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|  |  | **Year 7** | *7 X lessons per fortnight* | |  |  | **Year 8** | *7 X lessons per fortnight* | |
|  | **Wk** | **Topic** | **Learning content** | **Assessment** |  |  | **Topic** | **Learning content** | **Assessment** |
| **Autumn** | **1**  **W/C 2nd Sept** | Place value and Proportion- Place value | -Recognise place value  -Order numbers  -Round integers  -Compare and order numbers  -Compare two numbers using =, ≠, <, >, ≤, ≥  -Find the range of a set of numbers  -Find the median of a set of numbers  -Recognise intervals on a number line  -Round any number to one significant figure (higher)  -Write positive integers in the form A x 10n (higher)  -Write 10, 100, 1000 as powers of 10 (higher)  Key vocabulary: range, median, significant figures |  |  | **1**  **W/C 2nd Sept** | Ratio and Proportion- Ratio | -Understand ratio  -Compare ratios  -dividing into a ratio  -ratio notation  -simplifying ratios  -representation of ratio (higher)  -Solve proportional problems (higher)  -Understand pi as a ratio (higher)  Key vocabulary: ratio, proportion, Pi |  |
| **2**  **W/C 9th Sept** |  | **2**  **W/C 9th Sept** |  |
| **3**  **W/C 16th Sept** | Place value topic assessment- end of topic | **3**  **W/C 16th Sept** | Ratio topic assessment- end of topic |
| **4**  **W/C 23rd Sept** | Place value and Proportion- Fractions, decimals and percentages | -Represent tenths and hundredths pictorially  -Understand percentage on a hundred square  -Convert fractions, decimals and percentages  -Identify and use equivalent fractions  -Represent fractions as a diagram  -Understand fractions as division  -Use and interpret pie charts (higher)  -Explore fractions above one, decimals and percentages equivalences (higher) Interchange between fractional and decimal number lines (higher)  Key vocabulary: fractions, decimals, percentages |  | **4**  **W/C 23rd Sept** | Ratio and Proportion- Multiplicative change | -Explore graphs  -Convert between currencies  -Similar shapes  -Draw scale diagrams  -Interpret maps  -direct proportion (higher)  -Explore direct proportion graphs (higher)  -Understand scale factor (higher)  Key vocabulary: currencies, scale, similar |  |
| **5**  **W/C 30th Sept** |  | **5**  **W/C 30th Sept** |  |
| **6**  **W/C 7th Oct** | Fraction, decimals and percentage topic assessment- end of topic | **6**  **W/C 7th Oct** | Multiplicative change topic assessment- end of topic |
| **7**  **W/C 14th Oct** | Algebra- sequences | -Describe sequences  -Continue sequences  -Predict next terms  -Explain the term-to-term rule  -Understand sequences in a table and graphically (higher)  Key vocabulary: sequence, linear, term |  | **7**  **W/C 14th Oct** | Ratio and Proportion- Multiplying and dividing fractions | - Understand fractions  -Represent fractions pictorially  -Find the product of a pair of unit fractions  -Divide a fraction by an integer  - Multiply a fraction by an integer  -Multiply and divide improper and mixed fractions (higher)  -Multiply and divide algebraic fractions (higher)  -Understand and use the reciprocal (higher)  Key vocabulary: product, reciprocal |  |
| **8**  **W/C 21st Oct** |  | **8**  **W/C 21st Oct** | Multiplying and dividing fractions topic assessment- end of topic |
| **9**  **W/C 4th Nov** | Sequences topic assessment- end of topic | **9**  **W/C 4th Nov** | Statistics- Cartesian plane | -coordinates in all four quadrants  -Identify and draw lines that are parallel with the axes  -Explore gradients  -Recognise and use the line y = x  -Solve problems involving graphs  -Link graphs to linear sequences (higher)  -Recognise and use lines in the forms; y=x+a, y=Kx (higher)  -Explore negative gradients (higher)  Key vocabulary: axes, linear, gradient |  |
| **10**  **W/C 11th Nov** | Algebra- notation | -Work with inputs and outputs  -Use inverse operations  -Substitute values into single operation expressions and two step (higher)  -Work with two-step function machines  -Represent one- and two-step functions graphically  -Solve some one-step equations using the inverse  -Generate sequences when given the algebraic rule (Higher)  -Solve one-step linear equations with all operations (higher)  -Simplify like terms (higher)  -Understand the meaning of equality (higher)  Key vocabulary: function, simplify, equality |  | **10**  **W/C 11th Nov** |  |
