WARREN PARK PRIMARY SCHOOL

YEAR 1 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Number and Place Value			Addition and Subtraction	Multiplication and Division	Fractions	Measurement				Geometry	
EYFS (ELG) – Children Who Are Level 2											
Children count reliably with numbers from 1 to 20	Place them in order 1 to 20 and	They say which number is one more or one less than a given number (to 20)	Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. (to 20)		They solve problems, including doubling, halving and sharing.	Orders two or three items by length or height using everyday language	Orders two items by weight or capacity using everyday language	Uses everyday language related to time.	Measures short periods of time in simple ways	They explore characteristics of everyday objects and shapes and use mathematical language to describe them.	
ASSESSMENT STRANDS											
Count forwards and backwards to 100 (beginning with 0 or 1, or from any given number)	Count numbers to 100 in numerals read numbers to 100 in numerals write numbers to 100 in numerals	Given a number, identify one more and one less	Represent and use number bonds and related subtraction facts within 20	Uses concrete, pictorial representations and arrays with support of the teacher to solve one step problems involving multiplication and division	Recognise, find and name a half as one of two equal parts of an object, shape or number	Compare, describe and solve practical problems for: lengths and heights long/short, longer/shorter, tall/short, double/half	Compare, describe and solve practical problems for: mass/weight heavy/light, heavier than, lighter than	Compare, describe and solve practical problems for: time time eg. Quicker, slower, earlier, later	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Recognise and name common 2-D and 3-D shapes, including: 2-D shapes rectangles (including squares), circles and triangles]	Recognise and name common 2-D and 3-D shapes, including: 3-D shapes cuboids (including cubes), pyramids and spheres

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YEAR 1 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

CURRICULUM COVERAGE											
Count in multiples of twos, fives and tens to 100 Identify and represent numbers using objects and pictorial representations (including the number line) and use the language of: equal to, more than, less than, most, least Read and write numbers from 1 to 20 in numerals and words			Read and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs Write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs Add and subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations Solve one-step missing number problems (such as 7 = – 9) using concrete objects and pictorial representations	Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher Solve one-step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Recognise, find and name a quarter as one of four equal parts of an object, shape or number	Compare, describe and solve practical problems for: capacity and volume full/empty, more than, less than, half, half full, quarter Using the language above, measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time - recognise and know the value of different denominations of coins 1p, 2p, 5p 10p, 20, 50p, £1. Sequence events in chronological order using language, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening Recognise and use language relating to dates, including days of the week, weeks, months and years			Describe position, direction and movement, including whole, half, quarter and three-quarter turns	
YEAR 1 AGE ACCOMPLISHED											

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YEAR 2 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry
ASSESSMENT STRANDS					
Count forwards and backwards in steps of 2, 3, and 5 from 0 and tens from any number Compare and order numbers from 0 up to 100 Use < > and = signs to compare and order numbers to 100 Uses place value and number facts to solve problems	Add and subtract numbers mentally, using concrete objects and pictorial representations – including quantities and measures Apply an increasing knowledge of mental and written methods Recall and use addition and subtraction facts to 20 fluently **Statistics** Ask and answer questions about totalling and comparing categorical data	Recall and use multiplication facts for the 2, 5 and 10 x tables, including recognising odd and even numbers Solve problems involving multiplication and division facts in context, using: concrete objects, arrays repeated addition mental methods	Recognises, finds, names and writes fractions 1/3, ¼, 2/4, and ¾ of a length, shapes et of objects or quantity	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Compare and sort common 2-D and 3-D shapes and everyday objects Use mathematical vocabulary to describe position, direction and movement including: movement in a straight line Distinguishing between rotation as a turn and in terms of right angles for ¼ ½ and ¾ (clockwise and anti-clockwise)
CURRICULUM COVERAGE					
Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations Read and write numbers to at least 100 in numerals Read and write numbers to at least 100 in words	Solve problems with addition which involve: T U + U , T U + TENS, T U +T U, U + U + U Solve problems with subtraction which involve: T U - U , T U - TENS, T U -T U, U – U - U Solve problems with addition and subtraction using concrete objects and pictorial representations	Recall and use division facts for the 2, 5 and 10 x tables Recognise odd and even numbers within 2, 5 and 10 x tables Write and calculate number sentences relating to the 2, 5 and 10 x tables using (×) and equals (=) signs Write and calculate number sentences relating to the 2, 5 and 10 x tables using division (÷) and equals (=) signs	Write simple fractions for example, ½ of 6 = 3 Recognise the equivalence of 2/4 and ½	Choose and use appropriate standard units to estimate and measure to the nearest appropriate unit- length/height in any direction (m/cm); - mass (kg/g); - temperature (°C); - capacity (litres/ml) Compare and order lengths, mass, volume/capacity and record results using >, < and =	Identify and describe the properties of 2-D shapes, including the number of sides and lines of symmetry Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid)

