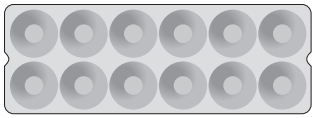
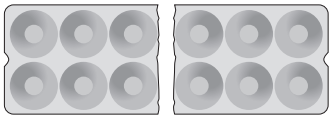
NA23 Equivalent fractions

You will need empty egg cartons, or pictures of egg cartons for this activity.

This is a whole egg carton.
It can hold 12 eggs.



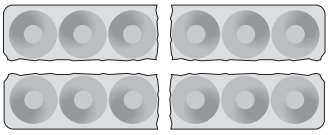
1 a Cut the egg carton in half.
Each half can hold 6 eggs.



Each half is the same or equivalent

$\frac{1}{2}$ = one half

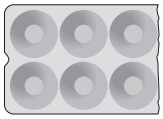
b Take another egg carton and cut it into 4 equal parts.



Each part holds ☐ eggs

Each part is one quarter $\frac{1}{4}$

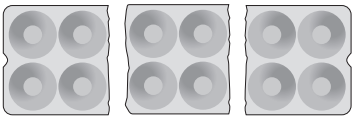
c How many quarters do you need to make one half?



= ☐

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

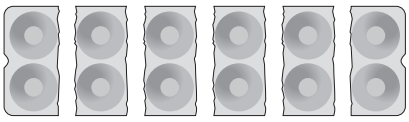
2 a Take another egg carton and cut into 3 equal parts.



Each part holds ☐ eggs

Each part is one third $\frac{1}{3}$

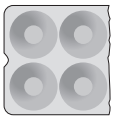
b Cut an egg carton into 6 equal parts.



Each part holds ☐ eggs

Each part is one sixth $\frac{1}{6}$

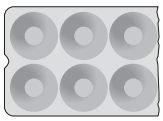
c How many sixths are equal to one third $\frac{1}{3}$?



= ☐

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

d How many sixths are equal to one half $\frac{1}{2}$?



= ☐

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

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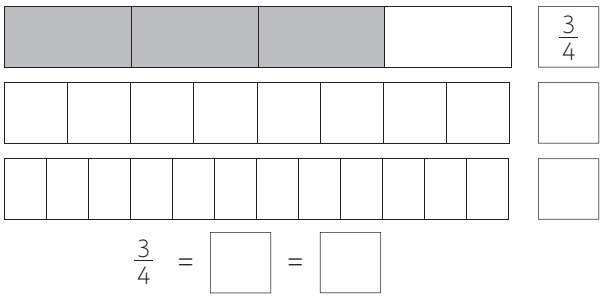
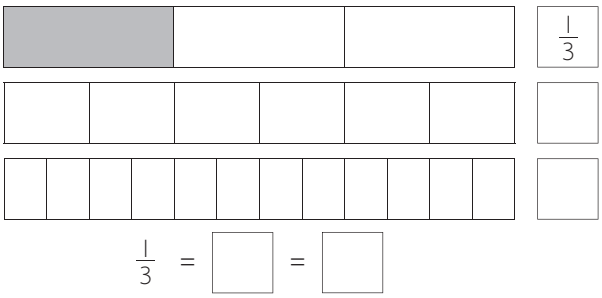
NA23 Equivalent fractions