| **11**  **W/C 18th Nov** |  | **11**  **W/C 18th Nov** | Cartesian plane topic assessment- end of topic |
| **12**  **W/C 25th Nov** |  | **12**  **W/C 25th Nov** | Statistics- Data and Probability | - Draw and interpret scatter graphs  -Understand and describe a linear correlation  -Draw and use a line of bets fit  -Identify different types of data  -Read frequency tables  -Construct and interpret two-way tables  -Find simple probabilities  -Find probabilities from sample space, two-way tables, and Venn diagrams (higher)  -Use the product rule for finding total outcomes (higher)  Key vocabulary: correlation, sample space |  |
| **13**  **W/C 2nd Dec** | **Autumn assessments**  Algebra notation topic assessment- end of topic | **13**  **W/C 2nd Dec** | **Autumn assessments** |
| **14**  **W/C 9th Dec**  **15**  **W/C 16th Dec** | Consolidation lessons for the term topics | Teachers will cover areas for development identified in the Autumn Term. |  | **14**  **W/C 9th Dec**  **15**  **W/C 16th Dec** |  | Data and probability topic assessment- end of topic |
| Consolidation lessons for the term topics | Teachers will cover areas for development identified in the Autumn Term. |
| **Spring**  **Summer** | **1**  **W/C 6th Jan** | Number – Addition and subtraction | * Use formal methods for addition and subtraction * Use formal methods for adding and subtracting decimals * Choose the most appropriate method: mental strategies, formal written or calculator * Solve financial maths problems * Solve problems with frequency trees (higher) * Solve problems with bar charts and line charts * Add and subtract numbers given in standard form (higher) * Solve problems in the context of perimeter   Key vocabulary: integer, column, inverse |  | **1**  **W/C 6th Jan** | Algebra – equations | * Form algebraic expressions * Use directed number with algebra * Multiply out a single bracket * Factorise into a single bracket * Expand multiple single brackets and simplify * Expand a pair of binomials (higher) * Solve equations, including with brackets * Form and solve equations with brackets * Understand and solve simple inequalities * Form and solve inequalities * Solve equations and inequalities with unknowns on both sides (higher) * Identify and use formulae, expressions, identities and equations   Key vocabulary: inequality, expression |  |
| **2**  **W/C 13th Jan** | Addition and subtraction topic assessment – end of topic | **2**  **W/C 13th Jan** |  |
| **3**  **W/C 20th Jan** | Number – multiplying and dividing | * Determine the properties of multiplication and division * Understand and use factors and multiples * Multiply and divide integers and decimals by powers of 10 * Multiply by 0.1 and 0.01 (higher) * Convert metric units * Use formal methods to multiply integers and also decimals * Use formal methods to divide integers, and also decimals * Solve problems using the area of rectangles and parallelograms * Solve problems using the area of triangles * Solve problems using the area of trapezia (higher) * Solve problems using the mean * Explore multiplication and division in algebraic expressions (higher)   Key vocabulary: powers, roots, metric |  | **3**  **W/C 20th Jan** |  |
| **4**  **W/C 27th Jan** |  | **4**  **W/C 27th Jan** | Equations topic assessment - end of topic |
| **5**  **W/C 3rd Feb** | Multiplying and dividing topic assessment – end of topic | **5**  **W/C 3rd Feb** | Algebra – sequences and indices | * Generate sequences given a rule in words or a simple algebraic rule * Find the rule for the nth term of a linear sequence (higher) * Adding and subtracting expressions with indices * Simplifying algebraic expressions by multiplying indices * Simplifying algebraic expressions by dividing indices * Using the addition and subtraction law for indices * Exploring powers of powers (H)   Key vocabulary: rule, law, term |  |
| **6**  **W/C 10th Feb** | Number - Directed number | * Understand and use representations of directed numbers * Order directed numbers using lines and appropriate symbols * Perform calculations that cross zero * Add and subtract directed numbers * Multiply and divide directed numbers * Use a calculator when working with directed numbers * Evaluate algebraic expressions with directed numbers * Two-step equations (higher) * Use the order or operations with directed numbers * Understand roots of positive numbers (higher) * Explore higher powers and roots (higher)   Key vocabulary: negative, roots, positive |  | **6**  **W/C 10th Feb** | Sequences topic assessment - end of topic |
