# Maths – Fractions, decimals and percentages

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<th>Year</th>
<th>Key Concepts (Statutory Requirements)</th>
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<td><strong>Year 1</strong></td>
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|  | • recognise, find and name a half as one of two equal parts of an object, shape or quantity  
|  | • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. |
| **Year 2** |  
|  | • recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects and quantity  
|  | • Write simple fractions, for example ½ of 6 is 3 and recognise the equivalence of 2/4 and 1/2 |
| **Year 3** |  
|  | • count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10  
|  | • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators  
|  | • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators  
|  | • recognise and show, using diagrams, equivalent fractions with small denominators  
|  | • add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7  
|  | • compare and order unit fractions, and fractions with the same denominators  
|  | • solve problems that involve all of the above. |
| **Year 4** |  
|  | • recognise and show, using diagrams, families of common equivalent fractions  
|  | • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.  
|  | • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number  
|  | • add and subtract fractions with the same denominator  
|  | • recognise and write decimal equivalents of any number of tenths or hundredths  
|  | • recognise and write decimal equivalents to ¼, ½ and 3/4  
|  | • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths  
|  | • round decimals with one decimal place to the nearest whole number  
|  | • compare numbers with the same number of decimal places up to two decimal |
Year 5

- solve simple measure and money problems involving fractions and decimals to two decimal places.
- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
- add and subtract fractions with the same denominator and denominators that are multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions and recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
- solve problems which require knowing percentage and decimal equivalents and those fractions with a denominator of a multiple of 10 or 25.

Year 6

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions > 1
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form
- divide proper fractions by whole numbers
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction
- identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places