

# Unit: Equivalent fractions, Ordering and Comparing

MR. AMOROS



# Instructions

- ▶ *I really want you to try this at home.*
- ▶ *Every time you see this symbol, it is because I want you to write your answers in your book:*



What do we need to know before we start?

- ▶ What is a fraction?
- ▶ What is numerator and denominator?
- ▶ What is equivalent?
- ▶ Multiplication and division facts up to  $12 \times 12$

What is a fraction?

- ▶ A fraction is a portion/part of a whole.

# What is numerator and denominator?

- ▶ The *numerator* is the top number of the fraction. It tells you how many parts you are taking/eating/selling...
- ▶ The *denominator* is the bottom number of the fraction. It tells you how many equal parts you are dividing your whole into.

# What is equivalent?

- ▶ The definition of **equivalent** is something that is essentially the same or equal to something else.
- ▶ An example of **equivalent** is  $(2+2)$  and the number 4.
- ▶  $2/4$  is equivalent to  $1/2$  because
  - ▶  $2 \div 4 = 0.5$
  - ▶  $1 \div 2 = 0.5$

Multiplication and division facts up  
to  $12 \times 12$

▶ Times table up to  
 $12 \times 12$

LO: Compare and order  
a range of fractions.

LESSON 1 - MONDAY



How would you order this numbers from smallest to largest?

$$1\frac{2}{5}, 1\frac{6}{8}, \frac{7}{8}, \frac{3}{6}$$

Read the following slides to understand how to do it.  
Then, try to order the numbers.



How would you order these numbers from smallest to largest?

$$1\frac{2}{5}, 1\frac{6}{8}, \frac{7}{8}, \frac{3}{6}$$

What do you notice about these fractions?

How would you order these numbers from smallest to largest?

I have noticed all the fractions sit between 0 and 2.

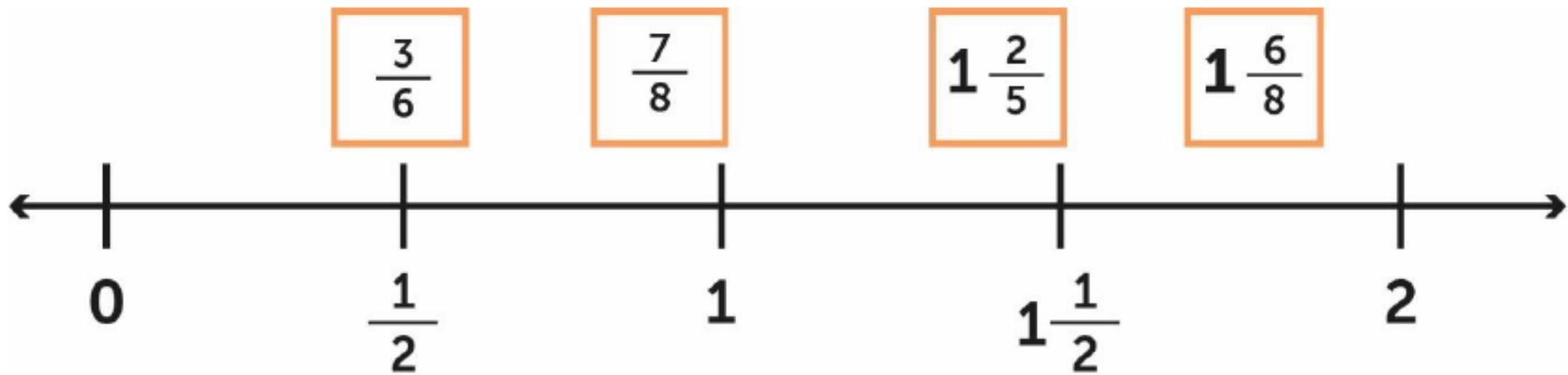
$\frac{3}{6}$  is equal as  $\frac{1}{2}$ . This is the smallest fraction.

$$1\frac{2}{5}, 1\frac{6}{8}, \frac{7}{8}, \frac{3}{6}$$

I know  $\frac{2}{5}$  is less than  $\frac{1}{2}$  so  
I know  $1\frac{2}{5}$  is less than  $1\frac{1}{2}$ .

