Extra Support week 5 - What is a fraction?

A fraction means a part of something or a number of parts of something.
There are two parts to a fraction:

- The number on top shows how many parts there are
  This is called the numerator
- The number on the bottom shows how many parts something has been divided into
  This is called the denominator.

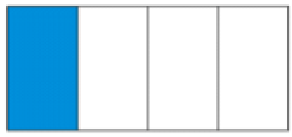
$$\frac{1}{2}$$

Often fractions are shown as shapes.

This circle shows the fraction $\frac{1}{3}$

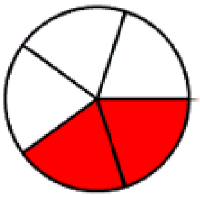
The shaded part represents the numerator. Only 1 part is shaded so the numerator is 1
The denominator is the total number of parts including the shaded part. This circle has been divided into 3 parts so the denominator is 3

This rectangle shows the fraction $\frac{1}{4}$



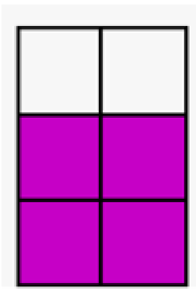
1 part is shaded so the numerator is 1
The shape has been divided into 4 parts so the denominator is 4

Sometimes shapes have more than one part shaded.



This shape shows $\frac{2}{5}$

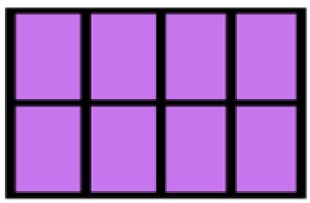
2 parts are shaded
so the numerator is 2
There are 5 parts in total
So the denominator is 5



This shape shows $\frac{4}{6}$

4 parts are shaded
so the numerator is 4
There are 6 parts in total
So the denominator is 6

When the numerator and denominator are the same. It is a whole. On a shaded shape this would look like this



$\frac{8}{8}$

The numerator is 8 as all parts (The whole of it) is shaded and the denominator is 8 because there are 8 parts.

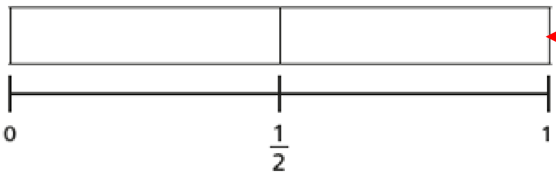
Extra Support Mathematics - Day 1 - 08.02.21

Equivalent fractions (2)

Have another read through the Extra Support Fractions Explanation above. When you think you remember what a fraction is, start the questions below. You could also take another look at the Weblink – https://www.youtube.com/watch?v=n0FZhQ_GkKw
Remember to count how many parts there are in total (The Denominator) and how many parts are shaded (The Numerator)

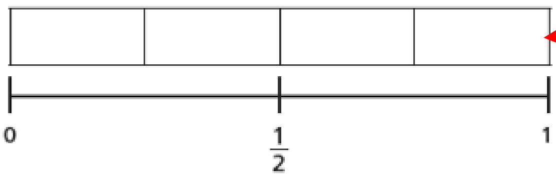
1 Shade the bar models to represent the fractions.

a) Shade $\frac{1}{2}$ of the bar model.



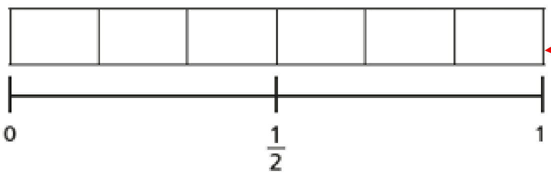
This bar shows halves.

b) Shade $\frac{2}{4}$ of the bar model.



This bar shows quarters.

c) Shade $\frac{3}{6}$ of the bar model.



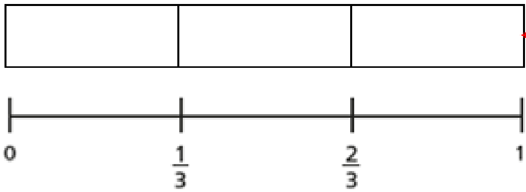
This bar shows sixths

d) Look at the bars you have shaded. Use them to answer the questions below.

