Maths Long Term Plan Year 8

Chichester Free School
Nurture • Challenge • Inspire

Temperance Term

W/C	1	2	3	4	5	6	7	
Topic	**Number 2**						Assessment 1	HALF TERM
Core learning for all sets Core learning for sets 1-2	**Place value and rounding** Write decimal numbers as words and vice versa. State the value of digits in decimal numbers. Order decimal numbers (ascending and descending). Round to the nearest 10, 100, 1000 etc. Round to the nearest integer. Round to decimal places and significant figures. Truncating.	**Calculations and estimations** Column method for addition and subtraction of decimal numbers. Multiply and divide decimals by 10, 100, 1000 etc. Column method/grid method for long multiplication of decimals. Long and short division of decimals, formal methods. Use formal division method to convert fractions to decimals. Convert recurring decimals into fractions. Use inverse operations to check calculations. Create related facts regarding a calculation. Estimae answers to calculations using 1sf. Identification of over- and underestimates. Identify upper and lower bounds for a rounded value. Express simple error intervals with inequality notation. Consider hot to create the largest or smallest: sum, product, difference, quotient from two pairs of numbers. Use upper and lower bounds to calculate maximum and minimum possible values.		**Standard form** Recall and calculate square, cube and higher powers of 10. Identify the pattern with powers of 10. Evaluate power of 0 and negative powers of 10 (within the context of the pattern). Convert standard form numbers into ordinary form. Write large and small numbers in standard form. Briefly revise index laws using powers of 10. Multiplication of numbers in standard form using the commutative law. Division of numbers in standard form. Adjust answer to be in standard form if not already. Add and subtract numbers in standard form by converting, calculating, and converting back. Add and subtract numbers in standard form by adjusting the numbers to the same power first.		Revision and delivery of assessment	
Extension/ Challenge: Open middle, goal free, exam questions, “by example”, SSDD are good resources but always choose problems based on the current topic.								
Assessment			Progress Check				Formal, summative	

W/C	8	9	10	11	12	13	
Topic	**Algebra 3**						CHRISTMAS
Core learning for all sets Core learning for sets 1-2	**Rules and functions** Continue sequences and patterns using observation. Continue a numerical sequence using common differences and describe those common differences as a term-to-term rule. Find missing terms in the middle of a sequence. Turn a position-to-term rule into an input/output function. Use a position-to-term rule (nth term) to generate a sequence. Will a given number be in a given sequence? Use characteristics of the sequence to assess this. Work with function machines and flowcharts. Find outputs for given sequential inputs. Find inputs for given outputs. Find the appropriate inverse function for any given function. Find a composite function for two given functions and use function notation.		**Linear sequences** Find the nth term of an ascending arithmetic sequence. Find the nth term of a descending arithmetic sequence. Include diagrammatic patterns. Using nth terms to generate a sequence. Using nth terms to find a specific term of a sequence. Using the nth term to assess whether a number is in a given sequence. Include diagrammatic patterns. Finding the nth term of a fractional sequence where the numerator and the denominator of the nth term are linear. Using a fractional nth term to generate terms and sequences. Using nth term and function skills to create a table of coordinates for a linear function. Plotting linear functions on four-quadrant axes using tables for coordinates.		**Non-linear sequences** Identify and recall the sequence of square, cube and triangular numbers. Relate these sequences to their diagrammatic representations. Recognise, describe, and continue a Fibonacci-type sequence given the first terms. Recognise, describe, and continue sequences where the power is n and the base is 2, 3, 4, 5 or 10. Identify the nth term of these simple sequences. Identify quadratic sequences by their common second difference. Find the nth term of simple quadratic sequences such as n^2 + 5 or 3n^2.		
Extension/ Challenge: Open middle, goal free, exam questions, “by example”, SSDD are good resources but always choose problems based on the current topic.							
Assessment		**Progress Check**			**Progress Check**		

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Justice Term

W/C	14	15	16	17	18	19	
Topic	Geometry 2					Assessment 2	
Core learning for all sets Core learning for sets 1-2	Constructions	Angle Properties	Pythagoras' theorem			Revision and delivery of assessment	HALF TERM
Extension/ Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment		Progress Check				Formal, summative	
W/C	21	22	23	24	25	26	
Topic	**Geometry 2**	**Algebra 4**					
Core learning for all sets Core learning for sets 1-2	**See above**	**Coordinates and plotting**	**Linear graphs**	**Using graphs**			EASTER
Extension/ Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment		**Progress Check**			**Progress Check**		

Maths Long Term Plan Year 8

Courage Term

W/C	27	28	29	30	31	31	
Topic	Algebra 4	Proportional Reasoning 2					
Core learning for all sets Core learning for sets 1-2	See above	FDP Equivalence		Percentages as operators		Repeated proportional change	
Extension/ Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment		Progress Check			Progress Check		
W/C	32	33	34	35	36	37	
Topic	**Proportional Reasoning 2**	**Statistics 2**					
Core learning for all sets Core learning for sets 1-2	**See above**	**Set notation and Venn diagrams**		**Single events**		**Combined events**	
Extension/ Challenge: Open middle, goal free, exam questions, "by example", SSDD are good resources but always choose problems based on the current topic.							
Assessment	KS3 Internal Exams				**Progress Check**		

HALF TERM

SUMMER