Garden Suburb Junior School Mathematics Curriculum Overview 2021-2022 Year Group: 6

Our Mathematics curriculum aims to ensure all pupils:

- Our Maths curriculum aims to ensure that all pupils:
- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

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	Autumn 1		Autumn 2
Weeks 2-3 Place Value	To read and write seven-digit numbers To identify the value of each digit in a seven-digit number To use the value of the digits to compare and order numbers To round any whole number to the required degree of accuracy To perform mental calculations, including with mixed operations and large numbers To use negative numbers in context, and calculate intervals across zero To use and apply place value knowledge to solve problems-assessment task To understand and use Roman numerals	Weeks 1-2 Fractions	To use common factors to simplify fractions To use common multiples to express fractions in the same denomination To compare and order fractions To generate and describe linear number sequences (with fractions) To add fractions with different denominations and mixed numbers, using the concept of equivalent fractions To add fractions using part- whole models and bar models To subtract fractions using the concept of equivalent fractions To use addition and subtraction of fractions to solve problems
Weeks 4-5 Addition and Subtraction	To add a multiple of 10, 100 or 1000, 10 000, 100 000 from a six- or seven-digit number To add six- seven-digit numbers using the formal written method of columnar addition To add numbers with up to two decimal places using the formal written method of columnar addition To practise addition for larger numbers, including both mental and written methods To subtract a multiple of 10, 100 or 1000, 10 000, 100 000 from an even six- or seven-digit number To subtract six- seven-digit numbers using the formal written method of columnar subtraction To subtract numbers with up to two decimal places using the formal written method of columnar subtraction To practise subtraction for larger numbers, including both mental and written methods	Weeks 3-4 Fractions	To multiply fractions by whole numbers, writing the answer in its simplest form To multiply fractions by fractions, writing answers in the simplest form To divide proper fractions by whole numbers To use four operations with fractions To work out fractions of an amount To find the whole amount from a fraction To solve problems that involve adding, subtracting, multiplying and dividing fractions
Weeks 6-8 Multiplication and division	To identify common factors and common multiples To recognise prime and square numbers To make a reasonable estimate of the answer to a calculation and use this to check the answer To use a written method to calculate multiplication of TO x TO To use a written method to calculate multiplication of HTO × TO To use a written method to calculate multiplication of ThHTO x O To use the formal written method of short division to calculate ThHTO ÷ 0, ThHTO ÷ 11 and ThHTO ÷ 12 To use factors to solve division calculations To use the formal written method of short division To use and apply knowledge of four operations to solve problems	Week 5 Prime, square and cube numbers BODMAS	To use their knowledge of the order of operations to carry out calculations involving the four operations To use BODMAS to solve problems
		Week 6 Geometry- position and direction consolidation	To describe positions on the full coordinate grid (all four quadrants) To draw and translate simple shapes on the coordinate plane To reflect shapes across the axes

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	Spring 1		Spring 2
Weeks 1-2 Decimals	To identify the value of each digit in numbers given to 3 decimal places To multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. To divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. To multiply 1 digit numbers with up to 2 decimal places by integers. To divide numbers with up to 2 decimal places by integers. To solve problems which require answers to be rounded to specified degrees of accuracy. To recall and use equivalences between simple fractions and decimals in different contexts. To convert fractions to decimals and vice versa To be able to use division to convert fractions to decimals	Weeks 1-3 Measurement	To read, write and recognise metric measures of length, mass and capacity To convert between units of length, mass and capacity To calculate with metric measures using conversion skills To calculate and convert between units of time To solve problems with time including calculating average speed To convert between miles and kilometres To understand imperial measure and convert between metric and imperial To find and draw shapes that have the same area To be able to calculate the area and perimeter of shapes including compound shapes To address misconceptions of reasoning papers To find the area of a triangle by counting squares To use formula to calculate the area of a right angled triangle To be able to calculate the area of different triangles To calculate the area of parallelograms To count cubes to calculate volume To use formula to calculate the volume of a cuboid
Weeks 3-4 Percentages	To be able to convert fractions to percentages To be able to convert between fractions, decimals and percentages To be able to order fractions, decimals and percentages To solve problems involving the calculation of percentages To use fractions to find percentages of amounts -1% 10% 25% 50% To use fractions to find percentages of amounts- compound percentages e.g. 15%, 20% and 35% To use percentages to find missing values To understand percentage increase and decrease	Week 4 Ratio and proportion	To use correct ratio language To use the ratio symbol To recognise ratio as fractions To calculate ratio To use scale factors to draw shapes To calculate scale factors of shapes To solve ratio and proportion problems
Weeks 5-6 Algebra	To find a rule using simple formulae- one step function To find a rule using simple formulae - two step function linear equations To form expressions To substitute and express missing number problems algebraically To create formulae To form equations To solve one step equations To solve two step equations To find pairs of values – 1 To find pairs of values - 2	Week 5-6 Properties of shape and surface area	To measure with a protractor To recognise and label a range of angles To calculate angles around a point and on a straight line To calculate angles vertically opposite angles To calculate angles in a triangle To explore the interior angles of quadrilaterals To explore the interior angles of regular polygons To use knowledge of shapes and measure to draw shapes accurately To recognise 3d shapes from nets To draw nets of 3D shapes To address misconceptions of arithmetic and reasoning papers

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	Summer 1		Summer 2
Weeks 1-2 Statistics	To be able to Illustrate and name parts of circles- radius, diameter and circumference and know that the diameter is twice the radius. To be able to read and interpret pie charts To use percentages to understand pie charts To construct pie charts and use them to solve problems To be able to calculate the mean as an average. To be able to read and interpret line graphs To be able to draw line graphs To be able to interpret and construct line graphs and use them to solve problems.	Week 1-2 Money	To know that money, and ways to pay, have developed in many different forms throughout history e.g. barter, coins, notes etc To understand the history of currency and coinage To know how to managing a budget
Weeks 4-5 Mock SATs week And SATs week		Week 3-4 Investigations Amusement Park Project	To reason and problem solve using all 4 operations To be able to use the correct mathematical vocabulary for running a business To use and apply money skills to context of amusement park