

Fractions

Key learning

Express a smaller whole number as a fraction of a larger one: find equivalent fractions; relate fractions to their decimal representations.

Check that your child:

- can read and write fractions such as ‘three fifths’ and can find simple fractions of shapes (e.g. cut a cake into quarters, a pizza into sixths);
- can find equivalents of common fractions (e.g. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$);
- knows the decimal equivalents of simple fractions, for example that 0.25 is one quarter and that 0.4 is four tenths or forty hundredths.

Notes for parents/carers

Look out for situations where fractions occur around the home or in leisure activities. Use these opportunities to help your child explore and understand fractions. Here are some possible situations where fractions might arise.

- Unwrap a bar of chocolate and ask your child to say how many sections would make up one quarter or one third of the bar. If they answer correctly, let them eat that fraction of the bar. Ask them to find, say, a quarter of the remaining piece for you to eat.
- Discuss cutting a pizza into equal-sized slices to cater for four, six or eight people. Ask: If you divide a pizza into eight slices but only six people share it, what fraction of the pizza will be left over if everyone eats a single slice?

- Encourage your child to look out for sale advertisements with offers such as 'up to half price' or 'one third off'. Help your child to check the prices to see which items really have the full discount.
- When cooking a meal for two, using a recipe intended for six, ask your child to help you work out one third of all the ingredients. Suppose you were using the same recipe to work out quantities for four people, what fraction would you need to use?

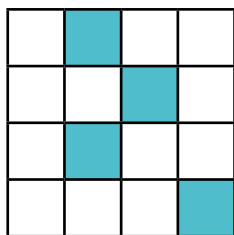
Finding fractions of shapes

Some activities to do together

- Discuss dividing a circular pizza into eight equal parts and ask some questions.
 - How many eighths make a quarter? How many eighths make a half? Three quarters?
 - Help your child fill in the empty boxes in these equivalent fractions:

$$\frac{1}{2} = \frac{\square}{4} = \frac{4}{\square} \qquad \frac{3}{4} = \frac{\square}{8}$$

Let's shade some fractions



What fraction of the shape is shaded?

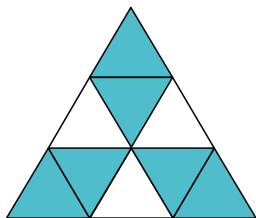
Once you have agreed that a quarter of the square is shaded, play a game with your child.

Start by drawing another 4×4 square and shade a quarter of the shape in a different way from the one shown.

Challenge your child to draw another 4×4 square and shade a quarter in a way that is different from either your way or the one above.

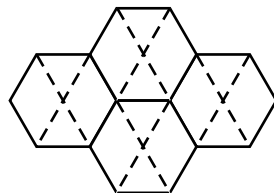
Repeat the game until neither of you can find another different way of shading a quarter of the shape.

Change the game. Use the following shape.



What fraction is shaded this time? Play the game as before, shading two thirds of the shape a different way each time. How many different ways could you find?

Shade one third of this diagram, which is made up of four regular hexagons.



Let's talk about fractions and decimals

Fractions as decimals

Remind your child that decimals are special fractions that are used a lot in everyday life.

Decimals are made up of tenths, hundredths, thousandths and so on.

$$\frac{1}{10} = 0.1 \quad \frac{1}{100} = 0.01 \quad \frac{1}{1000} = 0.001$$

and we can combine them in lots of ways to make other decimals.

$$\text{For example, } 0.04 = \frac{4}{100} \text{ and } \frac{1}{4} = \frac{25}{100} = 0.25$$

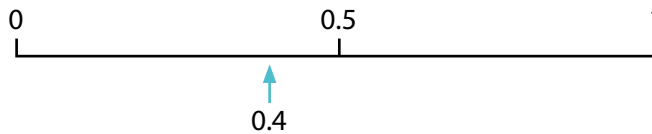
Prepare a set of sticky notes with the following numbers on them:



Help your child to pair up the fractions with their equivalent decimals.
Invent some more of your own.

Fractions on a number line

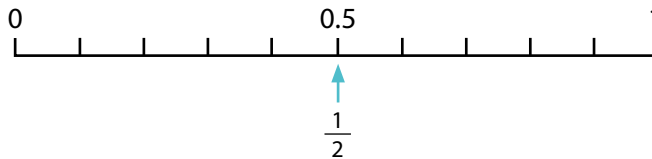
Your child will know that we can position decimals on a number line.



0.4 is only another way of writing the fraction $\frac{4}{10}$. We can find a position for every fraction on a number line.

Help your child to mark the position of each of these fractions on the number line below.

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



Remember: if you are not sure, you can always convert a fraction to a decimal. For example, to convert $\frac{3}{8}$ on your calculator, key in

$$\boxed{3} \quad \boxed{\div} \quad \boxed{8} \quad \boxed{=}$$