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YEAR 2 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

	Solve problems with addition and subtraction involving numbers, quantities and measures use addition and subtraction facts to 20 to derive associated facts to 100 solve missing number problems using addition and subtraction knowledge know that addition of two numbers can be done in any order and recognise the **inverse relationship** between add and subtract **Statistics** Interpret and construct: - simple **pictograms**, - **tally charts**, - **block diagrams**, - simple tables Ask and answer simple questions by counting the number of Objects in each **category** and sorting the categories by quantity	Show that multiplication of two numbers can be done in any order (**commutative**) and division of one number by another cannot		Recognise and know the value of different denominations of **coins** and **notes** 1p, 2p, 5p 10p, 20, 50p, £1. Recognise and use symbols for pounds **(£)** and pence **(p)**; combine **amounts** to make a particular value Find different combinations of coins that equal the same amounts of **money** Compare and sequence intervals of time Tell and write the time to five **minutes** and draw the hands on a **clock** face to show these times Know the number of minutes in an **hour** and the number of **hours** in a **day**	Order and arrange combinations of mathematical objects in **patterns** and **sequences**
YEAR 2 AGE ACCOMPLISHED					

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YEAR 3 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry
ASSESSMENT STRANDS					
Count from 0 in multiples of 4, 8, 50 and 100 Find 10 or 100 more or less than a given number Recognise the place value of each digit in a **three-digit number (hundreds, tens, ones)** Solves number problems and practical problems involving these	Add numbers mentally, including: H T U + U H T U + TENS H T U + HUNDREDS Subtract numbers mentally, including: H T U - U H T U - TENS H T U - HUNDREDS **Statistics** Interpret and present **data** using: - **bar charts,** - **pictograms,** - **tables**	Recall and use **multiplication** and **division** facts for the 3, 4, 8 multiplication tables	Count up and down in **tenths** Recognise that tenths arise from dividing an object into 10 equal parts and in dividing numbers or quantities by 10 Recognise, find and write fractions of a set of objects: **unit fractions** (1/2, ¼, 1/3, 1/5, 1/8) **non-unit fractions** (3/4, 6/8, 3/5) Recognise and show, using diagrams, **equivalent fractions**	**Measure, compare**, add and subtract: **lengths** (m/cm/mm); **mass** (kg/g); **volume/capacity** (l/ml) Add and subtract **amounts** of **money** to give **change**, using both £ and p in practical contexts Tell and write the time to the nearest **minute** from an **analogue clock**, including using **Roman numerals** from I to XII Tell and write the time from **12-hour and 24-hour clocks**	Identify right angles and recognise that two right angles make a **half-turn**, three make **three quarters** of a turn and four a complete turn Identify whether angles are **greater than or less than** a **right angle**
CURRICULUM COVERAGE					
Compare and order numbers up to 1000 Read and write numbers up to 1000 in numerals Read and write numbers up to 1000 in words	Add numbers with up to three digits, using **column addition** Subtract numbers with up to three digits, using **column subtraction** Solve the answer to a calculation and use **inverse operations** to check answers	Write and calculate mathematical statements for multiplication using familiar x tables: mental recall (U x U) and **long multiplication** (TU x U, HTU x U) Write and calculate mathematical statements for division U ÷ U Solve multiplication and division problems including **missing number** problems	Recognise and use fractions as numbers: Unit fractions (1/2, ¼, 1/3, 1/5, 1/8) non-unit fractions (3/4, 6/8, 3/5) Add and subtract fractions with the same **denominator** within one whole [for example, Y + U = Z] Compare and order unit fractions and fractions with the same denominators Solve fraction word problems in context	Measure the **perimeter** of simple 2-D shapes Record and compare time in terms of **seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight** Know the number of seconds in a minute and the number of days in each **month, year and leap year**	Draw 2-D shapes and make 3-D shapes using modelling materials Recognise 3-D shapes in different **orientations** and describe them Recognise angles as a property of shape or a description of a **turn/rotation** Identify **horizontal and vertical lines** and pairs of **perpendicular and parallel lines**.

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YEAR 3 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

	Solve addition and subtraction problems including missing number problems using number facts and place value **Statistics** Solve one-step and two-step questions using information presented in scaled **bar charts**, **pictograms** and tables.	Solve multiplication and division word problems in context			
YEAR 3 AGE ACCOMPLISHED					

