Y5 Fractions and Division day 1 home learning pack
6.7.2020 or 9.7.2020

LO: To understand fractions and division

Success Criteria:
Fractions can be associated with division
A whole number when divided by another whole number can result in:
a whole number with or without a remainder
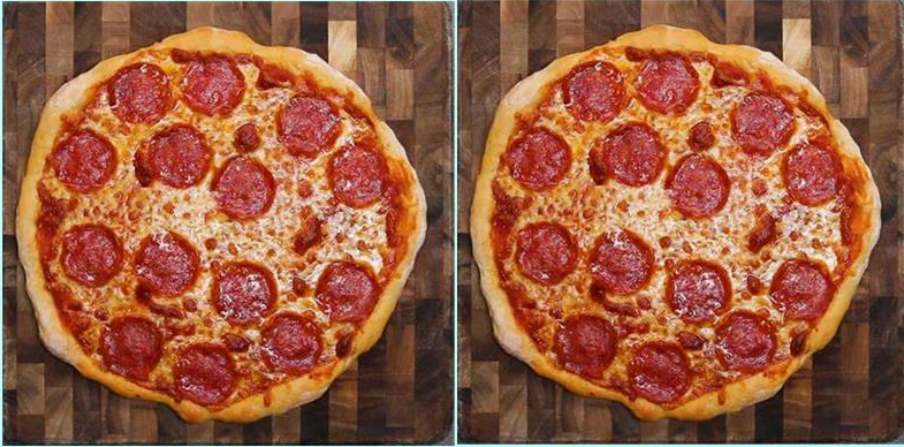a proper fraction
a mixed number

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Divide the cupcakes below between three children. How many does each child get?

How would you divide two pizzas equally between 3 people?

We can divide each pizza into 3 parts as that is how many people we are sharing it between.
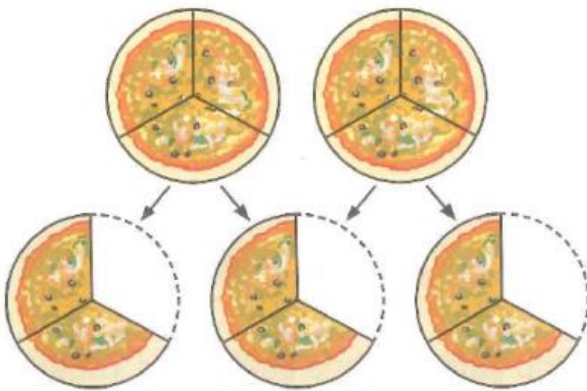

Let's Learn!

Fractions and division

1 2 identical pizzas are shared equally among 3 pupils. What fraction of a pizza will each pupil get?

Each pizza is divided into 3 parts equally.
Each part is $\frac{1}{3}$ of a pizza.

$2 \div 3 = \frac{2}{3}$

2 divided by 3 is the same as $\frac{2}{3}$.

Each pupil will get $\frac{2}{3}$ of a pizza.

3 identical muffins were cut and shared among 4 children after dinner.
What fraction of a muffin did each child get?