1 Colour part of each row to show fractions equivalent to the fraction given.

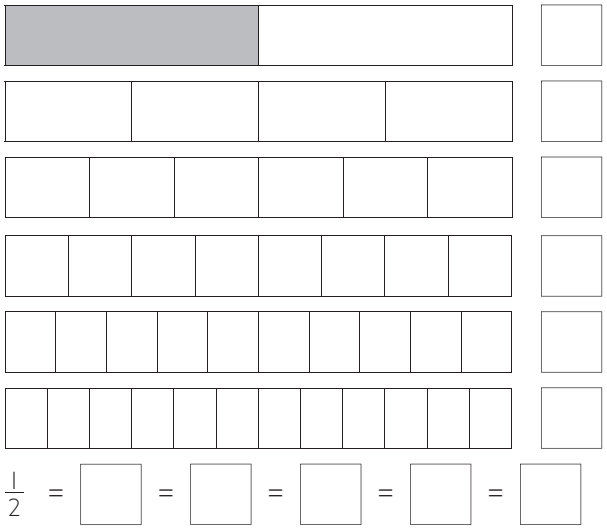
a



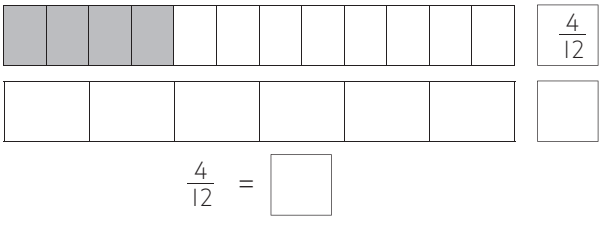
b



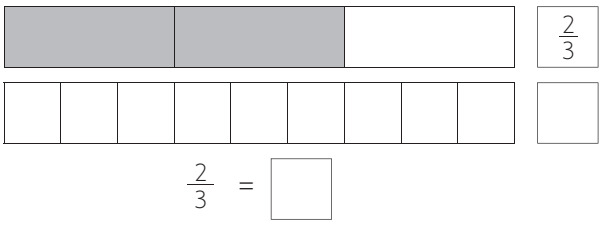
c



d

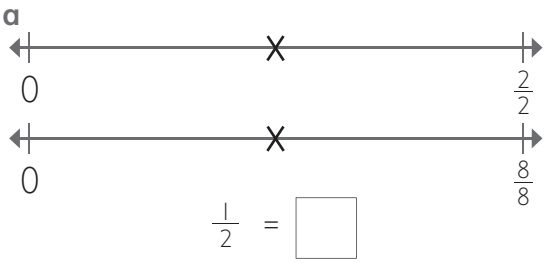


e

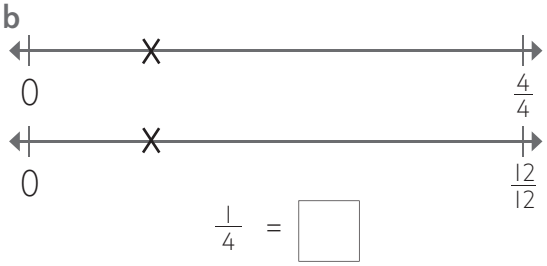


2 Complete each pair of equivalent fractions on the number lines below.

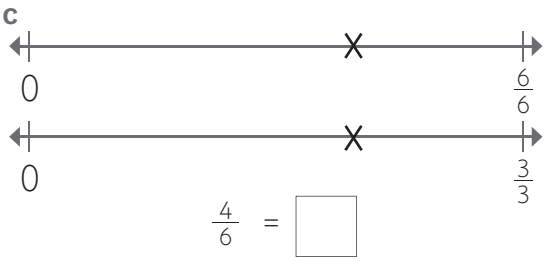
a



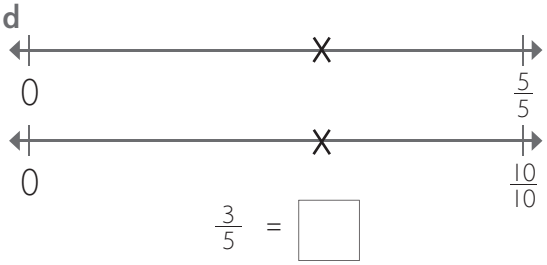
b



c

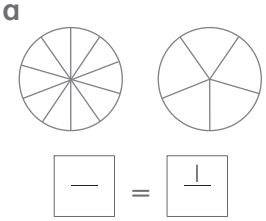


d

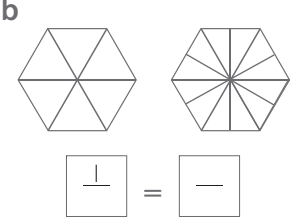


3 Write the fractions below each pair of fraction models.

a



b



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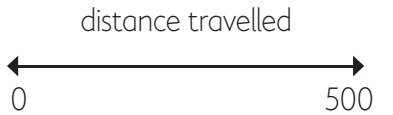
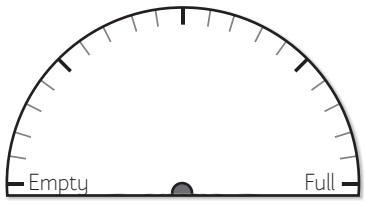
NA23 Equivalent fractions

1 a If you can travel 500 kilometres on a full tank of fuel and you have travelled 250 kilometres, show this information on the number line and fuel gauge below.





$\frac{250}{500}$ = ___

b You have a quarter of a tank of fuel left. Using a different colour, mark this information on the number line and fuel gauge above.

$\frac{\quad}{500}$ = $\frac{1}{4}$

2 You have a shop where you sell cakes and slices. A whole slab cake sells for $24.00. Customers can purchase the whole cake or portions of the cake.

a Calculate the cost for different sized portions.

Number of portions	1	2	3	4	6	8	12
Cost per portion	$24	$12					
Fraction of cake	1	$\frac{1}{2}$					