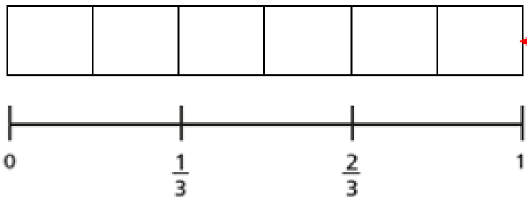
$\frac{1}{2}$ is equal to how many $\frac{1}{4}$s? $\frac{\square}{4}$

$\frac{1}{2}$ is equal to how many $\frac{1}{6}$s? $\frac{\square}{6}$

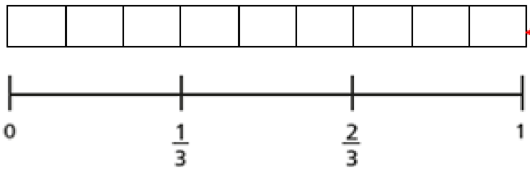
2 Shade $\frac{2}{3}$ of each bar model.



This bar shows Thirds



This bar shows Sixths



This bar shows Ninths

Look at the bars you have shaded. Use them to answer the questions below.

$\frac{2}{3}$ is equal to how many $\frac{1}{6}$s? $\frac{\square}{6}$

$\frac{2}{3}$ is equal to how many $\frac{1}{9}$s? $\frac{\square}{9}$

Day 2 - 09.02.21

Equivalent fractions (1)

Here is an example of an equivalent fraction.

1/2		1/2	
1/4	1/4	1/4	1/4

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

Notice how the shaded part of each bar is the same length. They are equivalent.
Now have a go at the equivalent fractions below.

1 Shade the bar models to represent the equivalent fractions.

a)

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

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

b)

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

$\frac{1}{2} = \frac{5}{10}$

c)

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

$\frac{4}{5} = \frac{8}{10}$

Take a look at this YouTube video explaining how to use a fraction wall to work out equivalent fractions.
https://www.youtube.com/watch?v=8Lp0xrtq0co

2 Use the fraction wall to complete the equivalent fractions.

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

a) $\frac{1}{2} = \frac{\square}{4}$ b) $\frac{2}{4} = \frac{4}{\square}$ c) $\frac{\square}{8} = \frac{3}{4}$

3 Here is another fraction wall. Use it to decide which of the statements below are true and which are false. Tick the correct answer.

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

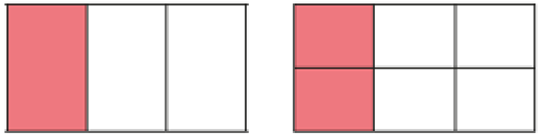
	True	False
a) $\frac{1}{2}$ is equivalent to $\frac{3}{6}$	☐	☐
b) $\frac{2}{3}$ is equivalent to $\frac{3}{4}$	☐	☐
c) $\frac{2}{4}$ is equivalent to $\frac{3}{6}$	☐	☐

Day 3 - 10.02.21

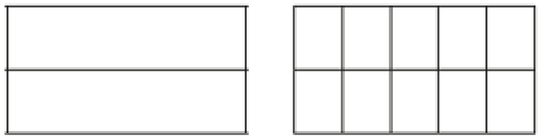
Equivalent fractions (2)

1 Shade the diagrams to help you complete the equivalent fractions.

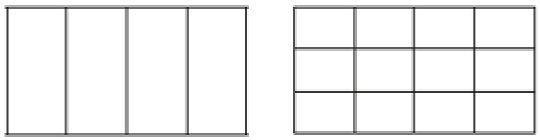
The first one has been done for you.

a) 

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

b) 

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

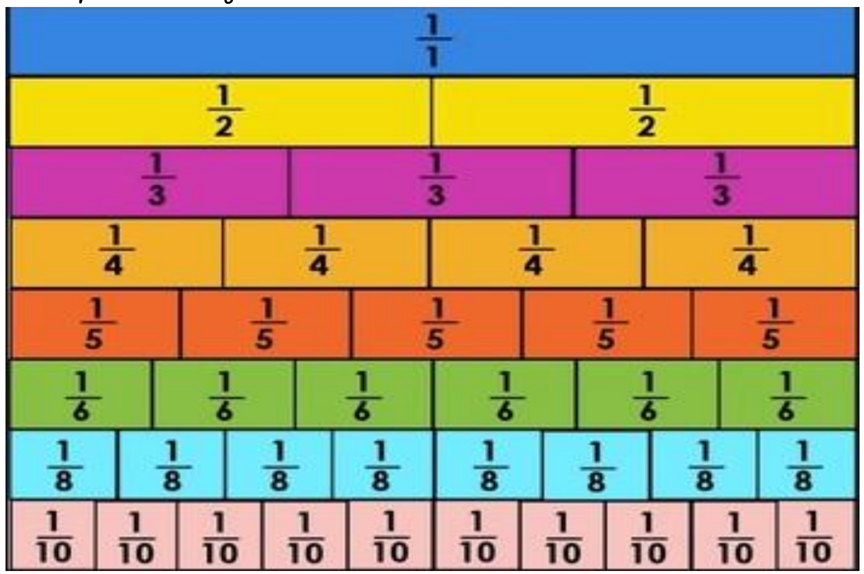
c) 

