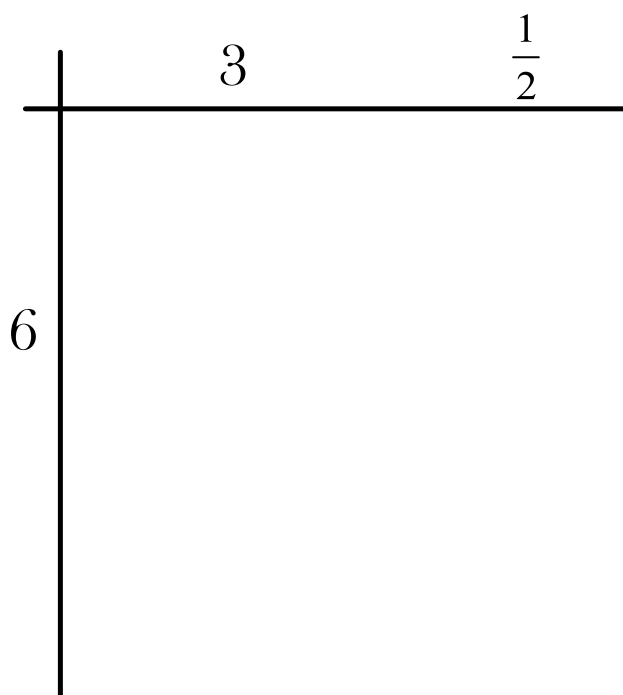
$$\frac{3}{4} \times \frac{3}{4} =$$



What if there is a mixed fraction?

Find the product of:

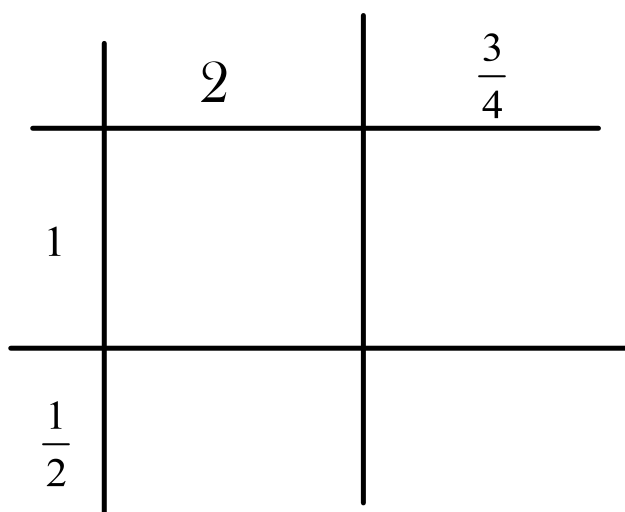
$$6 \times 3\frac{1}{2}$$



Shortcut with improper

## Area Model with Mixed Numbers

$$2\frac{3}{4} \times 1\frac{1}{2}$$



Shortcut with improper

## Task - Multiplying Fractions

## Attachments

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Math - task6 - multiply fractions.doc