Can you use any of the fraction wheels to help visualise and answer the
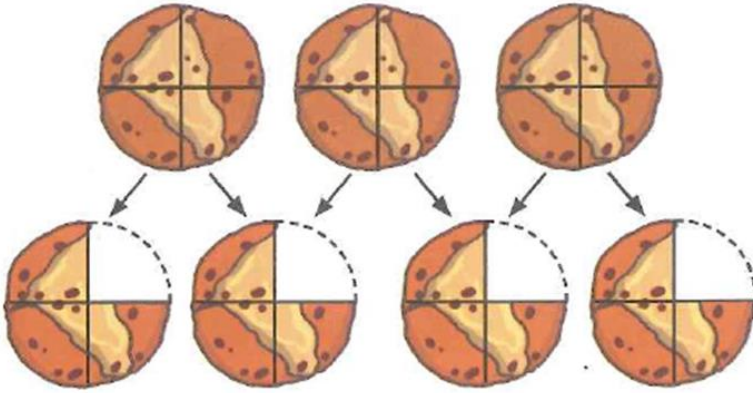question?
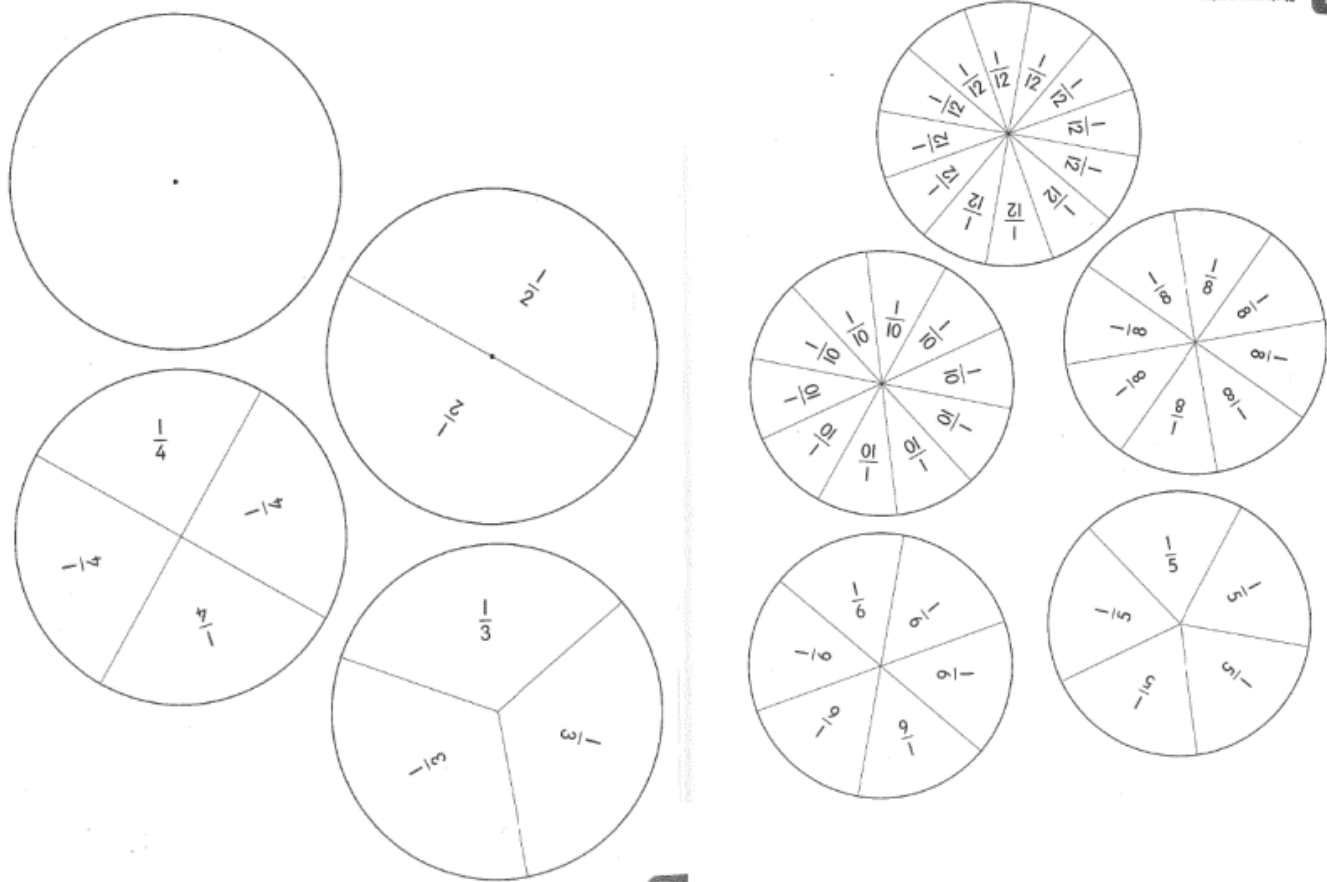
2 3 identical muffins were cut and shared among 4 children after dinner. What fraction of a muffin did each child get?

Each muffin is divided into 4 equal parts.

Each part is $\frac{1}{4}$ of a muffin.