$\frac{1}{4} = \frac{\square}{12}$

2 Match the equivalent fractions.

$\frac{1}{2}$	$\frac{2}{8}$
$\frac{1}{3}$	$\frac{2}{4}$
$\frac{1}{4}$	$\frac{2}{6}$

3 Use the fraction wall to help you complete the Equivalent fractions below



a) $\frac{1}{5} = \frac{\square}{10}$

b) $\frac{4}{5} = \frac{\square}{10}$

c) $\frac{3}{4} = \frac{6}{\square}$

d) $\frac{2}{4} = \frac{\square}{6}$

e) $\frac{1}{2} = \frac{\square}{8}$

f) $\frac{2}{3} = \frac{\square}{6}$

Now see if you can make up 2 of your own using the fraction wall to support you.

g) $\frac{\square}{\square} = \frac{\square}{\square}$

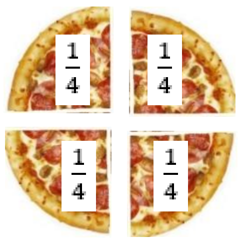
h) $\frac{\square}{\square} = \frac{\square}{\square}$

Day 4 - 11.02.21

Count in fractions

Counting in fractions can be quite tricky when only using numbers, so let's take a look at counting in fractions using pictures and numbers.

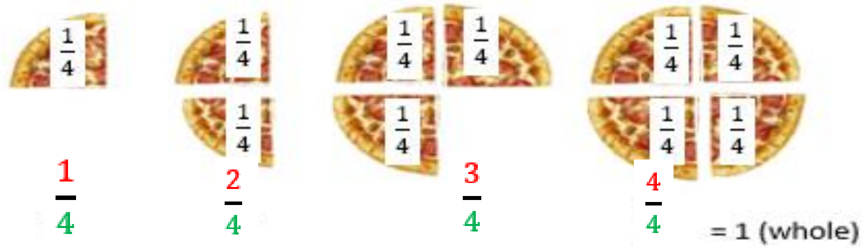
One of the most important things to remember when counting fractions is that when the top and bottom number are the same, it is a whole or 1.



Here is a pizza that has been divided into 4 quarters.

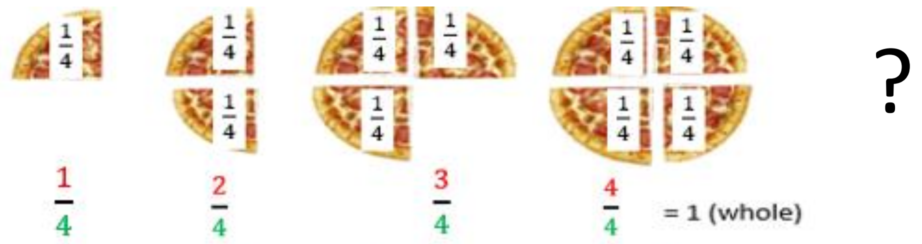
You can clearly see that if we put those 4 pieces together, we would have a whole pizza or 1 pizza.

So if we were going to count the parts of the pizza to get to 1 whole or 1 it would be like this.