b Use the table above to calculate these equivalent fractions.

Cost	Equivalent fractions
$12	$\frac{1}{2}$ = $\frac{\quad}{4}$ = $\frac{\quad}{6}$ = $\frac{\quad}{12}$
$6	$\frac{1}{4}$ = $\frac{\quad}{\quad}$ = $\frac{3}{\quad}$
$8	$\frac{1}{\quad}$ = $\frac{\quad}{6}$ = $\frac{\quad}{\quad}$
$16	$\frac{\quad}{\quad}$ = $\frac{4}{\quad}$ = $\frac{\quad}{12}$
$4	$\frac{\quad}{\quad}$ = $\frac{\quad}{\quad}$

3 Use the drawing tools in your word processor software program to draw horizontal bars that show the relationship between:

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

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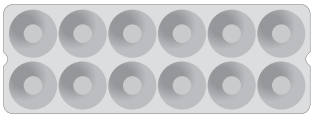
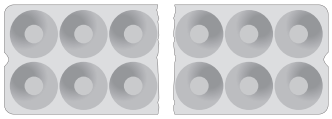
NA23 Equivalent fractions

You will need empty egg cartons, or pictures of egg cartons for this activity.

This is a whole egg carton.
It can hold 12 eggs.



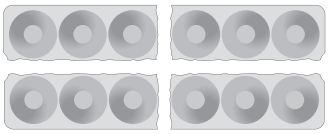
1 a Cut the egg carton in half.
Each half can hold 6 eggs.



Each half is the same or equivalent

$\frac{1}{2}$ = one half

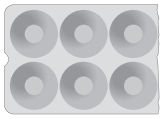
b Take another egg carton and cut it into 4 equal parts.



Each part holds 3 eggs

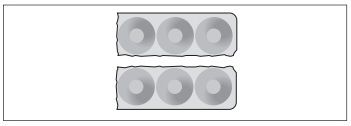
Each part is one quarter $\frac{1}{4}$

c How many quarters do you need to make one half?



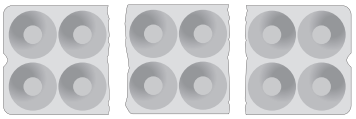
=

$\frac{1}{2}$ =



$\frac{2}{4}$

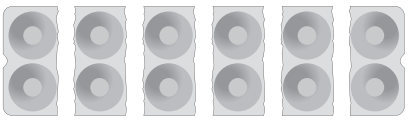
2 a Take another egg carton and cut into 3 equal parts.