$3 \div 4 = \frac{3}{4}$

Each child got $\frac{3}{4}$ of a muffin.

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Complete the task on your own. Imagine that you have five people (counters) in front of you and complete the task.
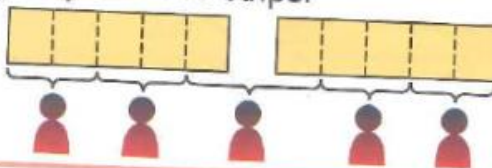
Activity

3 Work in groups of five.
Each group will need some paper strips of the same size and length. The number of paper strips must be fewer than the number of pupils in your group.

1 Cut the strips into equal pieces so that each pupil gets the same number of pieces.

Example Your group has two strips.

2 Write the fraction of a strip that each one of you gets. For the example in 1, write: $2 \div 5 = \frac{2}{5}$

Solve the following questions

4 Find the value of each of the following. Express your answer as a fraction.

a $\quad 4 \div 5 = \dfrac{\Box}{\Box}$

b $\quad 7 \div 9 = \dfrac{\Box}{\Box}$

c $\quad 5 \div 8 = \dfrac{\Box}{\Box}$

d $\quad 7 \div 11 = \dfrac{\Box}{\Box}$

5 Express each fraction as a division sentence.

a $\quad \dfrac{3}{7} = \Box \div \Box$

b $\quad \dfrac{8}{12} = \Box \div \Box$

c $\quad \dfrac{3}{10} = \Box \div \Box$

d $\quad \dfrac{5}{6} = \Box \div \Box$

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Answers

4 Find the value of each of the following. Express your answer as a fraction.

a $4 \div 5 = \dfrac{4}{5}$

b $7 \div 9 = \dfrac{7}{9}$

c $5 \div 8 = \dfrac{5}{8}$

d $7 \div 11 = \dfrac{7}{11}$

5 Express each fraction as a division sentence.

a $\dfrac{3}{7} = 3 \div 7$

b $\dfrac{8}{12} = 8 \div 12$

c $\dfrac{3}{10} = 3 \div 10$
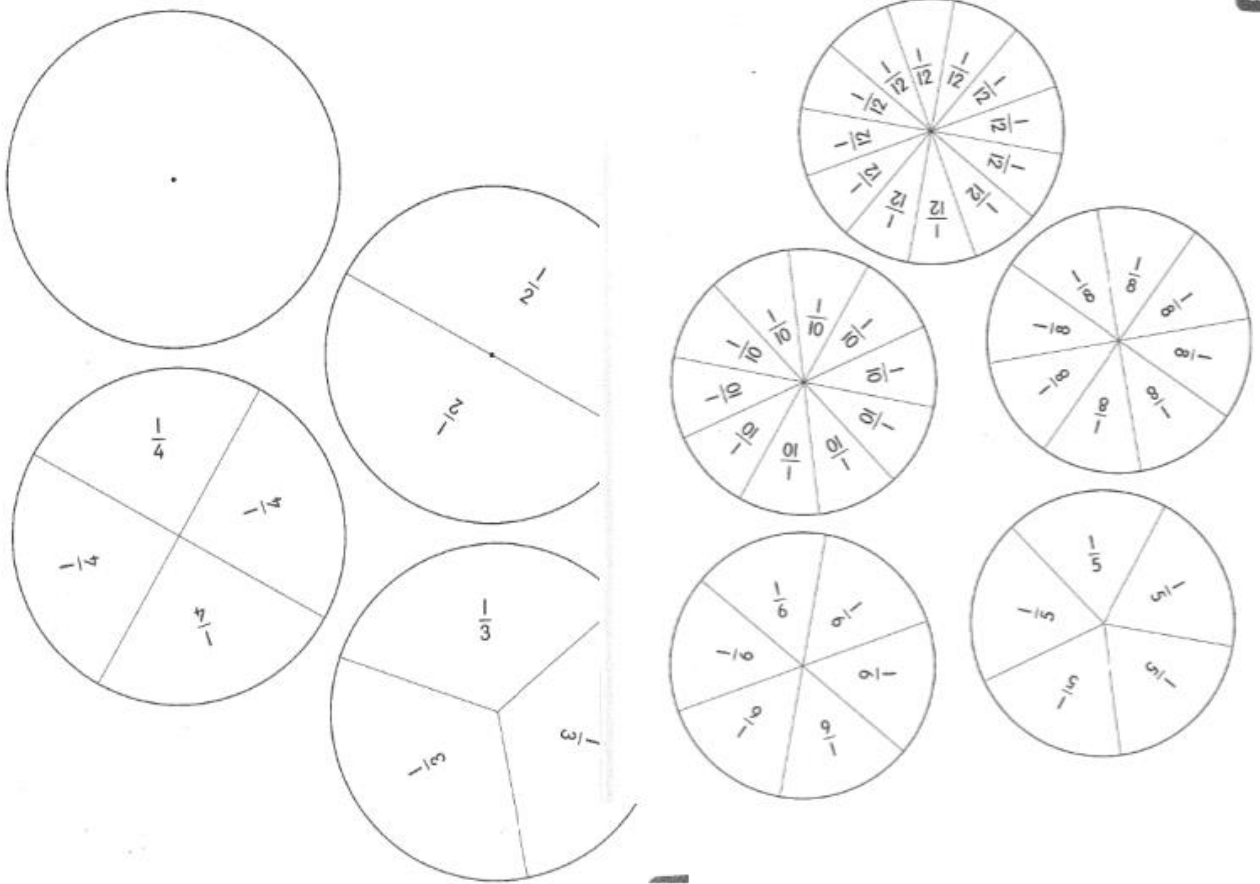
d $\dfrac{5}{6} = 5 \div 6$

