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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 formConsolidation:- Use the formal written methods for the four operations- Understand explicitly the order of operations- Work with directed numbers and decimalsKey vocabulary: indices, negative, operations |  |
| Index formOr 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** |  |
|  |
| **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 – primesConsolidation 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, differenceOnce 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** |  |  |