I know  $\frac{6}{8}$  is equal to  $\frac{3}{4}$  so I know  $1\frac{6}{8}$  is equal to  $1\frac{3}{4}$ . This is the largest fraction.

Answer



# Destination questions:

1 

Place these fractions on the number line:

$$\frac{1}{3}, \frac{4}{9}, \frac{7}{10}, \frac{4}{8}$$



Explain which benchmarks you used to help you.

2 

True or false? Explain why.

$\frac{5}{6} < \frac{5}{9}$  because 6 is smaller than 9.

3 

Order these fractions from smallest to largest:

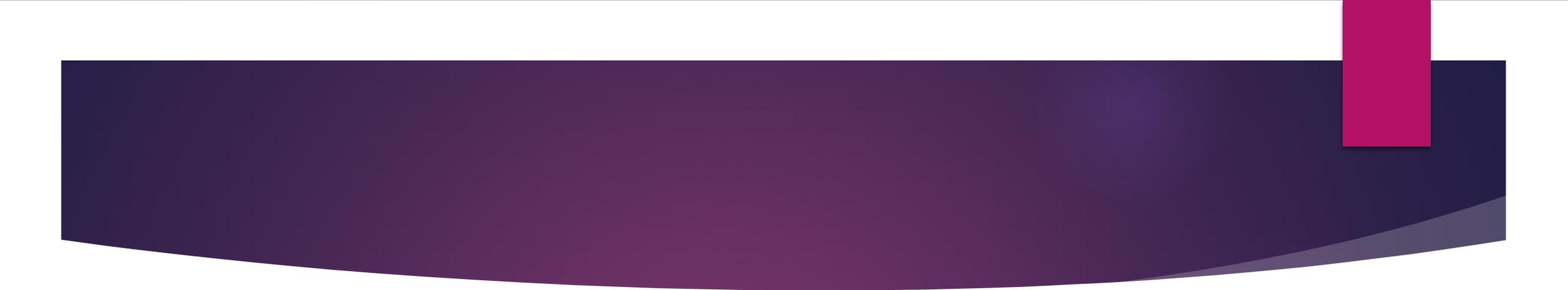
$$\frac{5}{6}, 1\frac{4}{5}, 1\frac{1}{3}, \frac{3}{6}, \frac{2}{9}$$



*LO: Showing equivalence  
with accurate diagrams.*

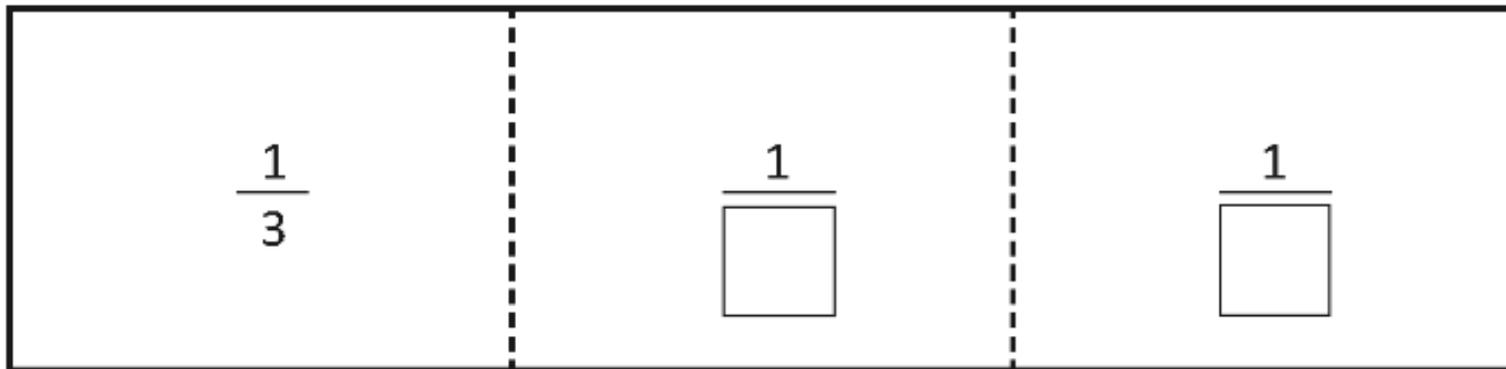
*LESSON 2 - TUESDAY*



- 
- ▶ *Use this link to explore equivalent fractions:*
  - ▶ <https://www.visnos.com/demos/fraction-wall>

Do this folding paper activity to help you understand how equivalent fractions work

- a You'll need a separate rectangular piece of paper similar to the one below. Fold it into 3 equal parts and then unfold it. Label each section with its fraction here:



Remember the bottom number tells us how many parts there are in the whole.

