SUBJECT: Mathematics Year 7 2019 2020

Topic	Autumn Term 1 (8 weeks)	Autumn Term 2 (7 weeks)
	Classroom expectations (1 week) 1. **Numbers and the number system (3 weeks)** • use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor and lowest common multiple • use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 • Recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions 2. **Calculating (2 weeks)** • understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals) • apply the four operations, including formal written methods, to integers and decimals • use conventional notation for priority of operations, including brackets • recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions) 3. **Checking (2 weeks)** • round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) • estimate answers; check calculations using approximation and estimation, including answers obtained using technology	4. **Counting and comparing (2 weeks)** • round numbers and measures to an appropriate degree of accuracy (e.g. to a specified number of decimal places or significant figures) • estimate answers; check calculations using approximation and estimation, including answers obtained using technology • recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions) 5. **Visualising (2 weeks)** • order positive and negative integers, decimals and fractions • use the symbols =, ≠, <, >, ≤, ≥ 6. **Properties of shape (2 weeks)** • use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries • use the standard conventions for labelling and referring to the sides and angles of triangles • draw diagrams from written description 7. **Mathematical movement (1 week of 2)** • work with coordinates in all four quadrants

SUBJECT: Mathematics Year 7 2019 2020

Assessment	**Progress Check 1 on the following topic:** **Number and the number system (3 weeks)** **Approximate Date of Assessment Week Beginning:30/09/19** **MILESTONE 1 on the following topics:** **Numbers and the number system (3 weeks)** **Calculating (2 weeks)** **Approximate Date of Assessment Week Beginning:21/10/19**	**Progress Check 2 on the following topic:** **Checking (2 weeks)** **Counting and comparing (2 weeks)** **Approximate Date of Assessment Week Beginning:18/11/19** **MILESTONE 2 on the following topics:** **Checking (2 weeks)** **Counting and comparing (2 weeks)** **Visualising (2 weeks)** **Properties of shape (2 weeks)** **Approximate Date of Assessment Week Beginning:9/12/19**

SUBJECT: Mathematics Year 7 2019 2020

Topic	Spring Term 1 (6 weeks)	Spring Term 2 (6 weeks)

	7. **Mathematical movement (2nd week) cont.**
	
	8. **Algebraic proficiency: tinkering (3 weeks)**
	• understand and use the concepts and vocabulary of expressions, equations, formulae and terms
	• use and interpret algebraic notation, including: ab in place of a × b, 3y in place of y + y + y and 3 × y, a^2 in place of a × a, a^3 in place of a × a × a, a/b in place of a ÷ b, brackets
	• simplify and manipulate algebraic expressions by collecting like terms and multiplying a single term over a bracket
	• where appropriate, interpret simple expressions as functions with inputs and outputs
	• substitute numerical values into formulae and expressions
	  ○ use conventional notation for priority of operations, including brackets
	
	10. **Proportional reasoning (2 weeks)**
	• use ratio notation, including reduction to simplest form
	  ○ divide a given quantity into two parts in a given part:part or part:whole ratio
		11. **Patterns (1 week)**
		• generate terms of a sequence from a term-to-term rule
		
		12. **Measuring space (2 weeks)**
		• use standard units of measure and related concepts (length, area, volume/capacity, mass, time, money, etc.)
		• use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate
		• change freely between related standard units (e.g. time, length, area, volume/capacity, mass) in numerical contexts
		• measure line segments and angles in geometric figures
		
		13. **Angles (2 weeks)**
		• apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles
		
		14. **(&9)Calculating FDP and exploring FDP (1 week of)**
		• apply the four operations, including formal written methods, to simple fractions (proper and improper)

SUBJECT: Mathematics Year 7 2019 2020

Assessment	**Progress Check 3 on the following topics:** **Mathematical movement (2 weeks)** **Algebraic proficiency (3 weeks)** **Proportional reasoning (2 weeks)** **Approximate Date of Assessment Week beginning:10/02/20**	**MILESTONE 3 on the following topics:** **Mathematical movement (2 weeks)** **Algebraic proficiency (2 weeks)** **Proportional reasoning (2 weeks)** **Patterns (1 week)** **Angles (2 weeks)** **Approximate Date of Assessment Week Beginning:23/03/20**

SUBJECT: Mathematics Year 7 2019 2020

Topic	**Summer Term 1 (5 weeks)** **14. (&)Calculating FDP and exploring FDP cont (2 weeks)** **15. Solving equations (2 weeks)** • recognise and use relationships between operations, including inverse operations (e.g. cancellation to simplify calculations and expressions) • solve linear equations in one unknown algebraically **16. Calculating space (1 week of)** • use standard units of measure and related concepts (length, area, volume/capacity) • calculate perimeters of 2D shapes • know and apply formulae to calculate area of triangles, parallelograms, trapezia • *calculate surface area of cuboids* • know and apply formulae to calculate volume of cuboids • understand and use standard mathematical formulae	**Summer Term 2 (6 (+1) weeks)** **16. Calculating space (continue 1 week)** **17. Presentation of data (2 weeks)** • interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data and know their appropriate use **18. Measuring data (2 weeks)** • interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate measures of central tendency (median, mean and mode) and spread (range) **Revision and EOY assessment (1 week)**
Assessment	**Progress Check 4 on the following topics:** **Calculating and exploring FDP (3 weeks)** **Approximate Date of Assessment Week Beginning:04/05/20**	**MILESTONE 4** **End of year Exam.** **Approximate Date of Assessment Week Beginning:8/06/20**

SUBJECT: Mathematics Year 7 2019 2020

	Topic	Assessment
Autumn Term 1	Numbers and the number system (3 weeks) Calculating (2 weeks) Checking (2 weeks)	Progress check 1 wc 23/09/19 *MILESTONE 1 wc 14/10/19
Autumn Term 2	Counting and comparing (2 weeks) Visualising (2 weeks) Properties of shapes (2 weeks) Mathematical movement (1 week)	Progress check 2 wc 18/11/19 *MILESTONE 2 wc 9/12/19
Spring Term 1	Mathematical movement cont. (1 week) Algebraic proficiency (3 weeks) Proportional reasoning (2 weeks)	Progress check 3 wc 10/02/20
Spring Term 2	Patterns (1 week) Measuring space (2 weeks) Angles (2 weeks) Calculating and exploring FDP (1 week)	*MILESTONE 3 wc 23/03/20
Summer Term 1	Calculating and exploring FDP cont (2 weeks) Solving equations (2 weeks) Calculating space (1 week)	Progress check 4 wc 04/05/20
Summer Term 2	Calculating space cont (1 week) Exam (1 week) Presentation of data (2 weeks) Measuring Data (2 weeks)	*MILESTONE 4 End of Year exam wc 8/06/20

*Please note that milestones include topics from the previous progress check.