

Lesson 180 • Equivalent fractions

Learning objectives

Children will:

- recognise equivalent fractions using fraction strips and number lines.
- compare halves, quarters and eighths, fifths and tenths, and thirds, sixths and ninths.

Australian Curriculum Content Descriptions

Number and Algebra

Fractions and decimals

ACMNA058 Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole; partition areas, lengths and collections to create halves, thirds, quarters and fifths; locate unit fractions on a number line.

Key vocabulary

identical, equivalent, denominator, numerator

Extra assistance

A fraction wall can be a handy visual resource for equivalent fractions (see the Fraction Wall poster). Making fraction walls is also a good lesson in fractions and measurement. Ask students to draw four rectangles 16 cm wide and 2 cm high. Divide the second rectangle in half, the third rectangle into four equal parts, and the last one into eighths. Label the parts of the rectangles – 1 whole, $\frac{1}{2}$, $\frac{1}{4}$ or $\frac{1}{8}$. Now they have one fraction wall. Repeat with 5ths and 10ths using 15 cm or 20 cm rectangles. And again with 3rds, 6ths and 9ths going into 18 cm.

Worksheet answers

Worksheet 1

1 a $\frac{1}{2}$ b $\frac{2}{4}$ c $\frac{3}{6}$ d $\frac{4}{8}$

2 a-d Teacher to check

3 a-d Teacher to check

Worksheet 2

1 a 1 whole b $\frac{1}{2}$ c $\frac{1}{4}$ d $\frac{1}{8}$

2 a $\frac{2}{4}$ b $\frac{4}{8}$ c $\frac{2}{8}$ d $\frac{6}{8}$

3 a 1 whole b $\frac{1}{3}$ c $\frac{1}{6}$

4 a $\frac{2}{6}$ b $\frac{4}{6}$

5 $1 = \frac{2}{2} = \frac{4}{4} = \frac{8}{8} = \frac{3}{3} = \frac{6}{6}$

Worksheet 3

1 a $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$ b $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$

2 a $\frac{2}{3}$, $\frac{3}{3}$ b $\frac{2}{9}$, $\frac{3}{9}$, $\frac{4}{9}$, $\frac{5}{9}$, $\frac{6}{9}$, $\frac{7}{9}$, $\frac{8}{9}$, $\frac{9}{9}$

3 a $\frac{1}{5}$ b $\frac{4}{10}$ c $\frac{5}{5} = \frac{10}{10}$

d $\frac{1}{3} = \frac{3}{9}$ e $\frac{2}{3} = \frac{6}{9}$ f $\frac{3}{3} = \frac{9}{9}$

Worksheet 4

1 a $\frac{1}{8}$ b $\frac{2}{8}$ or $\frac{1}{4}$ c $\frac{1}{4}$ or $\frac{2}{8}$

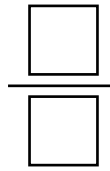
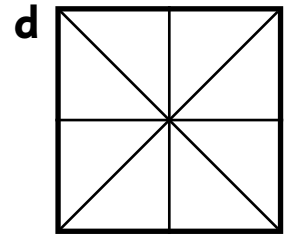
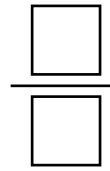
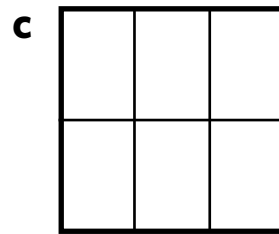
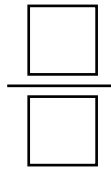
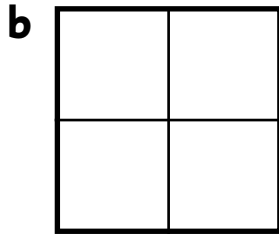
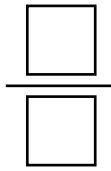
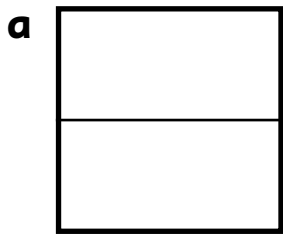
2 a 3 b $\frac{3}{9}$ or $\frac{1}{3}$ c $\frac{1}{3}$ or $\frac{3}{9}$

