

Year 8 Scheme of learning 2021-2022 - Term 1

Stretch key learning in italics

Topic	Key learning	Hegarty clips	☹	😊	☺
Indices	Use index notation	102			
	Evaluate simple indices e.g. 2^2 , 2^5				
	Understand $a^0 = 1$	103			
	Use index laws (multiplication, division and brackets) for both algebraic and numerical expressions	105-107			
	<i>Evaluate negative and fractional indices</i>	104, 108-110			
Negative numbers recap	Order negative numbers and use the symbols =, ≠, <, >, ≤, ≥ appropriately	37			
	Work with negative numbers in context and solve problems involving negative numbers.	44			
	Add and subtract a negative number to/from another number.	39-41			
	Multiply and divide negative numbers.	42-43			
Standard form	Express ordinary numbers in standard form	122			
	Express numbers in standard form as ordinary numbers	123			
	Order numbers in standard form				
	<i>Calculation with standard form (multiplication / division / addition / subtraction)</i>	124-128			
	<i>Understanding and use standard form in a real life context</i>	133			
Algebraic manipulation	Add, subtract, multiply and divide algebraic terms and simplify expressions	156-159			
	Expand single brackets and simplify	160-161			
	Factorise into single brackets	168-171			
	<i>Expand and factorise quadratic expressions</i>	162-164			
October half term					
Rearranging formulae	Understand and use standard mathematical formulae (such as speed, distance, time)	278-279			
	<i>Rearrange the formulae to change the subject</i>	280-287			
Fractions recap	Calculate with fractions including add, subtract, multiply and divide	65-72			
	Recognise and find equivalent fractions including simplifying fractions	59-61			
	Convert between improper fractions and mixed numbers	63-64			
	Calculate with mixed numbers				
	Convert between fractions and decimals	73-74			
	Calculate fractions of amounts	77			
	<i>Calculate reverse fractions of amounts</i>	79			
Circles	Identify and label parts of a circle	592			
	Use π to calculate the area and circumference of a circle	534-543			
	Find the area and arc lengths of semicircles or quarter circles	544-545			
	Find the area and perimeter of compound shapes including circles, semicircles and quarter circles	546			

	<i>Calculate the area of sectors</i>	546-547			
	<i>Calculate the arc lengths of sectors</i>	544-545			
	<i>Find the area and perimeter of compound shapes including sectors</i>				
Surface area and volumes	Calculate the surface area and volume of a cube or cuboid	567-568			
	Calculate the surface area and volume of prisms	570-571			
	Find the dimensions of a prism, given the volume	569			
	Calculate the surface area and volume of cylinders	572-575			
Christmas holidays					

Year 8 Scheme of learning 2021-2022 - Term 2

Stretch key learning in italics

Topic	Key learning	Hegarty clips	⊗	☺	☺
Interpreting and representing data	Complete and Interpret a tally chart and frequency table	401-403			
	Complete and interpret two way tables.	422-424			
	Present and interpret data using bar charts, pictograms, time series graphs, pie charts and stem and leaf diagrams	425-431 450			
	Present and compare two sets of data on one diagram, e.g. dual bar chart, dual line graphs, compound bar charts.	432-433			
	Present and interpret data using scatter graphs, recognising correlation and making predictions.	453-454			
	Choose the most appropriate graph or chart for representing data.				
Unit conversions	Estimate and use appropriate measures for lengths, areas, volumes	691			
	Convert between metric units of lengths, weights and capacity	692-699			
	Read, interpret and compare scales on a range of measuring instruments.				
	Apply conversions metric and imperial units	705-706			
	Convert between area measure (e.g. mm ² to cm ²) and volume measures.	700-704			
Linear graphs	Plot co-ordinates in all four quadrants and drawing and labelling axes.	199			
	Draw the graphs of $x=a, y=a, y=x, x=y$				
	Draw a linear graph from a table of values	205-206			
	Understand and identify the gradient and y-intercept from a graph or from the equation.	207			
	<i>Draw linear graphs without being given a table of values.</i>	208-209			
	<i>Rearrange formulae into the form $y = mx + c$.</i>	210			
	<i>Identify the point of intersection of two straight lines which are plotted on a graph.</i>	218			
February half term					
Sequences	Generate sequences of square numbers, triangle numbers, cube numbers and Fibonacci	99-100 261-263			
	Find the term to term and nth term rules of linear sequences	196,198 919			

	Generate sequences and specific terms using the term to term rules and nth term rules	197			
	<i>Identify whether a number is in a given nth term sequence.</i>	920			
	<i>Generate basic non-linear sequences, for example n^2+1.</i>				
Ratio and proportion	Understand the concept 'best buy' and calculate this mathematically using proportionality tables	763-770			
	Convert between different currencies	707-708			
	Solve problems involving speed, distance and time.	716-720			
Easter holidays					

Year 8 Scheme of learning 2021-2022 Term 3

Stretch key learning in italics

Topic	Key learning	Hegarty clips	☒	☺	☻
Averages	Find mean, median, mode and range from lists of discrete data.	405-410			
	<i>Find possible missing pieces of data given the mean/mode/median/range.</i>	419-421			
	Analyse and compare sets of data choosing appropriate statistics to describe a set of data.	413			
	Find the mean, median, mode and range from frequency tables.	414-417			
	Find averages from stem and leaf diagrams.	432-433			
Transformations	Reflect a shape in a given line and describe reflections	639-641 652			
	Rotate a shape about a point and describe rotations	648- 649 653-654			
	Translate a shape using a given vector and describe translations	637-638 650			
	Enlarge a shape using a scale factor and centre and describe enlargements	642-643			
	<i>Enlarge a shape by a fractional or negative scale factor.</i>	644- 646			
	<i>Describe a fractional or negative enlargement.</i>	651			
	<i>Identify which transformations produce congruent and similar shapes.</i>				
Real life graphs	Construct and interpret straight line graphs in context e.g. conversion graphs.	712-713			
	Plot and interpret distance-time graphs.	874-879			
May half term					
Probability	Place events on a probability scale.	349-350			
	Calculate simple probabilities using fractions, decimals or percentages.	351-353			
	List outcomes of an event systematically				
	Find probabilities from sample space diagrams, Venn diagrams, frequency trees and two-way tables.	359 383-384			
	<i>To use the 'and' & 'or' rule to calculate probabilities.</i>	358-360			

	<i>Understand and identify mutually exclusive events and exhaustive outcomes.</i>	354			
	<i>Understand and investigate experimental probabilities</i>	356-357			
Solving equations and inequalities	Solve equations involving algebraic fractions.	187			
	Represent inequalities on a number line	265-266, 268			
	<i>Solve linear inequalities and represent the solution on a number line</i>	267-271			
	<i>Construct and solve linear inequalities from a worded / pictorial context</i>				
Summer holidays					