



Misterton Primary and Nursery School –Progression in Maths Fractions, Decimals, Percentages



Key Areas	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting in Fractional Steps		<i>Know how to count up in 1/2s from 1.</i>	Know how to <i>count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)</i>	Know how to count up and down in tenths	Know how to count up and down in hundredths		
Recognising Fractions	<i>Know how to recognize a 1/2.</i>	Know how to recognise, find and name a half as one of two equal parts of an object, shape or quantity Know how to recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Know how 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	Know how to recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Know how to recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. Know how to recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Know how to recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Know how to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	

Comparing Fractions	<i>Know a whole one is bigger than a $\frac{1}{2}$.</i>	<i>Know which is the bigger $\frac{1}{4}$ or $\frac{1}{2}$.</i>	<i>Know how to compare unit fractions .</i>	Know how to compare and order unit fractions, and fractions with the same denominators.	<i>Know how to order fractions whose denominators are all multiples of the same number</i>	Know how to compare and order fractions whose denominators are all multiples of the same number	Know how to compare and order fractions, including fractions >1
Comparing Decimals			<i>Know that a decimal is a fraction of a whole</i>	<i>Know that decimals are tenths and hundredths</i>	Know how to compare numbers with the same number of decimal places up to two decimal places	Know how to read, write, order and compare numbers with up to three decimal places	Know how to identify the value of each digit in numbers given to three decimal places
Rounding Including Decimals					Know how to round decimals with one decimal place to the nearest whole number	Know how to round decimals with two decimal places to the nearest whole number and to one decimal place	Know how to solve problems which require answers to be rounded to specified degrees of accuracy

Equivalence (including fractions, decimals and percentages)			Know how to write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Know how to recognise and show, using diagrams, equivalent fractions with small denominators	Know how to recognise and show, using diagrams, families of common equivalent fractions Know how to recognise and write decimal equivalents of any number of tenths or hundredths Know how to recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$	Know how to identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Know how to read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) Know how to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Know how to 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 as a decimal fraction	Know how to use common factors to simplify fractions; use common multiples to express fractions in the same denomination Know how to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) Know how to recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Addition and Subtraction of Fractions				Know how to add and subtract fractions with the same denominator within	Know how to add and subtract fractions with the same denominator	Know how to add and subtract fractions with the same denominator and multiples of the same number	Know how to add and subtract fractions with different denominators and mixed numbers, using the

				one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)		Know how to 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. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)	concept of equivalent fractions
Multiplication and Division of Fractions						Know how to multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Know how to multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) Know how to multiply one-digit numbers with up to two decimal places by whole numbers Know how to divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)
							Know how to multiply one-digit numbers with up to two decimal places by whole numbers
Multiplication and Division of Decimals							
					Know how to 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,		Know how to multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places

					tenths and hundredths		
							Know how to 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
							Know how to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
							Know how to use written division methods in cases where the answer has up to two decimal places

Problem Solving				Know how to solve problems that involve all of the above	Know how to 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 Know how to solve simple measure and money problems involving fractions and decimals to two decimal places.	Know how to solve problems involving numbers up to three decimal places Know how to solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25	
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