Alvaston Junior Academy

Maths Curriculum
Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
3	**Recap Y2 content** • Dependent on Y2 SATS baseline results **Number and place value** • Find 10 or 100 more or less than a given number • Read and write numbers up to 1000 in numerals and words • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • Count from 0 in multiples of 4, 8, 50 and 100 • Compare and order numbers up to 1000 • Solve number problems and practical problems involving these ideas **Addition & Subtraction** • Add and subtract numbers with up to three-digits using formal written methods of column addition and subtraction • Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction • Estimate the answer to a calculation and use inverse operations to check answers	**Addition & Subtraction** • Add and subtract numbers with up to three-digits using formal written methods of column addition and subtraction • Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction • Estimate the answer to a calculation and use inverse operations to check answers • **precise teaching sequence dependent on AfL* **Multiplication and division** • Recall and use multiplication and division facts for the 3 and 4 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to n objects	**Multiplication and division (3 weeks)** • Recall and use multiplication and division facts for the 3 and 4 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to n objects • **precise teaching sequence dependent on AfL* **Money** • Add and subtract amounts of money to give change, using both £ and p in practical contexts • **Fractions** • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 (including as decimals)	**Measurement** • Measure, compare add sub lengths – mass, volume, capacity • Perimeter 2d shapes **Money** • Add and subtract amounts of money to give change £ and p **Statistics** • Interpret and present data – bar charts, pictograms, tables • Solve one and two step questions using information in charts **ASSESSMENT PERIOD**	**Fractions** • Recognise and show equivalent fractions with small denominators • Compare and order unit fractions and fractions with same denominators • Add and subtract with same denominator • Solve problems all of above **Measurement: time** • Tell and write time in analogue using roman numerals 1 to x11, 12 and 24 hr clocks • Estimate and read time to nearest minute • Read and compare time seconds, mins and hours • Know seconds in a min and days of each month, year and leap year • Compare duration of events	**Geometry** • Recognise angles as a property of shape or description of turn • Identify right angles, recognise two right angles make half turn, 3 make ¾ and 4 complete turn • Whether angles are greater or less than a right angle • Identify horizontal and vertical lines and perpendicular and parallel lines • Draw 2d shapes and 3d shapes using modelling equipment • Recognise 3d shapes in different orientations and describe them **Measurement:** • Measure, compare add and subtract lengths (m, cm, mm,) • Mass (kg,g) volume/capacity (l,ml) **Consolidation based on AFL** **ASSESSMENT PERIOD**

4	**Number/place value/rounding:** Recognising value of each digit in a 4 digit number – • Roman numerals – Read Roman numerals to 100 and know that over time the numeral system changed to understand the concept of 0 and place value. • 1000 more, 1000 less – • Rounding to 10 – • Round to 100 – • Rounding to 1000 / reasoning • Rounding to 10, 100, 1000 / reasoning and problem solving • Order and compare numbers beyond 1000 • Order numbers – • Compare numbers – • Counting in sequences – adding in 25s, 50s, 100s • Negative numbers **Add and subtract numbers up to 4 digits:** • Addition of numbers • Addition – with exchanging • subtraction – with exchanging • estimate and inverse • 2 step problems • Multiply and divide by 10 and 100 • Multiply and divide by 10 and 100 • Multiplication strategies, including word problems	**Multiplication and division** • - Multiply together 3 numbers • Factor pairs **Fractions and decimals** • - Recognise and show, using diagrams, • equivalent fractions and counting in fractions • – add and subtract fractions • – fractions of amounts **Multiplication and Division** • column multiplication • – divide 2 digits by one digit,	**Multiplication and Division** • Correspondence problems **Measurement** • Converting measures • Length and Perimeter • Area **Fractions** • Subtracting fractions from whole amounts • Counting up down in hundredths and tenths **Decimals** • Decimal equivalents of tenths and hundredths • Recognise and write decimal equivalent of ½, ¼, ¾ • Round decimals with 1 decimal point to the nearest whole compare numbers with the same no of decimal points	**Statistics** • Interpret data from graphs, bar charts and pictograms • Solve comparison, sum and difference problems • Collect and present data using appropriate graphical methods **Multiplication** • AP2 and Recall multiplication and division facts for up to 12 x 12- • Recall multiplication and division facts for up to 12 x 12	**Geometry** • Compare and classify shapes based on property and size# • Identify acute and obtuse angles • Order angles by size • Identify lines of symmetry in 2d shapes • Complete symmetry in pre drawn shapes • Describe position using co-ordinates • Describe movements L/R up/down • Plot points to draw a polygon	**Geometry** • Compare and classify shapes based on property and size# • Identify acute and obtuse angles • Order angles by size • Identify lines of symmetry in 2d shapes • Complete symmetry in pre drawn shapes • Describe position using co-ordinates • Describe movements L/R up/down • Plot points to draw a polygon **Measurement** • Estimate , compare and calculate in £ and p • Estimate , compare and calculate in £ and p • Read and write time in 24hr analogue clock • Read and write time on a digital clock • Compare time on 12/24hr analogue <-> digital • Solve problems converting time/ days • Solve problems converting time/ days • AP 3/ Consolidation of all skills

