

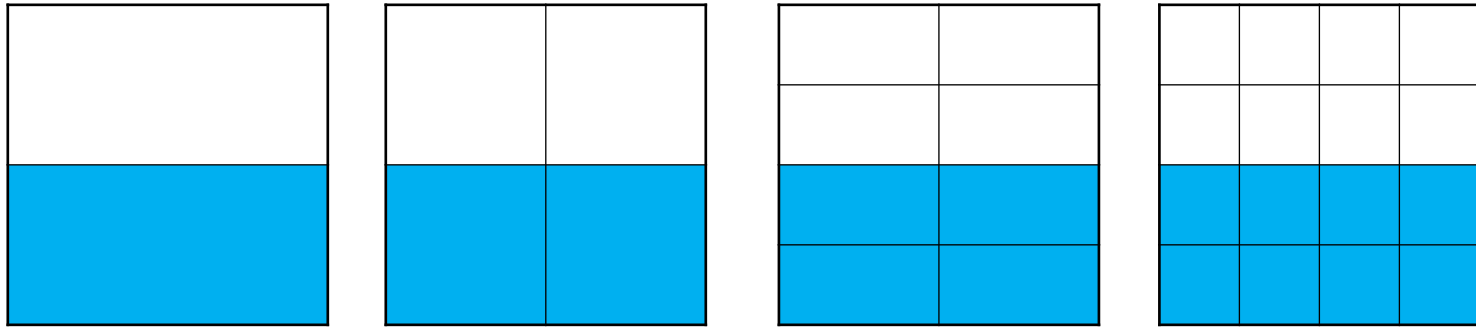
Equivalent and Simplified Fractions

LC: Can I find equivalent fractions?

Starter: Copy and complete the multiplication grids

x	2		3
	16		
7		56	
			33

x	6		9
3		12	
	18		
			36



How many equal sections is each square cut into?

2

4

8

16

How many of the sections are blue?

1

2

4

8

What fraction of each square is blue?

$\frac{1}{2}$

$\frac{2}{4}$

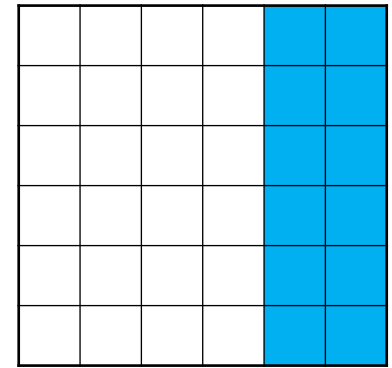
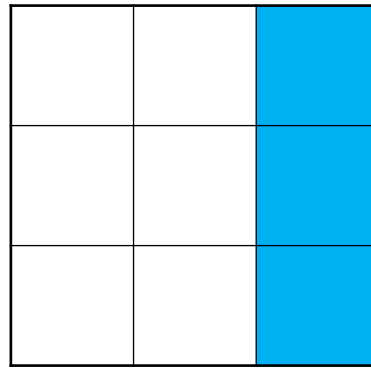
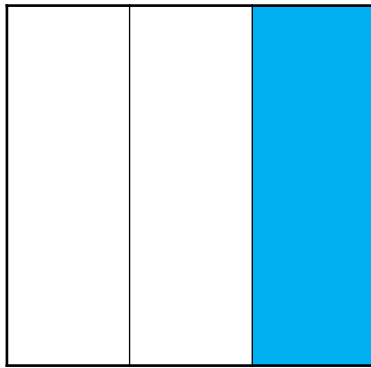
$\frac{4}{8}$

$\frac{8}{16}$



Are these fractions equal?

How do you get from one fraction to the next?



How many equal sections is each square cut into?

3

9

36

How many of the sections are blue?

1

3

12

What fraction of each square is blue?

$\frac{1}{3}$

$\frac{3}{9}$

$\frac{12}{36}$



Are these fractions equal?

How do you get from one fraction to the next?

So to find equivalent fractions you multiply the numerator (the top number) and the denominator (the bottom number) by the same number.

E.g. Find 3 equivalent fractions to $\frac{2}{5}$:

$$\frac{2}{5} = \frac{4}{10}$$



$$\frac{2}{5} = \frac{12}{30}$$



$$\frac{2}{5} = \frac{48}{120}$$



Remember you
can multiply by
any number!!!

Practice Questions:

Find 3 equivalent fractions for each question

a) $\frac{1}{4}$

e) $\frac{3}{5}$

i) $\frac{8}{12}$

b) $\frac{6}{9}$

f) $\frac{7}{10}$

j) $\frac{1}{8}$

c) $\frac{3}{8}$

g) $\frac{4}{7}$

k) $\frac{4}{7}$

d) $\frac{9}{10}$

h) $\frac{2}{8}$

l) $\frac{9}{11}$

Simplifying fractions is the opposite instead of multiplying the numerator and the denominator by the same number you divide it until you can't divide it anymore.

E.g. Simplify the fraction $\frac{12}{30}$:

$$\frac{12}{30} = \frac{4}{10} = \frac{2}{5}$$

The diagram illustrates the simplification process. It shows the fraction $\frac{12}{30}$ being simplified to $\frac{4}{10}$ by dividing both the numerator and denominator by 3. Then, $\frac{4}{10}$ is simplified to $\frac{2}{5}$ by dividing both the numerator and denominator by 2. Blue arrows indicate the division steps, with labels $\div 3$ and $\div 2$.

Remember you
can only divide
by a common
factor!!!

Practice Questions:

Simplify the following fractions

a) $\frac{4}{8}$

e) $\frac{15}{35}$

i) $\frac{44}{121}$

b) $\frac{6}{9}$

f) $\frac{21}{49}$

j) $\frac{20}{28}$

c) $\frac{12}{16}$

g) $\frac{16}{36}$

k) $\frac{42}{72}$

d) $\frac{24}{36}$

h) $\frac{63}{77}$

l) $\frac{72}{144}$