

Equivalent fractions

trades for equal amounts

$3 \frac{4}{5} \rightarrow \frac{5}{5} + \frac{5}{5} + \frac{5}{5} + \frac{4}{5} = \frac{19}{5}$
 break up whole
 $4 \frac{2}{4} \leftarrow \frac{18}{4} \text{ group } \frac{4}{4} = 1$
 make whole $\frac{4}{4} + \frac{4}{4} + \frac{4}{4} + \frac{4}{4} + \frac{2}{4}$

} Mixed
↓
improper

$$\frac{2}{3} = \frac{8}{12}$$

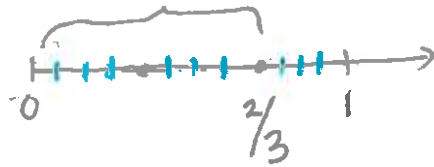
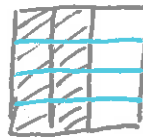
manipulatives

match : equal means same size



cover exactly the same amount

made pictures:
split and multiply



Parts shaded / parts in fraction

- start w/ $\frac{2}{3}$

- split each third into same number of parts (4)

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

parts before $\frac{2}{3}$ → 2×4 ← split each into 4
 3 parts before → 3×4 ← parts in a whole
 split each into 4

grouping
(dividing)

$$\frac{2}{3} = \frac{8}{12}$$



8 shaded
12 total

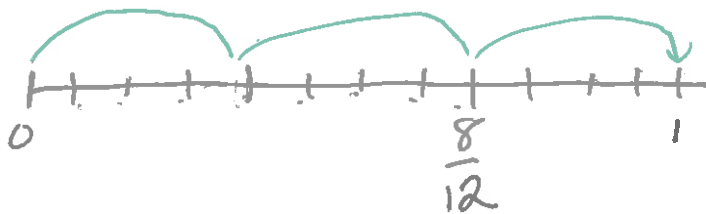
2 groups shaded
3 groups in all

$$= \frac{8 \div 4}{12 \div 4}$$

12 in all
put in groups of 4

groups of 4

8 shaded
put in groups
of 4



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

why does
this:

means $\frac{3}{4}$ of a whole that is \$12

mean
this?

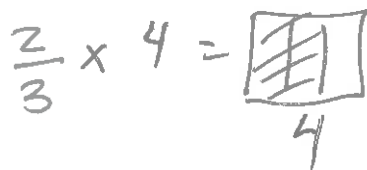
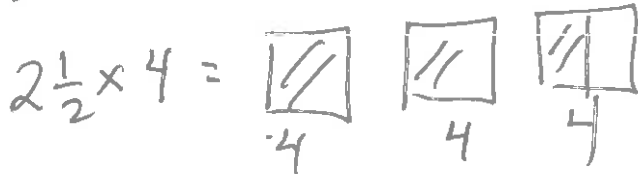
$$= \frac{3 \times 12}{4}$$

$$3 \times 4 = \text{3 groups of } \underline{4}$$

$$4 + 4 + 4$$



$$\frac{1}{2} \times 4 = \text{4} \leftarrow \text{is this the only sensible thing } \frac{1}{2} \times 4 \text{ means?}$$

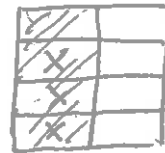
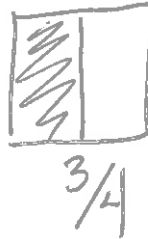


A box of sugar weighs 4 lbs,
 $\frac{2}{3} \times 4 =$ the amount $\frac{2}{3}$ of a box of sugar weighs

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



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



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

Susan had $\frac{1}{2}$ a bag of flour and she used $\frac{3}{4}$ of it - How much did she use?

Homework

1. Word prob: $\frac{1}{2} + \frac{2}{3}$
2. Word prob: $\frac{2}{3} - \frac{1}{2}$
3. Word prob: $\frac{2}{3} \times \frac{4}{5}$