Stage 7

Unit 1 – Factors multiples and primes

Lesson 1 – recap prime numbers, recall primes up to 50 and know how to test a prime up to 150

Lesson 2 – recap how to find common multiples and factors and introduce HCF and LCM

Lesson 3 – understand why and how to use LCM and HCF in solving problems

Lesson 4 – understand and use notation for powers, and square/cube root symbol with and without a calculator

Lesson 5 – recall the first 15 square numbers and first 5 cube numbers, use diagrams to visualise and find roots

Lesson 6 – investigate triangular numbers

Unit 2 – fractions decimals and percentages

Lesson 1 – recap on switching between improper and mixed numbers

Lesson 2 – write proportions as fractions and simplify, for both bigger and lesson than 1

Lesson 3 – understand meaning of percentage as a proportion out of 100 and write percentages as fractions and simplify

Lesson 4 – write one quantity as a percentage of another (simple fractions)

Unit 3 – ordering numbers

Lesson 1 – recap negative numbers on a number scale, ordering negative numbers

Lesson 2 – recap finding a common denominator and use to order fractions

Lesson 3 – recap on ordering decimals

Lesson 4 – order f, d, and p using inequality notation

Unit 4 – simplify algebra

Lesson 1 – know algebraic vocabulary and understand the difference between them (term, expression, function, formula, equation)

Lesson 2 – identify like terms and simplify an expression by collecting them together

Lesson 3 – multiply a single term over a bracket

Lesson 4 – substitute positive whole numbers into expressions and formulae, using order of operations correctly

Lesson 5 – given a function in words establish outputs from inputs

Lesson 6 – use an expression to represent a function (mapping diagram may help)

Unit 5 – written calculations and BIDMAS

Lesson 1 – use knowledge of place value to multiply decimals (use 14 x 26 = 364 to answer….)

Lesson 2 – use knowledge of place value to divide a decimal (use 14 x 26 = 364 to realise that 364/26=14 and use to answer …)

Lesson 3 – use knowledge of place value to divide by a decimal

Lesson 4 – recap using written methods of multiplication

Lesson 5 – recap using short division

Lesson 6 – know the order of operations for multi-step questions, including powers and brackets

Lesson 7 – know that add/subtract have equal priority an multiply and divide have equal priority

Unit 6 – solving equations

Lesson 1 – solve 2 step equations **using balance method**

Lesson 2 – solve 2 step equations when solutions can be fractions

Lesson 3 – solving 2 step equations involving brackets

Lesson 4 – solving equations with unknowns on both sides

Lesson 5 – solving 3 step equations

AP1 (30)

Unit 7 – four rules with fractions

Lesson 1 – recap on switching between improper and mixed numbers

Lesson 2 – addition/subtraction of fractions up to mixed numbers

Lesson 3 – multiply proper/improper fractions using cancelling

Lesson 4 – multiply mixed numbers

Lesson 5 – divide a proper fraction by a proper fraction and apply division of fractions to mixed numbers

Lesson 6 – use calculators to find percentages of amounts using a multiplier

Lesson 7 – identify a multiplier for increasing/decreasing by a percentage

Lesson 8 – write proportions as a percentage and use percentages to compare two quantities

Lesson 9 – know that percentage change = actual change / original amount, calculate the percentage change

Unit 8 – ratio and proportion

Lesson1 – be able to use the language of ratio and ratio notation to describe a comparison of measured objects (using units)

Lesson 2 – use ratio to compare when the units given to measure are different

Lesson 3 – simplify a ratio and identify lowest terms

Lesson 4 – understand the idea of a unit ratio and be able to find

Lesson 5 – divide a quantity in a given ratio

Unit 9 – sequences

Lesson 1 – find the term to term rule for a sequence and use to continue. Describe a sequence

Lesson 2 – Finding the nth term of a linear sequence

Lesson 3 – problem solving, is 73 in the sequence? What is 15th term? Find the 50th term using differences

Unit 10 – rounding

Lesson 1- approximate a number to decimal places

Lesson 2 – approximate a number to significant figures

Lesson 3 – estimate answers to questions by rounding

Unit 11 – measures

Lesson 1 – convert fluently between metric units of length

Lesson 2 – convert fluently between metric units of mass and volume/capacity

Lesson 3 – convert between different units of time, solve problems involving time

Unit 12 – properties and notation for shape

Lesson 1 –understand parallel lines and recognise notation, understand and identify perpendicular lines

Lesson 2 – identify line and rotational symmetry in polygons

Lesson 3 – use standard notation for lines and angles, recap drawing angles

Lesson 4 – use ruler and protractor to construct triangles

Lesson 5 – use ruler and compass to construct triangles

Unit 13 – properties of 3D shapes

Lesson 1 – know the vocabulary of 3D shapes, know the meaning of and find faces, vertices and edges

Lesson 2 – know the connection between faces, vertices and edges (Euler investigation)

Lesson 3 – recognise 3D shapes from nets

(AP2)

Unit 14 – perimeter and area

Lesson 1 – recap area and perimeter of rectilinear shapes

Lesson 2 – find missing lengths in rectilinear shapes when area is known

Lesson 3 – know the area of a trapezium formula (**must now be learnt**) and use to calculate area

Lesson 4 – understand the meaning of surface area and calculate for a cuboid

Lesson 5 – use the volume of a cuboid formula and use to find missing lengths

Unit 15 – angle properties recap

Lesson 1 – recap how to find missing angles using angles at a point, on a line and vertically opposite

Lesson 2 – know that angles in a triangle add to 180 and use in geometric diagrams, giving reasons

Lesson 3 – know how to find missing angles in special triangles

Lesson 4 – recall the names, recognise the shapes and understand the properties of special quadrilaterals, including diagonals

Lesson 5 – finish previous lesson and problems (what is same different about a rhombus and rectangle, sketch a trapezium and convince me it is one, is a square a rectangle)

Unit 16 – transformations

Lesson 1- write equations of lines parallel and perpendicular to the axes, identify y = x

Lesson 2 – carry out a reflection in a diagonal mirror line

Lesson 3 – describe a reflection in a mirror line using the equation of the line

Lesson 4 – describe a translation using a vector

Lesson 5 – carry out a translation by a vector

Lesson 6 – carry out a rotation by a given angle, direction and centre

Lesson 7 – describe a rotation using an angle, direction and centre

Unit 17 – presenting data

Lesson 1 – interpret and construct frequency tables

Lesson 2 – construct a pictogram or bar chart from a frequency table

Lesson 3 – interpret a pictogram or bar chart

Lesson 4 – interpret comparative bar charts

Lesson 5 – construct pie charts when total frequency is not 360

Lesson 6 – interpret pie charts

Unit 18 – calculating statistics

Lesson 1 – understand that mode, median and mean are measures of typicality (or location) and find them for a set of data. Discuss limitations and appropriateness

Lesson 2 – understand that range is measure of spread (or consistency) and find for sets of data. Compare sets of data using typicality or spread

Lesson 3 – use the mean to find a missing number in a data set, use median and mode to find missing numbers in a data set

Lesson 4 – find mode and median from a frequency table

Lesson 5 – find the mean from a frequency table

AP3 (28)