Do this folding paper activity to help you understand how equivalent fractions work

- b Refold your paper into thirds and fold the thirds into halves. Unfold the paper. What fraction does each of the new sections represent? Label them here:

$\frac{1}{\square}$	$\frac{1}{\square}$	$\frac{1}{\square}$
$\frac{1}{\square}$	$\frac{1}{\square}$	$\frac{1}{\square}$



Represent the following fractions with bar models.

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

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

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



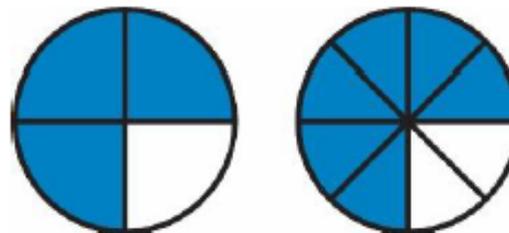
# Destination question:

4 

Draw a diagram to represent a fraction that is equivalent to  $\frac{3}{4}$

5 

Draw a rectilinear diagram to show that these two fractions are equal.



*LO: Exploring families of  
common equivalent  
fractions.*

*LESSON 3 - WEDNESDAY*



Let's think:

What do you notice about the equivalent fractions?

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

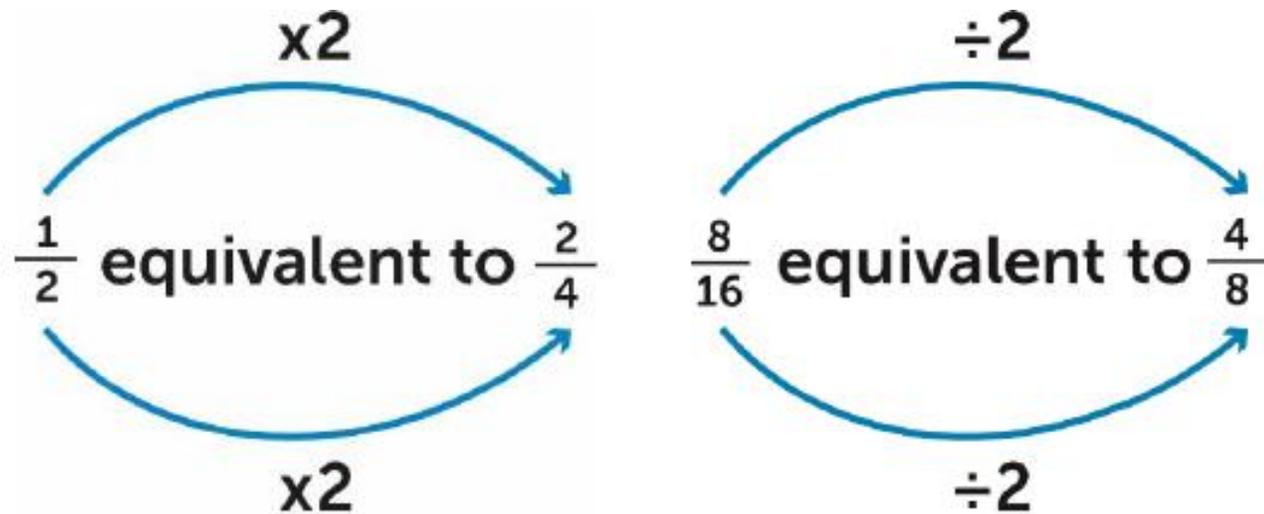
Let's think:

What do you notice about the equivalent fractions?

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

I have noticed that there are twice as many parts as there were at the start. Every part has twice as many parts.

Let's think:



We can multiply by 2.  
 $2 \times 2 = 4$     $4 \times 2 = 8$   
The numerator and denominator in  $\frac{2}{4}$  were both multiplied by 2 to make  $\frac{4}{8}$ .