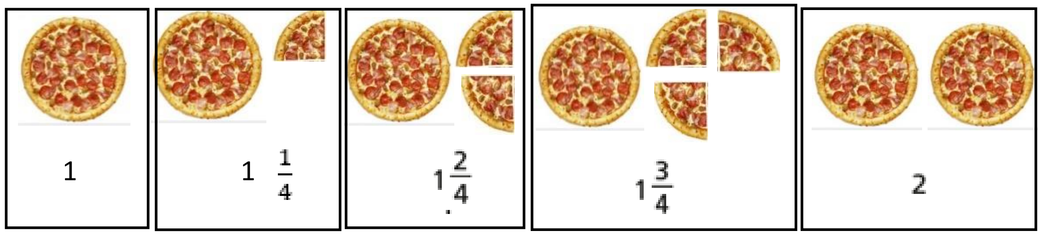


Notice how the top number goes up in equal amounts (1s) whilst the denominator (bottom number) stays the same.

So how would we continue counting after 1?



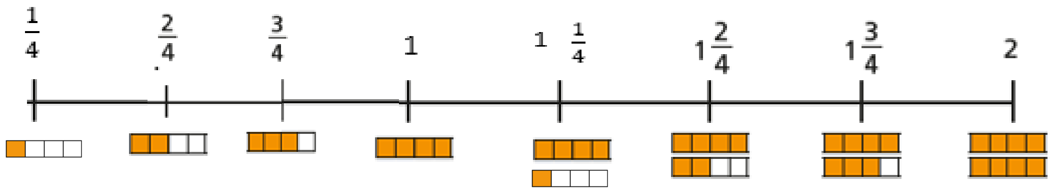
The answer is, in exactly the same way. Like this



So the whole sequence counting in quarters is:

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

On a numberline using bars, it would look like this.

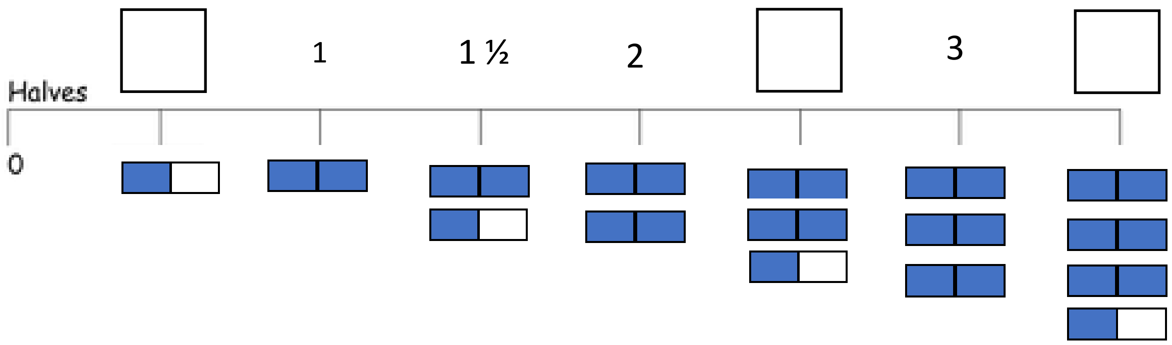


Using the bars helps you to see each fraction clearly. When a bar is full, that's a whole and you start a new bar.

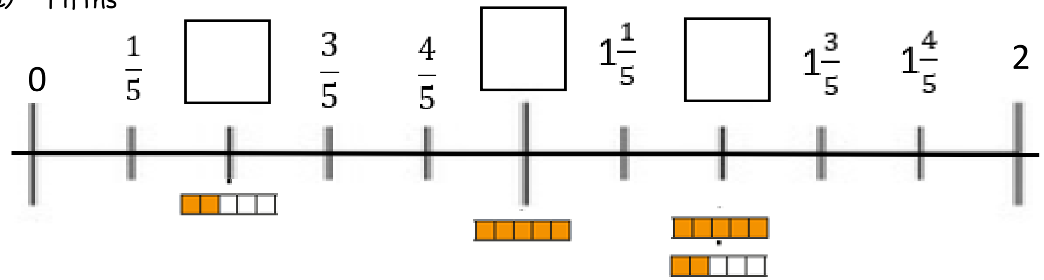
Now it's your turn to have a go

Complete the numberlines below by filling in the missing fractions.

