## **Multiplying Fractions Slides**



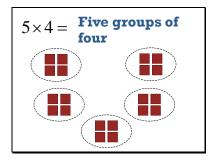
## Think of multiplication like this:

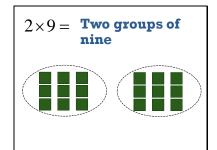
5 x 2 Five groups of two

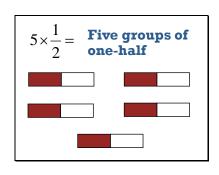
3 x 9 Three groups of nine

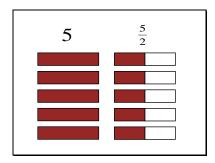
 $3 \times 14$  Three groups of fourteen

12 x 7 Twelve groups of seven

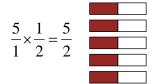


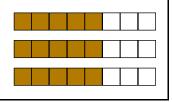





$$5 \times \frac{1}{2} =$$
 Five groups of one-half



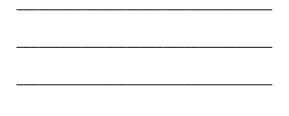
$$3 \times \frac{5}{8} = \frac{\text{Three groups of five-eighths}}{}$$



$$3 \times \frac{5}{8} =$$
Three groups of five-eighths

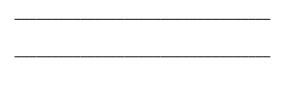
$$\frac{3}{1} \times \frac{5}{8} = \frac{15}{8}$$











$$4 \times \frac{2}{3} =$$
 Four groups of two-thirds

$$6 \times \frac{3}{16} = \frac{\text{Six groups of three-sixteenths}}{16 \times \frac{3}{16} = \frac{18}{16}}$$

If you run $\frac{1}{2}$ mile every day for 6 days	what is the total distance you have
And the State of t	run?


You need to paint the trim in seven rooms of a house. You estimate that each room will take  $\frac{1}{3}$  of a gallon of paint. How many gallons do you need?

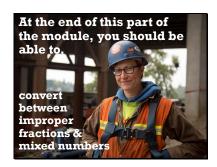
Imagine that, after a party, there is  $\frac{1}{2}$  of a cake left. Your roommate then eats  $\frac{1}{3}$  of the leftover cake. How much of the entire cake did your roommate eat?

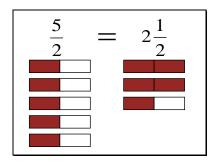
If it takes  $\frac{1}{3}$  of a gallon of paint to cover the trim in one room, how much paint do you need to paint  $\frac{3}{4}$  of the trim in one room?

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If  $\frac{5}{8}$  of your work crew are carpenters and  $\frac{2}{5}$  of the carpenters are female, how many female carpenters are on your work crew?

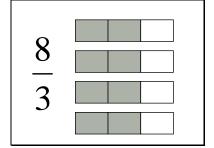




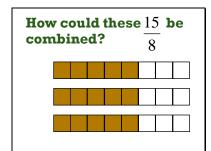

$$\frac{5}{2} = (5 \div 2) = 2\frac{1}{2}$$

$$\frac{5}{2} = (5 \div 2) = 2\frac{1}{2}$$
Improper Mixed Number

$$\frac{5}{5} = (5 \div 5) = 1$$
Improper fraction

$$\frac{8}{3} = (8 \div 3) = 2\frac{2}{3}$$
Improper Mixed Number

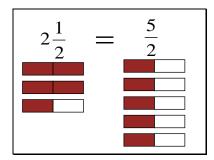



$$\frac{15}{8} = (15 \div 8) = 1\frac{7}{8}$$
Improper fraction
Mixed Number

How could these $\frac{18}{16}$ be combined?						

How could you multiply these two numbers?

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

To convert from a mixed number to an improper fraction, multiply the whole number by the bottom number of the fraction then add that amount to the top number.

$$2\frac{1}{2} = \frac{(2 \times 2) + 1}{2} = \frac{4 + 1}{2} = \frac{5}{2}$$

	 	 	 	_
	 	 	 	_
	 	 	 	_
_				

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

Is the same as

$$\frac{5}{2} \times \frac{1}{4} =$$

$$2\frac{1}{2} \times \frac{1}{4} = \frac{5}{8}$$

Is the same as

$$\frac{5}{2} \times \frac{1}{4} = \frac{5}{8}$$

What is the result of multiplying these two numbers?

$$3\frac{3}{8} \times \frac{2}{3} =$$


What is the result of multiplying these two numbers?

$$\frac{1}{2} \times 4 \frac{3}{16} =$$

What is the result of multiplying these two numbers?

$$\frac{2}{3} \times 5\frac{3}{4} =$$

If it takes  $10\frac{1}{2}$  gallons of patching compound to patch the average ceiling in this building, how many gallons will

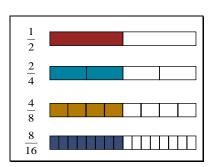
be needed to patch six average ceilings?



	TOTAL
At the end of this part of	simplify fractions
the module, you should be able to	AVE

You can write any number many different ways.

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{8}{16}$$




All o	f these	numbe	ers are
the s	ame.		
3	18	60	90
$\frac{3}{4}$	$\frac{10}{24}$	$\frac{30}{80}$	$\frac{120}{120}$
4	24	80	120
	ch versi		ıld you
rathe	er work	with?	
	implify		
	tion, fir est nun		
	can div		6
the t	op <u>and</u>		6
	om nun		10
num	get a v	whole	12
Hulli	iber.		
To sir	mplify a f	fraction,	find
the la	rgest nu	mber yo	u can
	e the top per by to		
numb	oer.	_	
6	Can be div	vided by	1, 2, 3,6
10	Can be di	wided be	1 2 2
12	tan be di 4,6,12	viueu by	1, 4, 0,

To simplify a fraction, find the largest number you can divide the top and bottom number by to get a whole number.

$$\frac{6 \div 6}{12 \div 6} = \frac{1}{2}$$

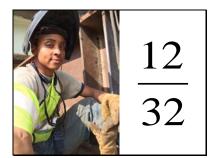
It is OK if you do not find the largest common number the first time.

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

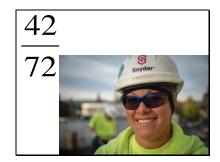
Not all fractions can be simplified.



9 16

10
64




## If a correct answer is not in the simplest form it is still correct!

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

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