3 a 2 mins b $\frac{2}{10}$ or $\frac{1}{5}$ c $\frac{1}{5}$ or $\frac{2}{10}$

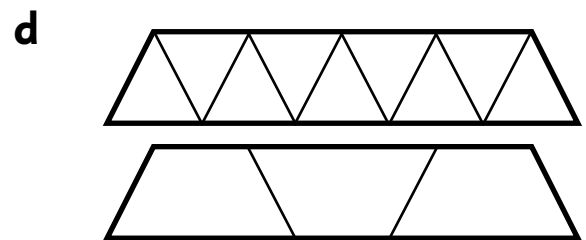
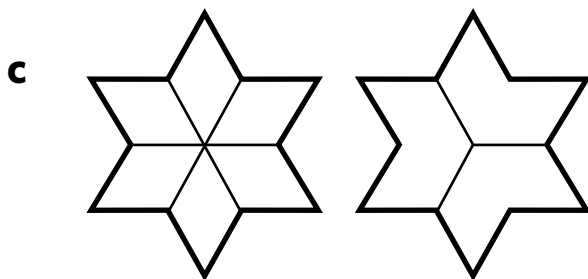
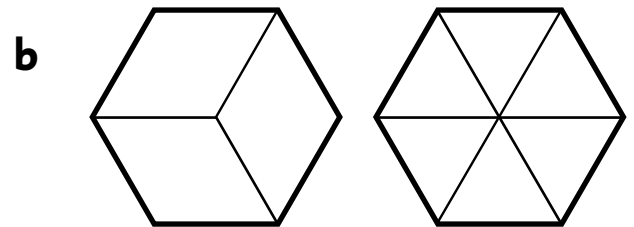
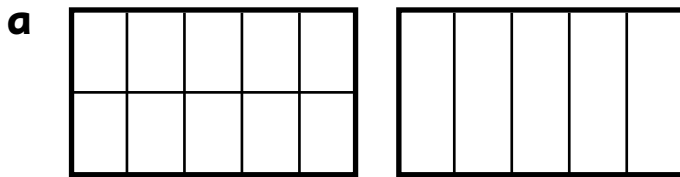
Mathseeds Lesson sequence	TEACH Content and skills	PRACTISE Children will:	APPLY
<i>Animated Lesson:</i> Comparing fractions	Revise basic fraction knowledge. Understand and recognise equivalent fractions in number strips and on number lines.	identify unit fractions and their equivalents in smaller fractions. Use a fraction wall to find equivalent fractions. Select equivalent fractions on a pair of number lines.	Worksheet 1 Equivalent fractions
<i>Fractions:</i> Fraction Wall, Fraction Match, Ducks and Cupcakes	Identify a fraction's place in the fraction wall. Match fraction notation to a representation. Represent fractions with equal shares.	move fractions blocks into place, with and without labels. Move the fraction to its matching shape. Colour items to make a fraction and identify that fraction.	Worksheet 2 Fraction strips
<i>Equivalent fractions:</i> Paint Box, Fraction Parrots, Equivalent means equal	Represent fractions with equal parts. Recognise fraction notation and equivalent fractions. Make equivalent fractions of shapes.	colour equal parts to make the fraction and identify how many parts. Match equivalent fractions on a number line. Colour equivalent fractions of the same shape.	Worksheet 3 Number lines
<i>Comparing fractions:</i> Compare Fractions, Order Fractions, Fractions True or False	Recognise whether two fractions are larger and smaller, or equivalent. Order fractions based on their visual size. Evaluate statements about fractions of shapes.	move a symbol $< = >$ into place to compare two fractions. Move fractions into order from smallest to largest. Decide whether a statement about a fraction of a shape is true or false.	Worksheet 4 Fraction problems
<i>End of Lesson Quiz</i>	Test understanding of lesson content and skills.	complete a 10 question quiz to earn a reward game.	<i>Reward game:</i> Fraction Chooks