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How is this question similar or different to Q 1?

6 5 identical pancakes are divided equally among 4 pupils. How many pancakes does each pupil get?
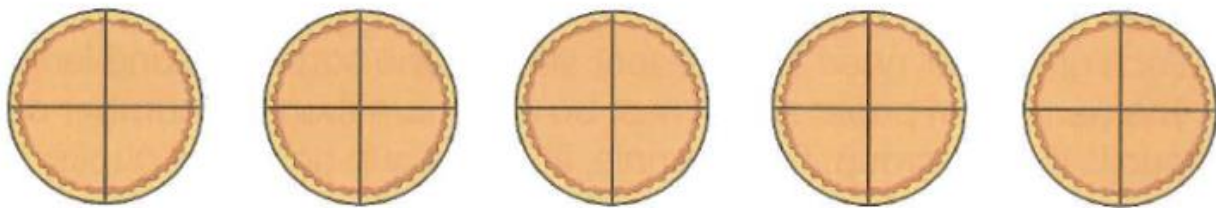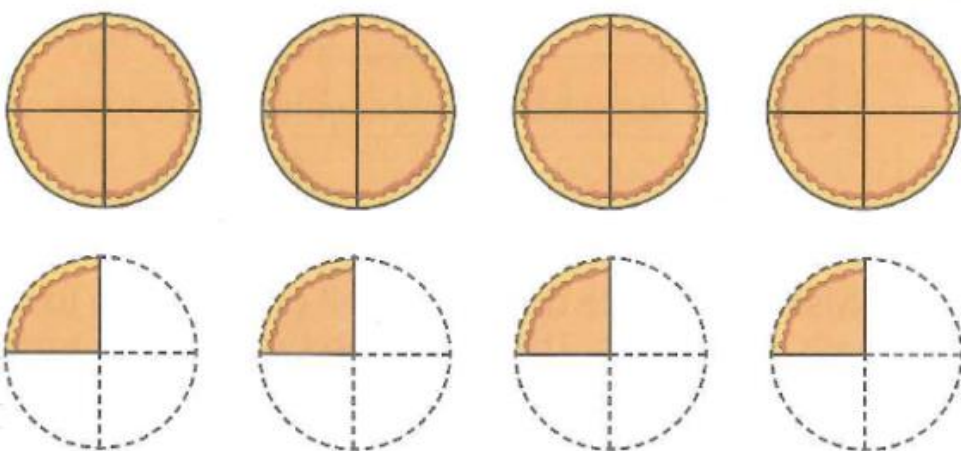

Which fraction wheel would we use?

