**Year 9 Weekly Topic Overview**

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| **Week** | **Topic** | **Assessment & LL’s** |
| 1 | **F:**  Squares, roots and cubes  Divisibility tests and prime numbers  Factors, Multiples, Primes, HCF, LCM and using Venn Diagrams |  |
| **H:**  Factors, Multiples, Primes, HCF, LCM and using Venn Diagrams  Nth term formulae – linear and quadratic |  |
| 2 | **F:**  Sequences – finding and using nth term rules  Rules of indices |  |
| **H:**  Using and finding Nth term formulae (linear and quadratic)  Rules of indices  Direct & Indirect Proportion (set 1 only). |  |
| 3 | **F:**  Averages from a list and table  Stem and leaf diagrams  Compare using averages | Mixed Homework sheet 2 – Learning Landmark 1 |
| **H:**  Scatter graphs  Averages from a list and table | Mixed Homework sheet 2 – Learning Landmark 1 |
| 4 | **F:**  Two- way tables  Pie charts  Scatter graphs and correlation |  |
| **H:**  Stem and Leaf diagrams  Compare using averages  Cumulative Frequency |  |
| 5 | **F:**  Revision, assessment & response  Percentage of amounts (non-calc) | Test 1 Learning Landmark 2 |
| **H:**  Revision, assessment & response | Test 1 Learning Landmark 2 |
| 6 | **F:**  Scatter graphs and correlation  Simplifying fractions and fractions of amounts  Converting between mixed numbers and improper fractions, multiplying, dividing, adding and subtracting fractions |  |
| **H:**  Box plots  Recap lesson of averages, cumulative frequency and box plot  Problem solving  Mixed number – improper fraction with adding and subtracting fractions |  |
| 7 | **F:**  Decimal multipliers including increase and decrease  Number as % of number, percentage change  Compound interest and depreciation  FDP conversions and ordering. |  |
| **H:**  Multiplying and dividing fractions  Algebraic fractions  Percentages - non-calculator, decimal multiplier and increase/decrease using a multiplier |  |
| Half Term | | |
| 8 | **F:**  Simplifying ratios and converting between a ratio and fraction  Sharing in a ratio  Ratio when given one value or given difference  Problem solving | Mixed Homework sheet 5 – Learning Landmark 3 |
| **H:**  Percentages – one number as a percentage of another, percentage change, reverse percentages and compound percentage change  Simplifying and sharing in a ratio | Mixed Homework sheet 5 – Learning Landmark 3 |
| 9 | **F:**  Simplifying expressions by collecting like terms  Expand single and double brackets  Factorising linear expressions |  |
| **H:**  Ratio when given one value or given difference.  Solve linear equations  Simultaneous equations |  |
| 10 | **F:**  Solve simple equations, equations with unknowns on both sides and equations with brackets  Substitution with positive and negative numbers |  |
| **H:**  Simultaneous Equations  Inequalities  Change the subject of a formula  Problem solving |  |
| 11 | **F:**  Revision, assessment & response  Substitution involving negatives | Test 2  Learning Landmark 4 |
| **H:**  Revision, assessment & response  Pythagoras theorem | Test 2  Learning Landmark 4 |
| 12 | **F:**  Revision, assessment & response  Angles -name, measure, estimate and draw angles, basic angle facts and angles in parallel lines. |  |
| **H:**  Pythagoras theorem and Trigonometry  Review angle facts and angles in parallel lines |  |
| 13 | **F:**  Angles in polygons investigation  Regular polygons and calculating missing angles  Compass constructions |  |
| **H:**  Angles in polygons  Compass constructions |  |
| 14 | **F:**  Problem solving  Getting to know your calculator |  |
| **H:**  Loci  Similar triangles |  |
| Christmas | | |
| 15 | **F:**  Rounding to decimal places, sig fig and estimation  Metric and imperial conversions | Spring Mixed Homework sheet 1 – Learning Landmark 5 |
| **H:**  Four operations with negative numbers & substitution into a formula  Intermediate maths challenge (2003) | Spring Mixed Homework sheet 1 – Learning Landmark 5 |
| 16 | **F:**  Area of basic and compound shapes  Area and circumference of a circle |  |
| **H:**  Rounding to decimal places, sig fig and estimation  Getting to know your calculator  Error bounds  Converting between ordinary numbers and standard form |  |
| 17 | **F:**  Volume of cuboids and prisms  Surface area  Conversion between units of area and volume. |  |
| H:  Standard form - calculations  Recap negative powers and focus on fractional powers  Area of triangle, parallelogram, trapezium and compound shapes  Circumference and area of a circle |  |
| 18 | Revision, assessment & response  **F:** Problem solving  **H:** Intermediate Maths Challenge 2004 | Year 9 spring exam – P1 Non-calculator - Learning Landmark 6 |
| 19 | **F:**  Coordinate and coordinate problems  Y= and x = lines and plotting simple equations  Plotting using a table of value - gradients and intercepts |  |
| **H:**  Area and perimeter of compound shapes involving circles  Sector area and arc length  Volume of a prism  Volume of a cone, pyramid and sphere (set 1&2) |  |
| 20 | **F:**  Exploring graphs on a computer  Basic probability, not happening, sum to 1. Sample space diagrams  Relative frequency and expected outcomes |  |