| **7**  **W/C 24th Feb** | Directed numbers topic assessment – end of topic | **7**  **W/C 24th Feb** | Number – fractions | * Convert fluently between key fractions decimals and percentages * Calculate key fractions, decimals and percentages of an amount without a calculator * Calculate fractions, decimals and percentages of an amount using calculator methods * Convert between decimals and percentages greater than 100% * Percentage decrease with a multiplier * Calculate percentage increase and decrease using a multiplier * Express one number as a fraction or a percentage of another without a calculator * Express one number as a fraction or a percentage of another using calculator   Key vocabulary: convert, equivalent, increase, decrease, inverse |  |
| **8**  **W/C 3rd Mar** | FDP – fractions and percentages of amounts | * Use a given fraction to find the whole and/or other fractions * Find a percentage of a given amount using mental methods and a calculator * Solve problems with fractions greater than 1 and percentages greater than 100% (higher)   Key vocabulary: divide, fraction, percentage, equivalent |  | **8**  **W/C 3rd Mar** |  |
| **9**  **W/C 10th Mar** | Fractions and percentages of amounts topic assessment - end of topic | **9**  **W/C 10th Mar** | Fractions topic assessment - end of topic |
| **10**  **W/C 17th Mar** | FDP – adding and subtracting fractions | * Convert between mixed numbers and fractions * Add and subtract fractions with the same denominator * Understand and use equivalent fractions * Add and subtract fractions where denominators share a simple common multiple * Add and subtract improper fractions and mixed numbers * Use fractions in algebraic contexts (higher) * Add and subtract simple algebraic fractions (higher)   Key vocabulary: convert, simplify, improper |  | **10**  **W/C 17th Mar** | Number - Index form (higher)  Number – consolidation (foundation) | Index form:   * Investigate negative powers of 10 * Work with numbers between 0 and 1 in standard form * Compare and order numbers in standard form * Add, subtract, multiply and divide numbers in standard form * Understand and use negative and fractional indices   Key vocabulary: power, standard form  Consolidation:  - Use the formal written methods for the four operations  - Understand explicitly the order of operations  - Work with directed numbers and decimals  Key vocabulary: indices, negative, operations |  |
| Index form  Or Consolidation topic assessment - end of topic |
| **Summer** | **1**  **W/C 24th Mar** | **Spring assessments** | **1**  **W/C 24th Mar** | Geometry – angles | * Understand and use basic angle rules and notation * Investigate angles between parallel lines and the transversal * Identify and calculate with alternate and corresponding angles * Constructions triangles and special quadrilaterals * Investigate the properties of special quadrilaterals * Identify and calculate with sides and angles in special quadrilaterals * Understand and use the properties of diagonals of quadrilaterals * Understand and use the sum of exterior and interior angles of any polygon * Prove simple geometric facts (higher) * Construct an angle bisector (higher) * Construct a perpendicular bisector of a line segment (higher)   Key vocabulary: properties, parallel, perpendicular | **Spring assessments** |
| **2**  **W/C 31st Mar** | Adding and subtracting fractions topic assessment – end of topic | **2**  **W/C 31st Mar** |  |
| **3**  **W/C 7th April** | Geometry – constructions | * Understand and use letter and labelling conventions including those for geometric figures * Draw and measure line segments including geometric figures * Draw and measure angles up to 360° * Identify perpendicular and parallel lines * Recognise types of triangles and quadrilaterals * Identify polygons up to decagon * Construct triangles using SSS, SAS and ASA (higher) * Construct more complex polygons (higher) * Interpret pie charts * Draw pie charts   Key vocabulary: angle, parallel, measure |  | **3**  **W/C 7th April** | Angles topic assessment – end of topic |
| **4**  **W/C 28th April** |  | **4**  **W/C 28th April** | Geometry – area | * Calculate the area of triangles, rectangles, parallelograms and trapeziums * Calculate the perimeter and area of compound shapes * Investigate the area of a circle * Calculate the area of a circle and parts of a circle without a calculator * Calculate the area of a circle and parts of a circle with a calculator |  |