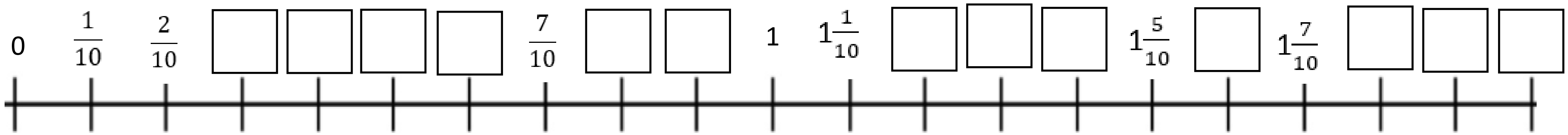
a)



b) Fifths



c) Tenths

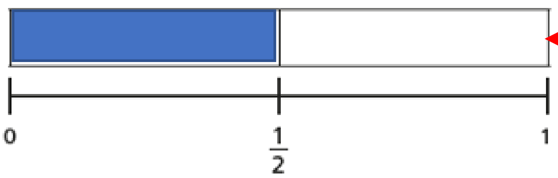


Equivalent fractions (2)

Have another read through the Extra Support Fractions Explanation from last Friday. When you think you remember what a fraction is, start the questions below. You could also take another look at the Weblink – https://www.youtube.com/watch?v=n0FZhQ_GkKw
Remember to count how many parts there are in total (The Denominator) and how many parts are shaded (The Numerator)

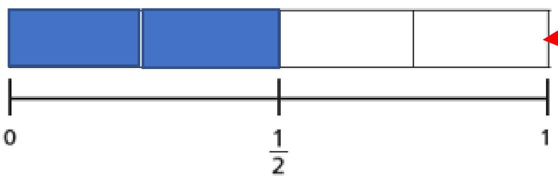
1 Shade the bar models to represent the fractions.

a) Shade $\frac{1}{2}$ of the bar model.



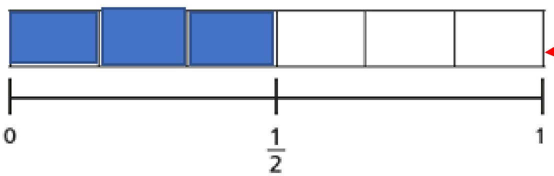
This bar shows Halves.

b) Shade $\frac{2}{4}$ of the bar model.



This bar shows Quarters.

c) Shade $\frac{3}{6}$ of the bar model.



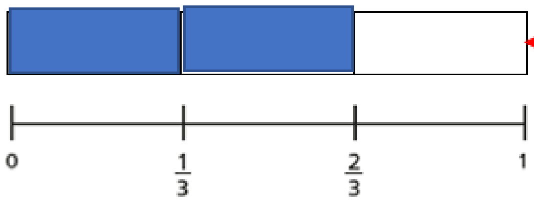
This bar shows Sixths

d) Look at the bars you have shaded. Use them to answer the questions below.

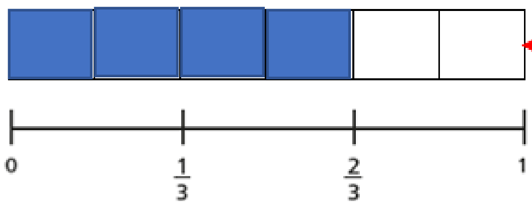
$\frac{1}{2}$ is equal to how many $\frac{1}{4}$ s? $\frac{\boxed{2}}{4}$

$\frac{1}{2}$ is equal to how many $\frac{1}{6}$ s? $\frac{\boxed{3}}{6}$

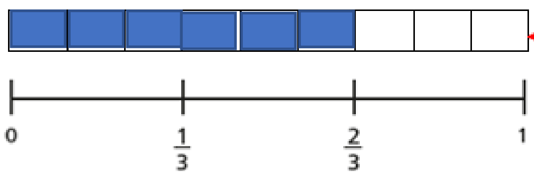
2 Shade $\frac{2}{3}$ of each bar model.



This bar shows Thirds



This bar shows Sixths



This bar shows Ninths

Look at the bars you have shaded. Use them to answer the questions below.

$\frac{2}{3}$ is equal to how many $\frac{1}{6}$ s? $\frac{\boxed{4}}{6}$

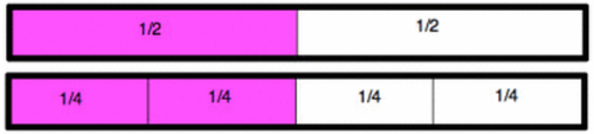
$\frac{2}{3}$ is equal to how many $\frac{1}{9}$ s? $\frac{\boxed{6}}{9}$

Day 2 - 09.02.21

Equivalent fractions (1)

Take a look at this YouTube video explaining how to use a fraction wall to work out equivalent fractions.
https://www.youtube.com/watch?v=8Lp0xrtq0co

Here is an example of an equivalent fraction.