| **H:**  Surface area, Mass Density Volume, Speed Distance Time. Problem solving |  |
| Half Term | | |
| 21 | **F:**  Completing Venn diagrams and calculating probabilities  Transformations -translations, reflections and rotations |  |
| **H:**  Straight line graphs – plotting, exploring, gradients and finding equations of lines when given a line or points. |  |
| 22 | **F:**  Enlargements, including finding the centre of enlargement  Describing as single transformation  Recap of expanding and simplifying |  |
| **H:**  Y= mx+c and rearranging equations into the form y=mx+c  Mutually exclusive and independent events – addition and multiplication rules  Probability tree diagrams and using tree diagrams to find probabilities |  |
| 23 | Revision, assessment & response  **F:** Recap linear factorising then start factorising quadratics when a = 1  **H:** Venn diagrams, set notation and probabilities | **Year 9 spring exams – P2 Non-calculator - Learning Landmark 7** |
| 24 | **F:**  Recap of averages and ungrouped table and comparisons.  Estimated mean  Drawing bar graphs for discrete and continuous  Dual and compound bar charts |  |
| **H:**  Transformations -translations, reflections and rotations  Enlarge 2D shapes, given a centre of enlargement and integer or fractional scale factor, positive or negative  Describe the single transformation |  |
| 25 | **F:**  Recap stem and leaf diagrams.  Properties of 2D and 3D shapes  Plans and elevations, and isometric drawings  Recap all things area inc. circles and compound | **Spring Mixed Homework sheet 15 –** **Learning Landmark 8** |
| **H**:  Recap of expanding and factorising with single brackets.  Expand double brackets including squared brackets  Factorise and quadratic equations where a=1 and where a>1 | Spring Mixed Homework sheet 7/8 – Learning Landmark 8 |
| 26 | **F:**  Revise all things volume  Problem solving  Pythagoras |  |
| **H:**  Plans & elevations  Drawing 3D shapes on isometric paper  Surface area and volume of prisms – including working backwards to find missing lengths |  |
| Easter | | |
| 27 | **F:**  Pythagoras applied questions  Recap powers, roots and basic rules of indices, 0 and negative indices  Frequency polygons |  |
| **H:**  Surface area and volumes of spheres, cones & pyramids – give answers in terms of π and as a decimal. Include working backwards to find missing lengths. |  |
| 28 | **F and H:**  Revision & assessment  Assessment response  Magic squares | Year 9 Summer exams – P1 Calculator – Learning Landmark 9 |
| 29 | **F:**  Recap pie charts & line graphs  Calculations involving time and timetables. Speed time graphs |  |
| **H:**  Pythagoras and Trig – right angled triangles  Non right angled triangles: Sine rule, Cosine rule and Area of a triangle using ½ absinC |  |
| 30 | **F:**  Plotting curved graphs  Ratio recap  Proportion, including best buys, and recipes | Summer Mixed Homework sheet 17 - Learning Landmark 10 |
| **H:**  Use trigonometry to solve problems in 2D and 3D.  Practical activities on Pythagoras and Trigonometry. | Summer Mixed Homework sheet 2/3 - Learning Landmark 10 |
| 31 | **F:**  Review of percentages including decimal multipliers, compound percentage change,  one number as a percentage of another, percentage change, and reverse percentages |  |
| **H:**  Review of all rules of indices  Intermediate Maths Challenge (2005)  Misleading graphs |  |
| Half Term | | |
| 32 | **F:**  Review of all percentage  Recap solving equations  Forming expressions & forming and solving equations |  |
| **H:**  Histograms including frequency density  Linear graphs recap – gradient and intercept  Graphs of quadratic and cubic functions |  |
| 33 | **F and H:**  Revision, assessment & response  Pascals triangle | Year 9 Summer exam P2 – Learning Landmark 11 |
| 34 | **F:**  Solving simultaneous by elimination when given a match  Recap the four operations with fractions with a focus on mixed number |  |
| **H:**  Graphs of reciprocal functions  Graphing linear inequalities  Percentage increase / decrease using decimal multipliers – include finding original amount and compound interest and depreciation |  |
| 35 | **F:**  Financial literacy e.g. completing bills/statements, pay slip, VAT, mortgages and loans  Expanding and factorising review | Summer Mixed Homework sheet 7 – Learning Landmark 12 |
| **H:**  Find percentage increase / decrease given original and final amounts  Use percentages in real life situations such as compound interest, VAT and income tax, profit and loss etc  Calculate the overall impact of a number of % changes even if the original is not stated e.g. the sides of a cube are each increased by 10%, what is the overall increase in volume / surface area. | Summer Mixed Homework sheet 7 – Learning Landmark 12 |
| 36 | **F:**  Recap compass constructions. Loci  Review plans and elevations, then isometric using multilink |  |
| **H:**  Expand and simplify double brackets.  Factorise and quadratic equations (including the difference of two squares) when a=1 and when a>1  Expand the product of more than two binomials and simplify |  |
| 37 | Consolidation  End of term activity |  |