# Number: Fractions (including Decimals and Percentages)

| COUNTING IN FRACTIONAL STEPS | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | *Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)* | count up and down in tenths | count up and down in hundredths | | |
| **RECOGNISING FRACTIONS** | | | | | |
| recognise, find and name a half as one of two equal parts of an object, shape or quantity | recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity | recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators | recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten | recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) | |
| | | 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 name a quarter as one of four equal parts of an object, shape or quantity | | recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators | | | |
| **COMPARING FRACTIONS** | | | | | |
| | | compare and order unit fractions, and fractions with the same denominators | | compare and order fractions whose denominators are all multiples of the same number | compare and order fractions, including fractions >1 |

# Number: Fractions (including Decimals and Percentages)

| COMPARING DECIMALS | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | | compare numbers with the same number of decimal places up to two decimal places | read, write, order and compare numbers with up to three decimal places | identify the value of each digit in numbers given to three decimal places |
| **ROUNDING INCLUDING DECIMALS** | | | | | |
| | | | round decimals with one decimal place to the nearest whole number | round decimals with two decimal places to the nearest whole number and to one decimal place | solve problems which require answers to be rounded to specified degrees of accuracy |
| **EQUIVALENCE (INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES)** | | | | | |
| | write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$. | recognise and show, using diagrams, equivalent fractions with small denominators | recognise and show, using diagrams, families of common equivalent fractions | identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths | use common factors to simplify fractions; use common multiples to express fractions in the same denomination |
| | | | recognise and write decimal equivalents of any number of tenths or hundredths | read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$)<br>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents | associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$) |
| | | | recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$ | recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with | recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. |

# Number: Fractions (including Decimals and Percentages)

| | | | | | |
|---|---|---|---|---|---|
| | | | | denominator 100 as a decimal fraction | |

| ADDITION AND SUBTRACTION OF FRACTIONS | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | add and subtract fractions with the same denominator within one whole (e.g. $^{5}/_{7} + {}^{1}/_{7} = {}^{6}/_{7}$) | add and subtract fractions with the same denominator | add and subtract fractions with the same denominator and multiples of the same number | add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions |
| | | | | recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$) | |
| **MULTIPLICATION AND DIVISION OF FRACTIONS** | | | | | |
| | | | | multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams | multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $^{1}/_{4} \times {}^{1}/_{2} = {}^{1}/_{8}$) |
| | | | | | multiply one-digit numbers with up to two decimal places by whole numbers |
| | | | | | divide proper fractions by whole numbers (e.g. $^{1}/_{3} \div 2 = {}^{1}/_{6}$) |

# Number: Fractions (including Decimals and Percentages)

| MULTIPLICATION AND DIVISION OF DECIMALS | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | | | | multiply one-digit numbers with up to two decimal places by whole numbers |
| | | | 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 | | multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places |
| | | | | | identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places |
| | | | | | associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$) |
| | | | | | use written division methods in cases where the answer has up to two decimal places |

# Number: Fractions (including Decimals and Percentages)

| PROBLEM SOLVING | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | solve problems that involve all of the above | 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 | solve problems involving numbers up to three decimal places | |
| | | | solve simple measure and money problems involving fractions and decimals to two decimal places. | solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25. | |