Overview for Maths by Year Group

Pye Green Academy

The National Curriculum for Mathematics

Year 1

- count, read and write numerals to 100
- 1 more or less than a given number to 100
- begin to know place value in numbers beyond 20

- number bonds within 20
- add and subtract one-digit and two-digit numbers to 20
- adding and subtracting zero
- use the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than to develop the concept of addition and subtraction

- counting in twos, fives and tens
- multiplication and division problems using concrete objects and arrays (grouping and sharing)
- finding halves and quarters of objects, numbers and quantities

- move from measuring using non-standard units to common standard units
- recognise and know value of coins and notes
- tell the time to the hour and half past the hour

- recognise and name common 2-D and 3-D shapes, e.g. rectangles (including squares), circles and triangles, cuboids (including cubes), pyramids and spheres
- describe position, directions and movements - *make whole, half, quarter and three-quarter turns*

- **solve number problems and practical problems involving these ideas**

Year 2

- count in 2s, 3s and 5s from 0 and 10s from any number
- read, write, compare and order numbers to at least 100
- know the place value of each digit in two-digit numbers

- recall and use facts to 20 and derive related facts to 100
- using concrete objects, pictorial representations and mentally, add and subtract ones, tens and two-digit numbers to and from two-digit numbers
- adding several single digits
- tables and division facts for x2, x5 and x10
- use commutativity of addition and multiplication
- check answers to calculations using inverse relationships
- recognise, find, name and write fractions $^1/_2$, $^1/_3$, $^1/_4$, $^2/_4$, $^3/_4$

- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value; add and subtract money of the same unit, including giving change
- tell the time to the 5 minute

- identify, compare and sort 2-D and 3-D shapes based on their properties (including symmetry in a vertical line) and use vocabulary, such as sides, edges, vertices and faces
- identify 2-D shapes on the surface of 3-D shapes
- right angle turns clockwise and anti-clockwise

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables

- **solve number problems and practical problems involving these ideas**

Year 3

- count in 4s, 8s, 50s, 100s and tenths from zero
- read, write, compare and order numbers to at least 1000
- know the place value of each digit in three-digit numbers
- find 10 or 100 more or less than a given number

- add and subtract ones, tens and hundreds to or from three-digit numbers mentally, two two-digit numbers where the answers could exceed 100
- add and subtract three-digit numbers using formal written columnar methods
- tables and division facts for x3, x4 and x8
- add and subtract fractions with the same denominator
- develop formal written multiplication and division methods for two-digit by one-digit numbers
- begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence

- measure the perimeter of simple shapes
- tell the time to the nearest minute using analogue clocks
- add and subtract amounts of money to give change, using both £ and p in practical contexts

- draw 2-D and make 3-D shapes
- recognise and describe 3-D shapes in different orientations
- recognise that angles are a property of shape or a description of a turn, using right angles as a marker
- horizontal and vertical lines and pairs of perpendicular and parallel lines

- understand and use simple scales (e.g. 2,5,10 units per cm) in pictograms and bar charts

- **solve number problems and practical problems involving these ideas**

Overview for Maths by Year Group

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Year 4

- count in 6s, 7s, 9s, 25s, 1000s and hundredths; count backwards through zero to include negative numbers
- read, write, compare, order and know place value of numbers to at least 10000 and numbers with the same number of decimal places up to two decimal place
- round any number to the nearest 10, 100 or 1000 and decimals with 1 decimal place to the nearest whole number
- add and subtract up to four-digit numbers mentally and using formal written columnar methods
- tables and division facts 12 x 12, including 0 and 1
- multiply three numbers
- multiply two and three-digit numbers by a one-digit number using formal written layout
- dividing a one or two-digit number by 10 and 100, identifying value of digits
- add and subtract fractions with the same denominator

- measure and calculate perimeter of rectilinear shapes in metres and centimetres
- find the area of rectilinear shapes by counting squares
- read, write and convert time between analogue and digital 12 and 24-hour clocks
- conversion between units of measure

- sorting and classifying quadrilateral and triangles
- identify lines of symmetry in 2-D shapes presented in different orientations
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- description positions and translations (movement) within the first quadrant

- **solve number problems and practical problems involving these ideas**

Year 5

- read, write, order and compare numbers to at least 1 million and numbers with up to three decimal places, determine the value of each digit
- interpret negative numbers in context, counting forwards and backwards
- round any number up to a million to a power of 10 and decimals with two decimal places to the nearest whole or tenth
- add and subtract whole numbers with more than four-digits, including using formal written methods
- identify prime numbers to 100 and recall those to 19, awareness of prime factors and non-prime numbers
- short multiplication and division of four-digit by a one-digit and long multiplication of four-digit by two-digit number
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- compare, order, add and subtract fractions whose denominators are all multiples of the same number
- understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

- convert different units of metric measures;
- understand and use equivalences between metric and imperial units
- calculate the perimeter of composite rectilinear and the area of rectangles using standard units

- given angles and measure them in degrees (°) including acute, obtuse and reflex angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles

- **solve number problems and practical problems involving these ideas**

Year 6

- read, write, order and compare numbers up to 10 million and determine the value of each digit
- short and long multiplication and division using numbers up to four digits; multiply one-digit numbers with up to two decimal places by whole numbers
- mental calculations, including with mixed operations and large numbers
- multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- add and subtract fractions with different denominators and mixed numbers
- multiply simple pairs of proper fractions and divide proper fractions by whole numbers
- recall and use equivalences between simple fractions, decimals and percentages
- solve problems involving ratio and proportion
- use algebra in terms of formula, sequences, variables and unknowns

- recognise and use the formula for volume and area including parallelograms and triangles

- illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes

- construct pie charts
- calculate and interpret the mean as an average

- **solve number problems and practical problems involving these ideas**