Curriculum & Knowledge Map: Fractions

KS3

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
Multiply one-digit numbers with up to two decimal places by whole numbers
Use written division methods in cases where the answer has up to two decimal places
solve problems which require answers to be rounded to specified degrees of accuracy
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
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 [for example, 1/4 x 1/2 = 1/8]
divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]
associate a fraction with division and calculate decimal fraction equivalents [for example,

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 [for example, 0.71 =71/100]
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 of 1/2 , 1/4 , 1/5 , 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.

Year 6

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 [for example, 2/5 + 4/5 = 6 /5 = 11/5]

Year 5

Recognise and write decimal equivalents to 1/4 , 1/2 , 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.

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

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 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 3

Year 2

Recognise, find, name and write fractions 1/3, 1/4, 2 /4, 3/4 of a length, shape, set of objects or quantity
Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4, 1 /2.

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 1