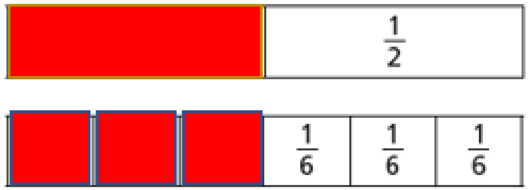


$\frac{1}{2} = \frac{2}{4}$

Notice how the shaded part of each bar is the same length. They are equivalent.
Now have a go at the equivalent fractions below.

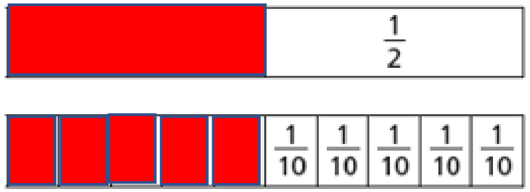
1 Shade the bar models to represent the equivalent fractions.

a)



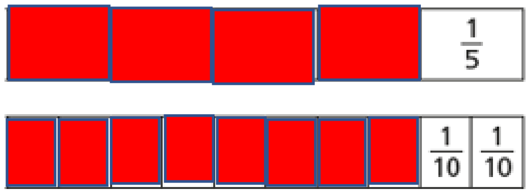
$\frac{1}{2} = \frac{3}{6}$

b)



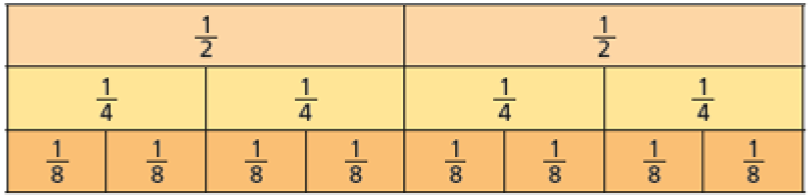
$\frac{1}{2} = \frac{5}{10}$

c)



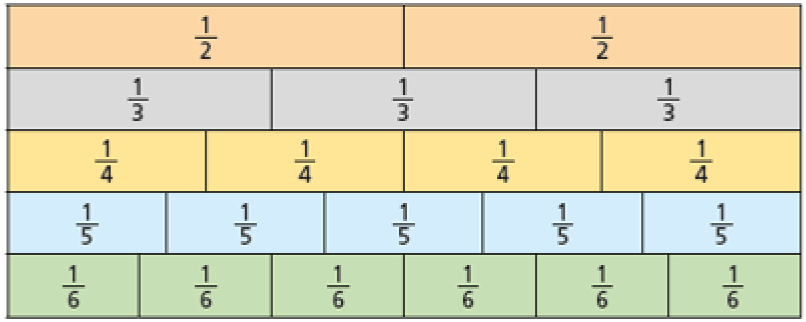
$\frac{4}{5} = \frac{8}{10}$

2 Use the fraction wall to complete the equivalent fractions.



a) $\frac{1}{2} = \frac{\boxed{2}}{4}$ b) $\frac{2}{4} = \frac{4}{\boxed{8}}$ c) $\frac{\boxed{6}}{8} = \frac{3}{4}$

3 Here is another fraction wall. Use it to decide which of the statements below are true and which are false. Tick the correct answer.



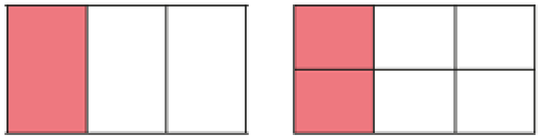
	True	False
a) $\frac{1}{2}$ is equivalent to $\frac{3}{6}$	✓	☐
b) $\frac{2}{3}$ is equivalent to $\frac{3}{4}$	☐	✓
c) $\frac{2}{4}$ is equivalent to $\frac{3}{6}$	✓	☐

Day 3 - 10.02.21

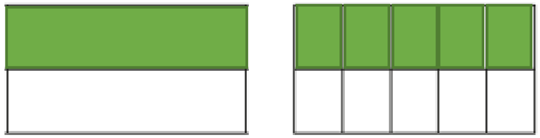
Equivalent fractions (2)

