

0.5	1.5	2.5
<ul style="list-style-type: none"> . calculate a number complement to 100 . add/subtract 3 digit numbers . multiply 3 digit by 2 digit . use simple fractions . recognise negative numbers . use decimals (e.g. Money) 	<ul style="list-style-type: none"> . divide by 2 digit numbers . add/subtract multiply decimals . divide a decimal by an integer . apply BIDMAS . identify a factor or a multiple . cancel a fraction . find a fraction of a quantity . find a percentage of a quantity . use the unitary method/direct proportion to change quantities 	<ul style="list-style-type: none"> . negative numbers - 4 operations . round numbers to a decimal place or significant figure . convert between fractions, decimals, percentages . write one number as a percentage of another . order fractions . convert between improper fractions and mixed numbers . add/subtract fractions . multiply/divide fractions . increase/decrease by a given percentage . write an amount as a fraction of the total, from a ratio . simplify a ratio into the form 1:n . divide a quantity up into a given ratio . compare a set of numbers as a ratio . use direct proportion to complete a table of values . identify the scale factor by which a direct proportion would change . simple interest . recall simple powers, including square and cube numbers . square and cube roots
<ul style="list-style-type: none"> . continue a sequence given by an illustration . calculate the next term of common number patterns 	<ul style="list-style-type: none"> . collect like terms . substitute positive numbers into a formula . solve a simple linear equation 	<ul style="list-style-type: none"> . substitute into input/output fractions . understand and apply the first 3 index laws . simplify an expression by expanding and then collecting like terms . identify expressions, equations, formulae . write expressions and substitute values into them . generate the n^{th} term of arithmetic sequences . solve a linear equation involving brackets . work with co-ordinates in all 4 quadrants . sketch linear graphs . calculate midpoint between two co-ordinates . interpret a distance/time graph

<ul style="list-style-type: none"> . correctly name common 2D and 3D shapes . read simple scales . use simple metric units . read am/pm clock . use horizontal and vertical mirror lines 	<ul style="list-style-type: none"> . interpret and read off values from a conversion chart . identify how many lines of symmetry a shape has . faces, edges and vertices . nets for 3D shapes . calculate unknown angles on parallel lines . identify correct circle vocabulary (centre, radius, chord, diameter, circumference) . choose appropriate units of measure . approximate a weight or volume of an object 	<ul style="list-style-type: none"> . order of rotational symmetry . identify the correct plan, front and side elevation for a given shape . use interior and exterior angle sum facts for polygons . use the formula for circumference of a circle . reflections, rotations, translations, enlargements (positive integer scale factor)
<ul style="list-style-type: none"> . complete a tally, pictogram and frequency table . draw and use bar charts 	<ul style="list-style-type: none"> . understand the probability scale . use relative frequency to calculate an amount . use frequency trees . mean, mode, median, range from a list of data . calculate mode from a frequency table . write one number as a fraction of another from a table . calculate the angles needed to represent a set of data as a pie chart . complete and interpret two-way tables . construct an ordered stem and leaf diagram 	<ul style="list-style-type: none"> . understand mutual exclusive events sum to 1 . systematic listing strategies . probability using Venn diagrams . calculate the relative frequency from a graph . calculate mode, median and range from a stem and leaf diagram . calculate the mean from a grouped frequency table . tables and line graphs for time series data . identify correlation in a scattergram

3.5	4.5	5.5
<ul style="list-style-type: none"> . \times/\div of all decimals . prime factor decomposition using a factor tree . HCF/LCM of 2 numbers . Mixed numbers - 4 operations . find original amount using a reverse fraction . find a reverse percentage of a quantity . compound interest . negative indices . convert between standard form and ordinary numbers 	<ul style="list-style-type: none"> . operate with standard form numbers . find upper/lower bounds and truncate . basic inverse proportionality . identify the correct graph associated with proportion type 	<ul style="list-style-type: none"> . calculate using upper/lower bounds . convert recurring decimals into fractions
<ul style="list-style-type: none"> . factorise with a common factor . substitute negative numbers into a formula . solve a linear equation with unknowns on both sides . solve a linear equation graphically . interpret inequalities on a number line . solve linear inequalities . rearrange formulae . sketch quadratic graphs . find gradients of straight lines . calculate a speed from a distance/time graph 	<ul style="list-style-type: none"> . factorise $x^2 + bx + c$. solve a simple quadratic equation . linear simultaneous equations, algebraically and graphically . recognise an identity . solve fractional equations . rearrange an equation where subject appears more than once . $y = mx + c$ - find equation of a line through 2 points . sketch cubics, reciprocal graphs . identify and interpret roots, intercepts . use Fibonacci, quadratic and simple geometric sequences 	<ul style="list-style-type: none"> . use trial and improvement to solve an equation . rate of change - gradient . estimate gradients of curves . expand 3 brackets

