



## Year 5 Mastery Indicators

read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit

read Roman numerals to 1000 (M) and recognise years written in Roman numerals

count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000

interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

solve number problems and practical problems that involve all of the above

add and subtract numbers mentally with increasingly large numbers

add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

multiply and divide numbers mentally drawing upon known facts

multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context

solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign

solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes

solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers

establish whether a number up to 100 is prime and recall prime numbers up to 19

recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)

compare and order fractions whose denominators are all multiples of the same number

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,  $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$ ]

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

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

identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

read and write decimal numbers as fractions [for example,  $0.71 = \frac{71}{100}$ ]

recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

write percentages as a fraction with denominator 100, and as a decimal

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 fractions with a denominator of a multiple of 10 or 25.

solve problems involving number up to three decimal places