| **5**  **W/C 5th May** | Constructions topic assessment – end of topic | **5**  **W/C 5th May** | Area topic assessment – end of topic |
| **6**  **W/C 12th May** | Geometry – angles | * Understand and use the sum of angles, at a point and on a straight line * Understand and use the equality of vertically opposite angles * Know and apply the sum of angles in a triangle * Know and apply the sum of angles in a quadrilateral * Solve angle problems using properties of triangles and quadrilaterals * Find and use the angle sum of any polygon (higher) * Investigate angles in parallel lines (higher) * Understand and use parallel line angles rules (higher)   Key vocabulary: bisect, angle, opposite |  | **6**  **W/C 12th May** | Geometry – transformation | * Recognise line symmetry * Reflect a shape in a horizontal or vertical line * Reflect a shape in a diagonal line   Key vocabulary: symmetry, horizontal, vertical, reflection | Transformation topic assessment – end of topic |
| **7**  **W/C 19th May** |  | **7**  **W/C 19th May** | Data reasoning – handling and measures | * Set up a statistical enquiry * Design and criticise questionnaires * Draw and interpret pictograms, bar charts and vertical line charts * Draw and interpret multiple bar charts * Draw and interpret pie charts * Draw and interpret line graphs * Choose the most appropriate diagram for given set of data * Represent and interpret grouped quantitative data * Find and interpret the range * Compare distributions using charts * Identify misleading graphs * Understand and use the mean, median and mode * Choose the most appropriate average * Find the mean from an ungrouped frequency table (higher) * Find the mean from a grouped frequency table (higher) * Identify outliers * Compare distributions using averages and the range   Key vocabulary: average, data, interpret |  |
| **8**  **W/C 2nd June** | Angles topic assessment – end of topic | **8**  **W/C 2nd June** |  |
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| **9**  **W/C 9th June** | Number 2 – probability | * Identify and represent sets * Interpret and create Venn diagrams * Understand and use the intersection of sets * Understand and use the union of sets * Understand and use the complement of a set (higher) * Know and use the vocabulary of probability * Generate sample spaces for single events * Calculate the probability of a single event * Understand and use the probability scale * Know that the sum of probabilities for all possible outcomes is 1   Key vocabulary: chance, outcome, event | **GL assessment fortnight** | **9 W/C 9th June** | **GL assessment fortnight** |
| **10**  **W/C 16th June** | **GL assessment fortnight** | **10**  **W/C 16th June** | **GL assessment fortnight**  Handling and measures topic assessment – end of topic |
| **11**  **W/C 23rd June** |  | **11**  **W/C 23rd June** | Data reasoning – measures of location | * Compare distributions using averages and the range * Identify outliers * Find the mean from grouped and ungrouped frequency tables * Choose the most appropriate average * Understand and use mean, median and mode |  |
| **12**  **W/C 30th June** | Probability topic assessment – end of topic | **12**  **W/C 30th June** | Measures of location topic assessment – end of topic |
| **13**  **W/C 7th July** | Number 2 – primes  Consolidation lessons for the term topics | * Identify factors of numbers and expressions * Recognise and identify prime numbers * Recognise square and triangular numbers * Find common factors of a set of numbers including the HCF * Find common multiples of a set of numbers including the LCM * Write a number as a product of its prime factors * Use a Venn diagram to calculate the HCF and LCM (higher) * Make and test conjectures * Use counter examples to disprove a conjecture   Key vocabulary: union, intersection, complement, difference  Once completed all topics, teachers will cover areas for development identified in the summer |  | **13**  **W/C 7th July** | Consolidation lessons for the term topics | Once completed all topics, teachers will cover areas for development identified in the Summer Term. |  |
| **14**  **W/C 14th July** | Primes topic assessment – end of topic |  | **14**  **W/C 14th July** |  |  |