<ul style="list-style-type: none"> . area of 2D shapes . area of compound shapes . surface area of prism . volume of prism . enlargement - fractional scale factors . constructions - perpendiculars, angle bisector . identify and construct loci . construct plans and elevations . know tangent, arc, sector, segment . perpendicular distance from a point to a line is the shortest distance to the line . recognise importance of units in speed, distance and time calculations . density, pressure - numerical contexts . Pythagoras 	<ul style="list-style-type: none"> . area/perimeter of a sector . volume of 3D shapes (particularly sphere, cone, pyramid) . surface area of 3D shapes (particularly sphere, cone, pyramid) . find a resultant vector from a diagram . perform vector arithmetic . calculate length of a line using Pythagoras from co-ordinates . trigonometry - SOHCAHTOA . know the exact value of specific sin, cos and tan angles . density, pressure - algebraic contexts . use scale/ratio to calculate lengths in similar shapes 	<ul style="list-style-type: none"> . congruent triangles (SSS, SAS, ASA, RHS) . volume of a frustum
<ul style="list-style-type: none"> . calculate probabilities from tree diagrams (indep. events, AND/OR) . understand that unbiased samples tend towards theoretical probability distributions, with increasing sample size . lines of best fit (scattergrams) . identify an anomaly from a scattergram 	<ul style="list-style-type: none"> . calculate probabilities from tree diagrams (dep. events, AND/OR) . draw frequency polygons 	<ul style="list-style-type: none"> . interpret a frequency polygon . calculate the mean from a frequency polygon . plot a cumulative frequency curve . interpret a cumulative frequency curve (particularly cumulative frequency) . box plots . sampling (including stratified sampling)

6.5	7.5	8.5
<ul style="list-style-type: none"> . product rule for counting . estimate powers and roots 	<ul style="list-style-type: none"> . simplify a surd . fractional indices 	<ul style="list-style-type: none"> . rationalise a denominator
<ul style="list-style-type: none"> . solve equations by iteration . set up equations for direct/inverse proportion . interpret a graphical region using in equalities . use set notation for in inequalities . equation of circle, centre at the origin 	<ul style="list-style-type: none"> . gradients of perpendicular lines . solve a quadratic by completing the square . functions - inverse and composite . exponential function $y=k^x$. sketch translations and reflections of a given function . find equation of tangent to a circle . use quadratic formula . find n^{th} term of quadratic sequences . algebraic fractions - 4 operations 	<ul style="list-style-type: none"> . solve one linear, one non-linear simultaneous equations . factorise $ax^2 + bx + c$ ($a \neq 1$) and solve $ax^2 + bx + c = 0$ ($a \neq 1$) . solve quadratic inequalities . solve equations involving algebraic fractions . use geometric progressions involving surds . find turning points of quadratics by completing the square . algebraic proof . recognise trig graph transformations . interpret values from a transformed trig graph
<ul style="list-style-type: none"> . circle theorems . sine and cosine rules . area of triangle = $0.5ab\sin C$. calculate length of line in 3D using Pythagoras . enlargement with negative scale factor . sketch $y=\sin x$, $y=\cos x$, $y=\tan x$. estimate areas under graphs (v/t graphs) 	<ul style="list-style-type: none"> . similar solids - ratios of length, area, volume . 3D trig . geometric proof with vectors . prove circle theorems 	
	<ul style="list-style-type: none"> . conditional probabilities with trees and Venn diagrams . frequency density - histograms 	

PLEASE NOTE THAT SOME TOPICS SPECIFIED IN THE LISTS WILL NOT BE TAUGHT UNTIL YEARS 9 TO 11