Each part holds 4 eggs

Each part is one third $\frac{1}{3}$

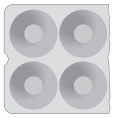
b Cut an egg carton into 6 equal parts.



Each part holds 2 eggs

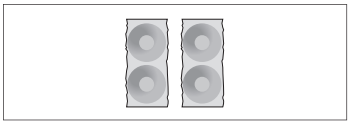
Each part is one sixth $\frac{1}{6}$

c How many sixths are equal to one third $\frac{1}{3}$?



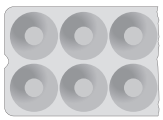
=

$\frac{1}{3}$ =



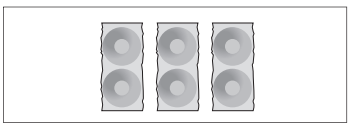
$\frac{2}{6}$

d How many sixths are equal to one half $\frac{1}{2}$?



=

$\frac{1}{2}$ =



$\frac{3}{6}$

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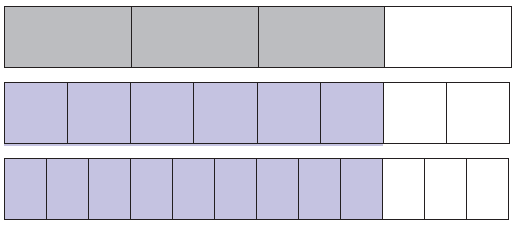
NA23 Equivalent fractions

1 Colour part of each row to show fractions equivalent to the fraction given.

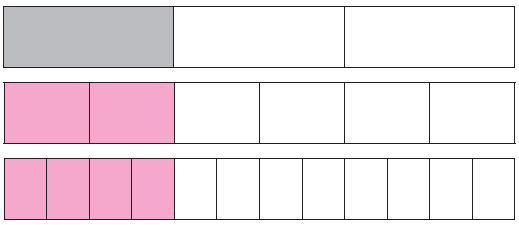
a



$\frac{3}{4}$ $\frac{6}{8}$ $\frac{9}{12}$

$\frac{3}{4} = \boxed{\frac{6}{8}} = \boxed{\frac{9}{12}}$

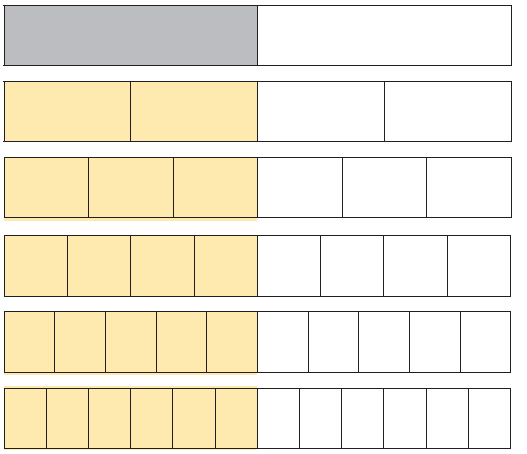
b



$\frac{1}{3}$ $\frac{2}{6}$ $\frac{4}{12}$

$\frac{1}{3} = \boxed{\frac{2}{6}} = \boxed{\frac{4}{12}}$

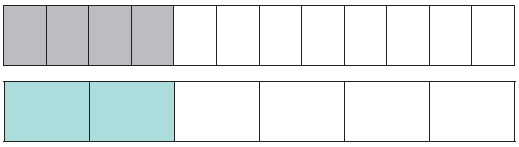
c



$\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$ $\frac{5}{10}$ $\frac{6}{12}$

$\frac{1}{2} = \boxed{\frac{2}{4}} = \boxed{\frac{3}{6}} = \boxed{\frac{4}{8}} = \boxed{\frac{5}{10}} = \boxed{\frac{6}{12}}$