6 5 identical pancakes are divided equally among 4 pupils. How many pancakes does each pupil get?

Each pancake is divided into 4 parts equally.

Method 1

$$5 \div 4 = \frac{5}{4}$$

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

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

Recall that:

$\frac{5}{4}$ = 5 fourths

= 4 fourths + 1 fourth

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

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

We usually call fourths, **quarters**.

Method 2

$$\begin{array}{r} 1 \\ 4\overline{)5} \\ -4 \\ \hline 1 \end{array}$$

$$5 \div 4 = 1\frac{1}{4}$$

5 divided by 4 is the same as $\frac{5}{4}$ or $1\frac{1}{4}$.

Each pupil gets $1\frac{1}{4}$ pancakes.

Complete the task on your own. You will need three counters to represent the three people.
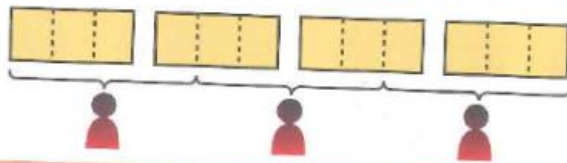
Activity

7 Work in groups.
Each group will need some paper strips of the same size and length. The number of paper strips must be one more than the number of pupils in your group. For example, if your group has three pupils, the group should get four paper strips.

I Cut the strips into equal pieces so that each of you gets the same number of pieces.

Example

2 First write a division sentence and express it as a fraction to show what each of you gets. Then write the fraction as a mixed number.

For the example in I, write: $4 \div 3 = \frac{4}{3}$

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

▶ Express $14 \div 4$ as a fraction in its simplest form. Then change the fraction to a mixed number.

$$14 \div 4 = \frac{\cancel{14}^{7}}{\cancel{4}_{2}}$$

$$= \frac{7}{2}$$

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

$$\begin{array}{r} 3 \\ 2\overline{)7} \\ -6 \\ \hline 1 \end{array}$$

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9 Express each division sentence as a fraction in its simplest form. Then change the fraction to a mixed number.

    a $19 \div 2$ **b** $43 \div 4$ **c** $49 \div 5$ **d** $20 \div 8$

$19 \div 2$

$$2\overline{)19} \quad \begin{array}{r} 09 \; r1 \\ 18 \\ \hline 1 \end{array} \qquad 9\tfrac{1}{2}$$

Let's Practise!

11 Find the value of each of the following. Express your answer as a fraction in its simplest form or as a mixed number.

    a $10 \div 12 = \dfrac{\square}{\square}$

             $= \dfrac{\square}{\square}$

    b $3 \div 2 = \dfrac{3}{2}$

             $= \dfrac{\square}{\square} + \dfrac{\square}{\square}$

             $= \square\dfrac{\square}{\square}$

$$2\overline{)\,3} \quad \dfrac{\square}{\square}$$

    c $7 \div 3$ **d** $\dfrac{11}{4}$ **e** $\dfrac{25}{7}$

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Answers

9 Express each division sentence as a fraction in its simplest form. Then change the fraction to a mixed number.

a $19 \div 2$ b $43 \div 4$ c $49 \div 5$ d $20 \div 8$

                $10\frac{3}{4}$ $9\frac{4}{5}$ $2\frac{1}{2}$

$$19 \div 2$$

$$\begin{array}{r} 09\,r1 \\ 2\overline{)19} \\ 18 \end{array} \qquad 9\frac{1}{2}$$

11 Find the value of each of the following. Express your answer as a fraction in its simplest form or as a mixed number.

a $10 \div 12 = \dfrac{10}{12}$ b $3 \div 2 = \dfrac{3}{2}$

$$= \dfrac{5}{6}$$

$$= \dfrac{2}{2} + \dfrac{1}{2}$$

$$= 1\dfrac{1}{2}$$

$$\begin{array}{r} 1 \\ 2\overline{)3} \\ -2 \\ \hline 1 \end{array}$$

c $7 \div 3 \quad 2\frac{1}{3}$ d $\dfrac{11}{4} \quad 2\frac{3}{4}$ e $\dfrac{25}{7} \quad 3\frac{4}{7}$