Name _____

1 Colour $\frac{1}{2}$ of each shape. Label each fraction you coloured.



2 Colour equivalent fractions.



3 Write the equivalent fractions from question 2.

a $\frac{\square}{\square} = \frac{\square}{\square}$

b $\frac{\square}{\square} = \frac{\square}{\square}$

c $\frac{\square}{\square} = \frac{\square}{\square}$

d $\frac{\square}{\square} = \frac{\square}{\square}$

Name _____

1 Label the fraction strips.

a								
b								
c								
d								

2 **a** How many quarters are the same as one half? $\frac{\square}{4}$

b How many eighths are the same as one half? $\frac{\square}{8}$

c How many eighths are the same as one quarter? $\frac{\square}{8}$

d How many eighths are the same as three quarters? $\frac{\square}{8}$

3 Label the fraction strips.

a						
b						
c						

4 **a** How many sixths are the same as one third? $\frac{\square}{6}$

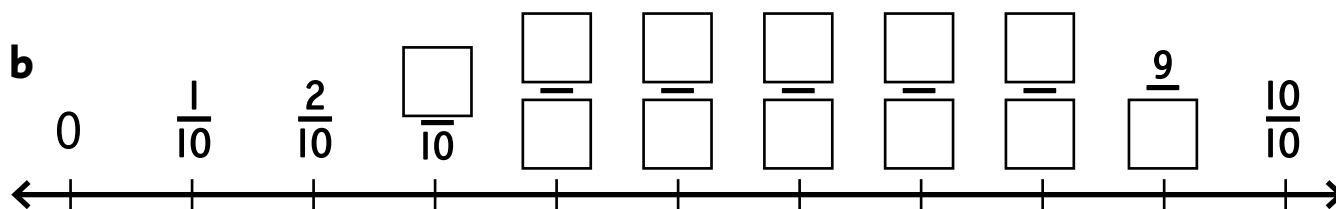
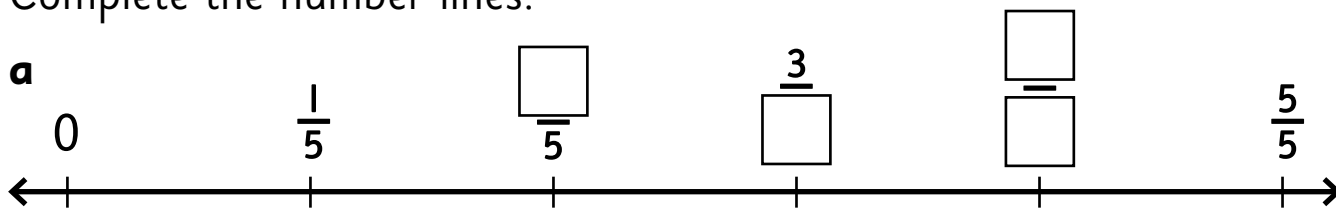
b How many sixths are the same as two thirds? $\frac{\square}{6}$

5 Write all the equivalent fractions for 1 whole that are shown on this page.

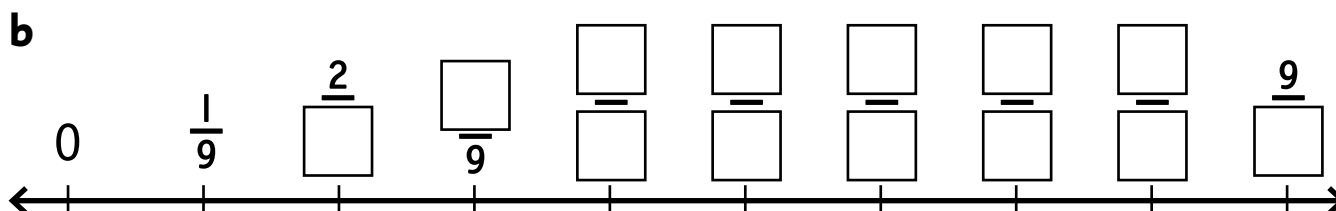
$$1 = \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

Name _____

1 Complete the number lines.



2 Complete the number lines.



3 Use the number lines to complete the equivalent fractions.

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

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

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

d $\frac{\square}{3} = \frac{3}{\square}$

e $\frac{2}{\square} = \frac{\square}{9}$

f $1 = \frac{\square}{\square} = \frac{\square}{9}$

Name _____

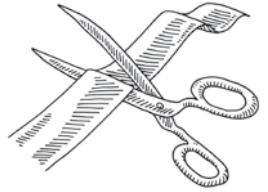
Draw shapes, fraction strips or number lines to show how you solve these problems.

1 Ruby, Dizzy, Mrs T and Mango need to share a length of ribbon. They need two pieces each.

a What fraction of the ribbon is one piece? _____

b What fraction of the ribbon is two pieces? _____

c What is an equivalent fraction to this? _____

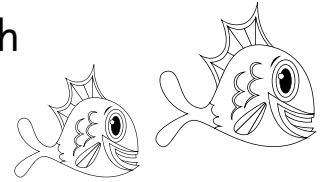


2 Waldo has nine fish. He wants to divide the nine fish into three equal groups.

a How many fish in one group? _____

b What fraction of the larger group is this? _____

c What is an equivalent fraction to this? _____



3 Doc has ten minutes to do five jobs. Each job should take the same amount of time.

a How long should each job take? _____

b What fraction of the ten minutes is this? _____

c What is an equivalent fraction? _____