1 Shade the diagrams to help you complete the equivalent fractions.

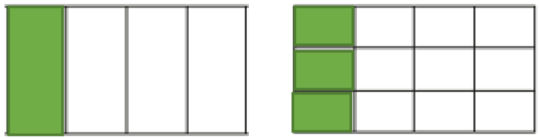
The first one has been done for you.

a) 

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

b) 

$\frac{1}{2} = \frac{\boxed{5}}{\boxed{10}}$

c) 

$\frac{1}{4} = \frac{\boxed{3}}{\boxed{12}}$

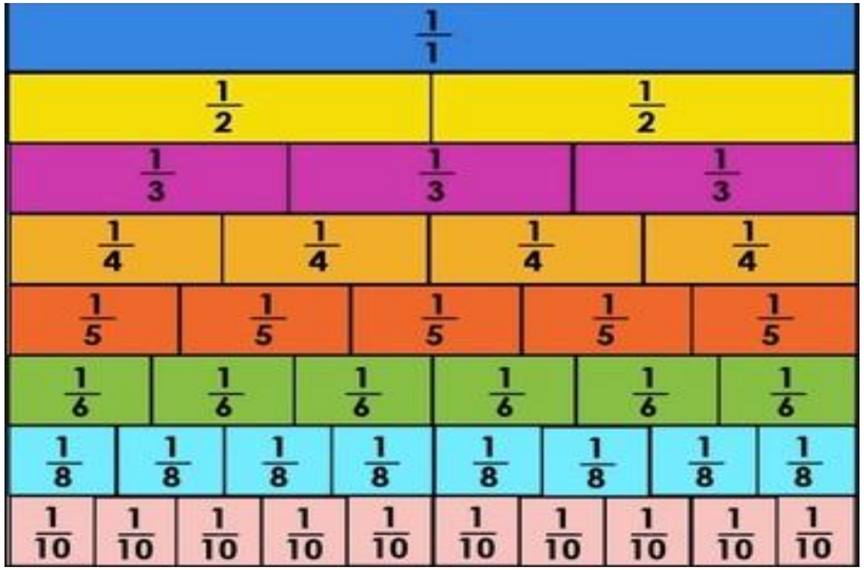
2 Match the equivalent fractions.

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

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

$\frac{1}{4}$ $\frac{2}{6}$

3 *Use the fraction wall to help you complete the Equivalent fractions below*



a) $\frac{1}{5} = \frac{\boxed{2}}{10}$

b) $\frac{4}{5} = \frac{\boxed{8}}{10}$

c) $\frac{3}{4} = \frac{6}{\boxed{8}}$

d) $\frac{2}{4} = \frac{\boxed{3}}{6}$

e) $\frac{1}{2} = \frac{\boxed{4}}{8}$

f) $\frac{2}{3} = \frac{\boxed{4}}{6}$

Now see if you can make up 2 of your own using the fraction wall to support you.

g) $\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$

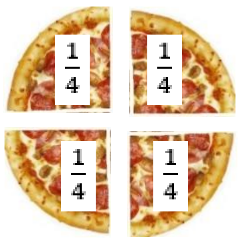
h) $\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$

Day 4 - 11.02.21

Count in fractions

Counting in fractions can be quite tricky when only using numbers, so let's take a look at counting in fractions using pictures and numbers.

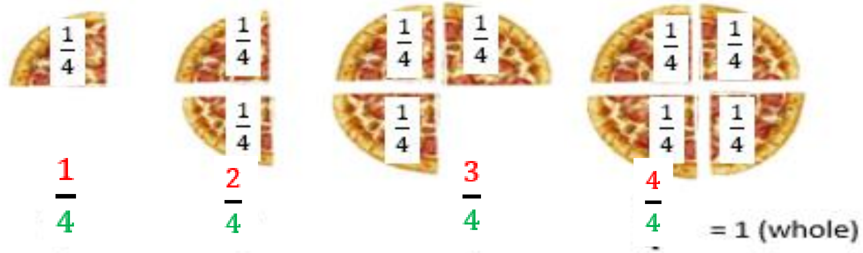
One of the most important things to remember when counting fractions is that when the top and bottom number are the same, it is a whole or 1.



Here is a pizza that has been divided into 4 quarters.