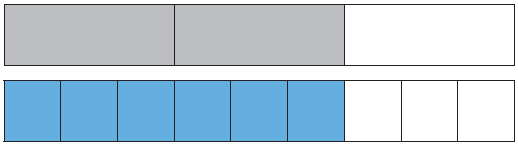
d



$\frac{4}{12}$ $\frac{2}{6}$

$\frac{4}{12} = \boxed{\frac{2}{6}}$

e

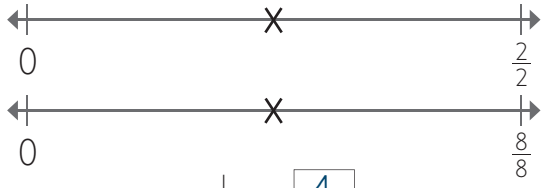


$\frac{2}{3}$ $\frac{6}{9}$

$\frac{2}{3} = \boxed{\frac{6}{9}}$

2 Complete each pair of equivalent fractions on the number lines below.

a

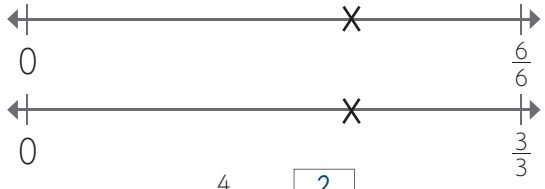


$\frac{1}{2} = \boxed{\frac{4}{8}}$

b

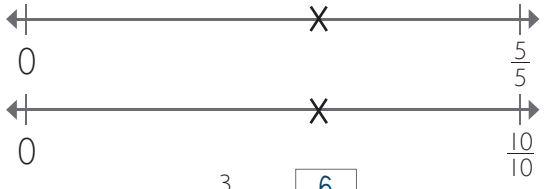
$\frac{1}{4} = \boxed{\frac{4}{12}}$

c



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

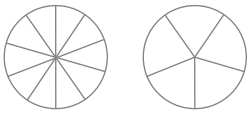
d



$\frac{3}{5} = \boxed{\frac{6}{10}}$

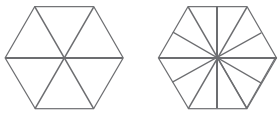
3 Write the fractions below each pair of fraction models.

a



$\boxed{\frac{2}{3}} = \boxed{\frac{1}{5}}$

b



$\boxed{\frac{1}{6}} = \boxed{\frac{2}{12}}$

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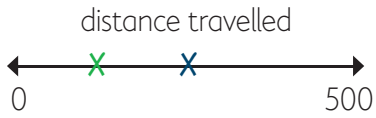
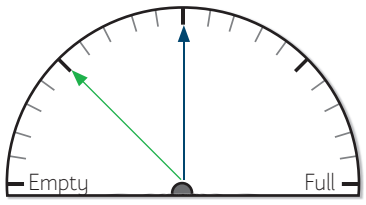
NA23 Equivalent fractions

1 a If you can travel 500 kilometres on a full tank of fuel and you have travelled 250 kilometres, show this information on the number line and fuel gauge below.





$\frac{250}{500} = \frac{1}{2}$

b You have a quarter of a tank of fuel left. Using a different colour, mark this information on the number line and fuel gauge above.

$\frac{125}{500} = \frac{1}{4}$

2 You have a shop where you sell cakes and slices. A whole slab cake sells for $24.00. Customers can purchase the whole cake or portions of the cake.

a Calculate the cost for different sized portions.

Number of portions	1	2	3	4	6	8	12
Cost per portion	$24	$12	$8	$6	$4	$3	$2
Fraction of cake	1	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{6}$	$\frac{1}{8}$	$\frac{1}{12}$

b Use the table above to calculate these equivalent fractions.

Cost	Equivalent fractions
$12	$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{6}{12}$
$6	$\frac{1}{4} = \frac{2}{8} = \frac{3}{12}$
$8	$\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$
$16	$\frac{2}{3} = \frac{4}{6} = \frac{8}{12}$
$4	$\frac{1}{6} = \frac{2}{12}$

3 Use the drawing tools in your word processor software program to draw horizontal bars that show the relationship between:

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

TEACHER TO CHECK

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