Your turn:

- ▶ Find other fractions equivalent to  $\frac{1}{2}$  by multiplying the numerator and denominator by other numbers such as 3, 5, 6, 10 and 20 and demonstrating on bar models.



# Destination questions:

Complete the fractions below to make each number sentence true.

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

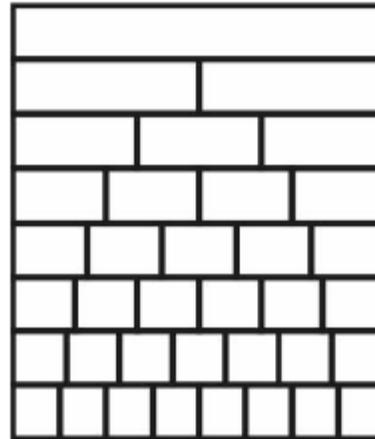
$$\frac{6}{9} = \frac{\square}{3}$$

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

Choose one and draw a diagram to prove it.

Use the fraction wall to find equivalents to  $\frac{2}{4}$ .

Shade them to prove they are equivalent.



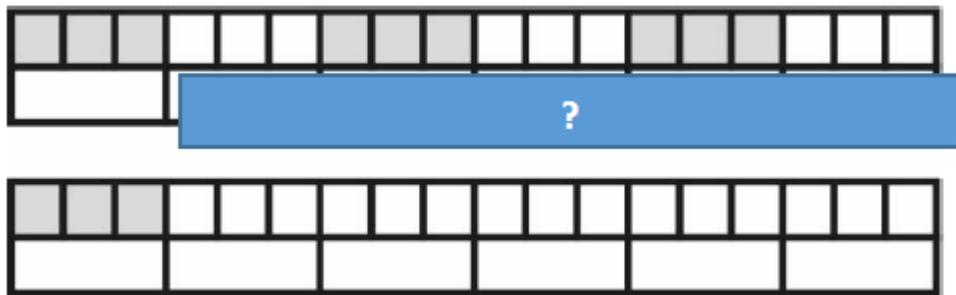
*LO: Create equivalent fractions by multiplying and dividing.*

*LESSON 4 - THURSDAY*



Let's read this carefully:

$$\frac{3}{18} = \frac{1}{\square}$$



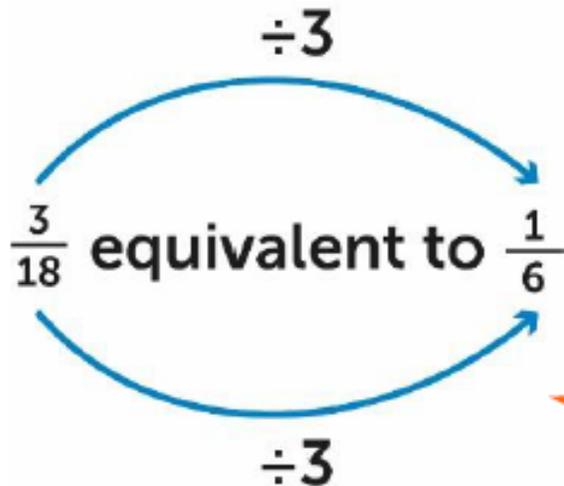
How many parts are equivalent to the 3 eighteenths?

Just one part.

There are 3 times fewer parts for every part. How many parts are there in the whole altogether?

For every three eighteenths there is now 1 part. So divide 18 by 3. That's 6 parts in the whole.

Let's read this carefully:



For every three eighteenths there is now 1 part. So divide 18 by 3. That's 6 parts in the whole.

To find the missing denominator, the 18 must be divided by 3. This is the same as the numerator.

$$18 \div 3 = 6.$$

Order this number on a numberline:

3                      5  
—                      —  
4                      8



# Destination questions:

Explain how you can multiply and divide the numerators and denominators to find fractions equivalent to  $\frac{3}{9}$ .

Find a fraction equivalent to  $\frac{1}{4}$  in which the sum of the numerator and denominator is 25.



# Greater depth:

- Find a fraction equivalent to  $\frac{5}{7}$  in which the product of the numerator and denominator is 315.
- Find a fraction equivalent to  $\frac{3}{8}$  in which the sum of the numerator and denominator is 55.

Write your own similar questions.

