MEASUREMENT

Pupils should be taught to:

Year 1 programme of study:
compare, describe and solve practical problems for:
lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
mass or weight (e.g. heavy/light, heavier than, lighter than)
capacity/volume (full/empty, more than, less than, quarter)
time (quicker, slower, earlier, later)

measure and begin to record the following:
lengths and heights
mass/weight
capacity and volume
time (hours, minutes, seconds)

recognise and know the value of different denominations of coins and notes
sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening recognise and use language relating to dates, including days of the week, weeks, months and years
tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Year 2 programme of study:
choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
compare and order lengths, mass, volume/capacity and record the results using >, < and =
recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
find different combinations of coins that equal the same amounts of money
solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
compare and sequence intervals of time
tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.

Year 3 programme of study:
measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
measure the perimeter of simple 2-D shapes
add and subtract amounts of money to give change, using both £ and p in practical contexts
tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight
know the number of seconds in a minute and the number of days in each month, year and leap year
compare durations of events, for example to calculate the time taken by particular events or tasks.

Year 4 programme of study:
Convert between different units of measure (e.g. kilometre to metre; hour to minute)
measure and calculate the perimeter of a rectilinear figure(including squares) in centimetres and metres
find the area of rectilinear shapes by counting squares
estimate, compare and calculate different measures, including money in pounds and pence
read, write and convert time between analogue and digital 12 and 24-hour clocks
solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Year 5 programme of study:

convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
understand and use equivalences between metric units and common imperial units such as inches, pounds and pints
measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water)
solve problems involving converting between units of time
use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.

Year 6 programme of study:

solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
convert between miles and kilometres
recognise that shapes with the same areas can have different perimeters and vice versa
recognise when it is possible to use formulae for area and volume of shapes
calculate the area of parallelograms and triangles
calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3.