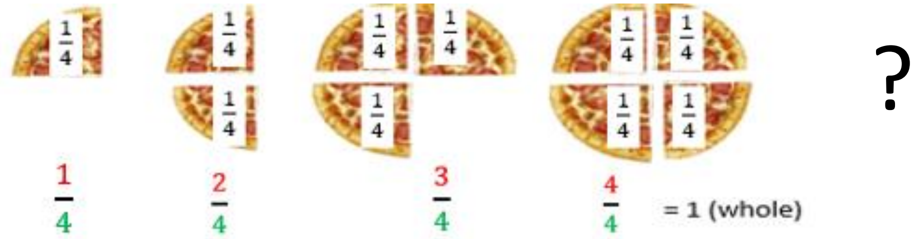
You can clearly see that if we put those 4 pieces together, we would have a whole pizza or 1 pizza.

So if we were going to count the parts of the pizza to get to 1 whole or 1 it would be like this.

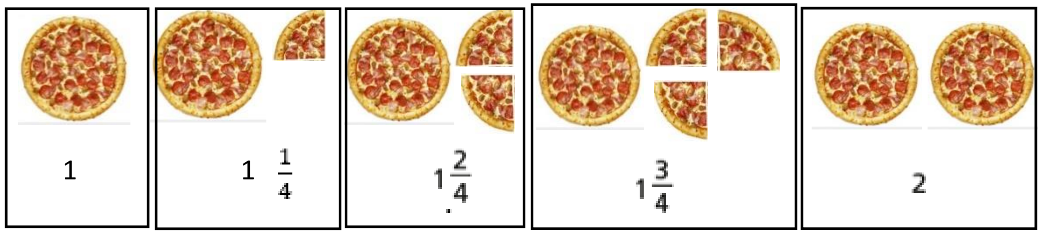


Notice how the top number goes up in equal amounts (1s) whilst the denominator (bottom number) stays the same.

So how would we continue counting after 1?



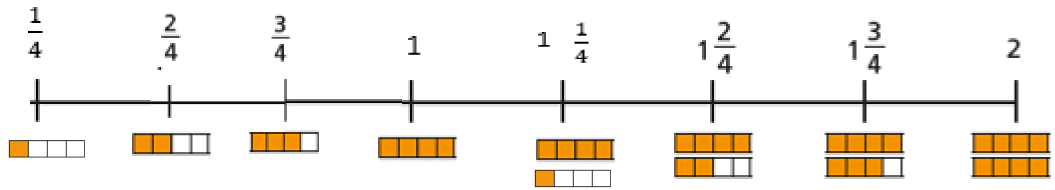
The answer is, in exactly the same way. Like this



So the whole sequence counting in quarters is:

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

On a numberline using bars, it would look like this.

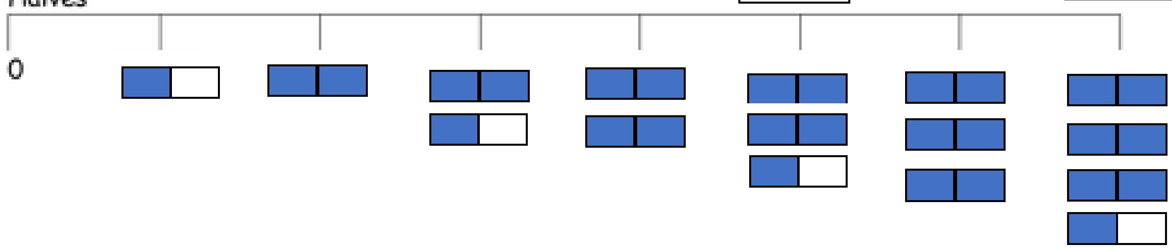


Using the bars helps you to see each fraction clearly. When a bar is full, that's a whole and you start a new bar.

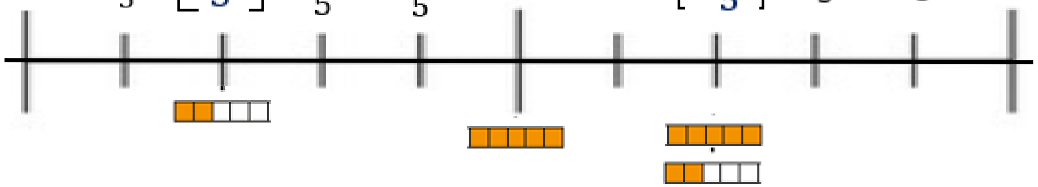
Now it's your turn to have a go

Complete the numberlines below by filling in the missing fractions.

a) Halves



b) Fifths



c) Tenths