

**Programme of study for calculating:**  
statutory requirements in bold, suggested steps in faint, **adult curriculum in green**

## Fractions

Before accessing fraction specific work, re-visit steps 1-5 of number and place value

### Step 5

**Pupils should be supported to divide a group of objects into two equal groups.**

- *Share objects, sweets, etc. between two people*
- *Divide a piece of play dough into two roughly equal pieces*

**Pupils should be supported to share objects equally**

- *Recognise that the term 'to share' means giving everyone the same amount*
- *Sets the table with the correct number of cutlery for each place*

**Pupils should be shown how to use doubling to solve problems**

### Step 6

**Pupils should be taught to:**

**recognise, find and name a half as one of two equal parts of an object, shape or quantity**

- *recognise the term 'share' as meaning divide into equal amounts*

- *Divide an item into two pieces and know this is a 'half'.*

*E2.2: understand the connection between a half of and share (or divide) into two equal groups or parts*

*E2.1: understand that two halves make one whole*

- *know that half is written as  $\frac{1}{2}$*
- *shade  $\frac{1}{2}$  of symmetrical shapes (links: symmetry, time)*
- *Find  $\frac{1}{2}$  of a number (links: even numbers, 2 x table and division by 2)*

## Step 7

Pupils should be taught to recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

*E2.1: know the words half, quarter and the symbols  $\frac{1}{2}$ ,  $\frac{1}{4}$*

- Know that quarter is written as  $\frac{1}{4}$

### **N2/E2.1 Read, write and compare halves and quarters of quantities**

*E2.1: understand that four quarters make one whole*

*E2.1: understand the connection between one quarter of and share (or divide) into four equal groups or parts*

- find  $\frac{1}{4}$  of a number (links: 4 x table)
- shade  $\frac{1}{4}$  of symmetrical shapes (links: SSM symmetry, time)

### **N2/E2.2 Find halves and quarters of small numbers of items or shapes**

## Step 8

*E2.2: know halves of even numbers to 20*

Pupils should be taught to write simple fractions for example,  $\frac{1}{2}$  of 6 = 3

and recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

- find half of even numbers and record as a fraction (ie  $\frac{1}{2}$  of  $x = y$ )

*E2.1 understand that two quarters and one half are equivalent*

- know that  $\frac{2}{4}$  is the same as  $\frac{1}{2}$

- shade  $\frac{2}{4}$  and  $\frac{3}{4}$  of a shape
- divide a quantity into quarters and then identify  $\frac{3}{4}$  as a group or an amount
- find  $\frac{3}{4}$  of a number

**Pupils should be taught to recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity**

## Step 9

**Pupils should be taught to recognise that tenths arise from dividing an object into 10 equal parts**

- record tenths as  $1/10$

**Pupils should be taught to divide one-digit numbers or quantities by 10** (links 10x table, place value)

**Pupils should be taught to count up and down in tenths;**

**N2/E3.3** Read, write understand decimals up to two decimal places in practical contexts ( such as: common measures to one decimal place, e.g. 1.5 m; money in decimal notation, e.g. £2.37)

- recognise decimal notation in context (ie seconds, temperature)
- record tenths as decimals 0.3, 0.6.
- know that  $\frac{1}{3}$  of a shape, quantity or amount is one of three equal parts
- Find  $\frac{1}{3}$  of a shape, quantity or amount (links 3x table)

**N2/E3.1** Read and understand common fractions (e.g.  $\frac{3}{4}$ ,  $\frac{2}{3}$ ,  $\frac{1}{10}$ )

**N2/E3.2** Recognise and use equivalent forms ( $\frac{5}{10} = \frac{1}{2}$ )

## Step 10

**Pupils should be taught to:**

**recognise, find and write fractions of a discrete set of objects:**

*- record 1 red apple out of 4 apples as  $\frac{1}{4}$ , two girls out of a group of five children as  $\frac{2}{5}$ , school days in a week as  $\frac{5}{7}$*

**Pupils should be taught to recognise and use fractions as numbers:**

- know that the term 'fraction' is a numerical concept not a portion of an object*
- know that a fraction of something, is directly related to division by the numeric denominator*
- be able to calculate non-unit fractions based on the knowledge of the unit fraction ( $\frac{1}{7}$  is  $x$ , so  $\frac{3}{7}$  is  $3x$ )*

**Pupils should be taught to recognise and show, using diagrams, equivalent fractions with small denominators**

**Pupils should be taught to add and subtract fractions with the same denominator within one whole [for example,  $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ ]**

**N2/E3.4 Use a calculator to calculate using whole numbers and decimals to solve problems in contexts, and to check calculations**

**Pupils should be taught to compare and order unit fractions, and fractions with the same denominators**

**Pupils should be taught to solve problems that involve all of the above**

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## Step 11      Extension content

**Pupils should be taught to:**

**recognise and show, using diagrams, families of common equivalent fractions**

**recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.**

- **count up and down in hundredths;**
- **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  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$**
- **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 places**
- **solve simple measure and money problems involving fractions and decimals to two decimal places.**