

# Fractions - Introduction

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## Fractions in everyday use

The idea of dividing whole things into smaller pieces, fractions, is integral to our culture. It is embedded into our language in many ways: in the way we tell the time as 'quarter to' or 'half past' the hour; the way we write recipes with '½ a teaspoon' or 'a quarter of a cup' and how we buy our food using 'half or quarter kilos'. Understanding and using these terms in the everyday sense is an essential aspect of numeracy.

Unfortunately, fractions have often been dealt with in such an abstract way in secondary schools that many students fear the very word. By focussing on commonly used, everyday fractions such as  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{3}{4}$ , this section revisits fractions in everyday use to build students' confidence in relation to fractions.

The section also outlines methods for using hands-on materials to clarify the meaning of fractions with a focus on how they are written in symbols and in words and how they are said. It also outlines activities to briefly explore how fractions relate to one another and what it means to combine or double quantities such as  $\frac{1}{2}$  or  $1\frac{1}{2}$  as they occur in practical situations, such as recipes.

Revisiting basic meanings in this way can also be very useful for students from other culture and language backgrounds who may not have learned about fractions in the past, or may have met them differently within their own languages and cultures.

## Fractions as a basis for decimals, percentages and measurement

The 'fraction' concept of dividing things into smaller pieces also underpins our 'decimal' or 10-based systems of money and measurement in which whole units such as dollars, metres, or litres are divided into hundredths (centimetres and cents) and thousandths (millilitres). Making sense of the relationships between these units of measurement is much easier for people who have a grasp of basic fraction concepts.

The idea of fractional parts also underpins 'percentages' which are so commonly used in our society for everything from analysing the population and their opinions, to advertising money-saving bargains.

Whilst the main focus of this section is on common usage of fractions, it also provides optional opportunities for looking at the fractions  $\frac{1}{10}$  and  $\frac{1}{100}$  and thus for making links between the decimal system for writing numbers and measurements later on.

These foundations also link directly to the percentages section which explores the meaning of percentages, makes links between common fractions and their percentage equivalents and uses the understanding of common fractions such as  $\frac{1}{2}$  and  $\frac{1}{4}$  for 'in the head' or shortcut calculations of percentages.