5	**Place Value** **Number/place value/rounding** • Read/write/order to 1,000,000 • Roman numerals up to 1000 • Rounding to the nearest 10, 100 and 1000 • Negative numbers • Counting in 10s, 100s, 1000s, 10,000s, 100,000s **Addition & Subtraction** • Addition and subtraction with more than 4 digits • Rounding to estimate and approximate • Inverse operations • Multi-step problems **Statistics** • Read, draw and interpret line graphs • Use line graphs to solve problems • Read and interpret tables	**Multiplication and division** • Multiples • Factors and common factors • Prime numbers • Squared and Cubed numbers • Multiplying and dividing by 10, 100 and 1000 • Multiples of 10, 100 and 1000 **Fractions** • Equivalent fractions • Adding fractions • Improper and mixed fractions **Perimeter and area** • Measure and calculate perimeter • Find unknown lengths • Area of rectangles • Area of compound shapes	**Multiplication and division** • Multiply 2x2, 3x2, 4x2 • Divide 4 digits by 1 with remainders **Fractions** • Number sequencing • Comparing and ordering • Adding and subtracting mixed numbers	**Fraction Consolidation** **Decimals and percentages** 2 decimal places • Decimals to fractions • Thousandths Rounding decimals Ordering and comparing • Percentages • Equivalent FDP **Place Value and Rounding** • Consolidation • Rounding to the nearest 10, 100 and 1000 • Read/write/order to 1,000,000 • Roman numerals up to 1000	**Decimals** • Adding and subtracting decimals • Decimal sequencing • Multiplying and dividing decimals by 10, 100 and 1000 • Compliments to 1 **Converting units** • kg, km, mg, ml	**Properties of shape** • Measuring with a protractor • Drawing lines and angles • Calculating angles on a straight line and around a point • Lengths and angles in shapes • Regular and irregular polygons • Reasoning about 3-D shapes **Position and direction:** • Reflection and translation with coordinates

6	**Number/placevalue/rounding:** • Read/write/order + compare to 10,000,000 • round any whole number • negative numbers across 0 **Addition & Subtraction:** • mental calculations with mixed operation • Order of operations simple BIDMAS (4 operations) **** • Multi-step problems (methods/strategies needed) • Estimation to check answers **Multiplication and division** • multiply 4 digit by 2 digit formal written method • divide 4 by 2 digit formal written method in remainders (rounding, whole and fractions) Long/short method to be decided • Mental calculations • Factors/multiples and primes • BIDMAS • Estimation to check answers	**Fractions** • Factors to simplify and multiples to equivalent • Compare and order fraction inc. > • Add and subtract fractions with different denominators and mixed numbers • multiply simple pairs of proper fractions • write in simplest form (cancelling) • divide fractions by whole numbers **Geometry – Position and Direction** • describe on the full all-four quadrants coordinate grid • draw and translate shapes on the coordinate plane and reflect them in the axis.	**Decimal Numbers** • understand the relationship between fractions and decimals • identify the value of each digit in numbers with up to 3 decimal places • multiply and divide by 10, 100 and 100 giving answers to three decimal places (depending on arithmetic) • multiply 1-digit numbers with up to 2 decimal places by whole numbers • use written division methods where the answers has an answer with up to two decimal places • recall the equivalences between fractions, decimals and percentages **Percentages** • find percentages of amounts • recall the equivalences between fractions, decimals and percentages **Measures** • convert between metric measure • length, mass, volume and time • record that shapes with diff areas can have the same perimeter • use formula • areas of parallelograms and triangles • Volumes of cubes and cuboids	**R Revision and remaining coverage ½ and ½** • Lessons to be split into 2 30 min chunks • 30 Mins on remain coverage and 30 mins on revision (test related) **Measures area/perim/vol (approx. 2x weeks of 30mins sessions)** • record that shapes with diff areas can have the same perimeter • use formula • areas of parallelograms and triangles • Volumes of cubes and cuboids **Statistics (approx. 1x weeks of 30mins sessions)** • Interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean of a set of data as an average **Shape (approx. 1x weeks of 30mins sessions)** • draw 2d shapes with given angles • recognise/describe 3d shapes • compare and classify shapes • unknown angles • circle (radius, diameter, circumference • angles around a point **Algebra (approx. 2/3 days of 30mins sessions)** • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy number sentences **Ratio (approx. 2/3 days of 30mins sessions)** • *simple formulae	**Full time revision (3 WEEKS TO SATS)** • To include chunked lessons • To set between 4/5 teachers (Focussed) • CGP revision guides to be utilised along side Collins revision question books • Test technique • Test example questions • Arithmetic • Revision/question guides **SATS WEEK**	**Consolidation** To be confirmed USING AFL form SATS data **VIRGIN BUSINESS PROJECT**

				• *number sequences • *missing number probs algebraically • *completing equations **Full time revision (1 to 2 weeks) (as soon as ½ ½ cov/revision finished)** • *To include chunky lessons • *To set between 4/5 teachers (Focussed) • *Test technique • *Test example questions • *Arithmetic • *Revision/question guides (purchased)		