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YEAR 4 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Measurement	Geometry
ASSESSMENT STRANDS					
Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include **negative numbers** Order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000	Add numbers with up to 4 digits using **column addition** Subtract numbers with up to 4 digits using **column subtraction** Solve and answer a calculation and use **inverse operations** to check answers **Statistics** Interpret and present **discrete and continuous data** using appropriate graphical methods, including **bar charts and time graphs**.	Recall **multiplication** and **division facts** for multiplication tables up to 12 × 12	Recognise and show, using **diagrams**, families of common **equivalent fractions** (1/2, 2/4, 3/6 etc) Count up and down in **hundredths**; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Round decimals with one decimal place to the nearest whole number Solve simple measure and money problems involving fractions and decimals to two decimal places	Convert between different units of measure (example, **kilometre to metre; hour to minute**)	Compare and classify **geometric shapes, including quadrilaterals and triangles**, based on their **properties and sizes** Identify **acute and obtuse angles** and compare and order angles up to two **right angles** by size Plot specified points and draw sides to complete a given **polygon**.
CURRICULUM COVERAGE					
Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number **(thousands, hundreds, tens, and ones)** Solve number problems that involve all of the above and with increasingly large **positive numbers**	Solve addition two-step problems in contexts, deciding which number operations and methods to use and why Solve subtraction two-step problems in contexts, deciding which number operations and methods to use and why	Recognise and identify relating multiplication and division facts in mental calculations Multiply two-digit and three-digit numbers by a one-digit number using long multiplication Solve problems involving multiplying and adding, including using the **distributive law** to multiply two digit numbers by one digit	Solve problems involving increasingly harder fractions to calculate **quantities**, and fractions to divide quantities, including **non-unit fractions** where the answer is a whole number Add and subtract fractions with the same **denominator** Recognise and write decimal equivalents of any number of tenths or hundredths	Measure and calculate the perimeter of a **rectilinear** figure (including squares) in **centimetres and metres** Find the area of **rectilinear** shapes by counting squares Estimate, compare and calculate different measures, including money in **pounds and pence**	Identify **lines of symmetry in 2-D shapes** presented in different orientations Complete a simple symmetric figure with respect to a specific **line of symmetry**. Describe positions on a 2-D grid as **coordinates** in the first quadrant Describe movements between positions as **translations** of a

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YEAR 4 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Read **Roman numerals** to 100 (I to C) and know that over time, the numeral system c Changed to include the concept of zero and place value.	**Statistics** Solve comparison, sum and difference problems using information presented in **bar charts**, **pictograms, tables and other graphs**.	Solve problems involving **integer scaling** and harder correspondence problems such as n objects are connected to m objects	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Compare and order numbers with the same number of decimal places up to two decimal places	Read, write and convert time between **analogue** and **digital** 12- and 24-hour clocks Solve problems involving converting from **hours to minutes; minutes to seconds; years to months; weeks to days.**	given unit to the left/right and up/down
YEAR 4 AGE ACCOMPLISHED					

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YEAR 5 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry
ASSESSMENT STRANDS					
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit Interpret **negative numbers** in context Count forwards and backwards with **positive** and **negative whole numbers**, including through zero	Add and subtract whole numbers with more than 4 digits using **column addition** and **subtraction** Add and subtract numbers mentally with increasingly large numbers **Statistics** Complete, read and interpret information in tables, including **timetables**	Identify multiples and **factors**, including finding all **factor pairs** of a number and **common factors** of two numbers Solve problems involving multiplication and division including using knowledge of **factors** and multiples, squares and cubes Solve problems involving multiplication and division, including **scaling** by simple fractions and problems involving simple rates	Compare and order fractions whose **denominators** are all multiples of the same number Read and write decimal numbers as fractions [for example 0.71 = 71/100 Reads, writes, orders and compares numbers with up to three decimal places. Solves problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	Convert between different units of metric measure (**kilometre/metre; centimetre/metre; centimetre/millimetre; gram/kilogram; litre/millilitre)** Measure and calculate the **perimeter** of composite **rectilinear shapes** in centimetres and metres Calculate and compare the area of rectangles and squares using standard units,**square centimetres** (cm^2) & **square metres** (m^2)	Draw given angles and measure them in **degrees** (o) Distinguish between **regular** and **irregular polygons** based on reasoning about equal sides and **angles**
CURRICULUM COVERAGE					
Count forwards or backwards in steps of powers of 10 form any given number up to 1 000 000 Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Read **Roman numerals** to 1000	Use **rounding** to check answers to calculations and determine, in the context of a problem, levels of accuracy Solve addition and subtraction **multi-step problems** in contexts, deciding which operations and **methods** to use and why	Know and use the vocabulary of **prime numbers**, **prime factors** and composite **(non-prime)** numbers Establish whether a number up to 100 is prime and recall prime numbers up to 19 Multiply numbers up to 4 digits by a one or two-digit number using **long multiplication** for two-digit numbers Multiply and divide numbers mentally drawing upon known facts	Identify, name and write **equivalent fractions** of a given fraction, represented visually, including **tenths and hundredths** Recognise mixed numbers and **improper fractions** and convert from one form to the other. Write mathematical statements > 1 as a mixed number for example (2/5 + 4/5 = 6/5 = 1 1/5)	Understand and use approximate equivalences between **metric units** and **common imperial units** such as **inches, pounds** and **pints** Applying standard units, square centimetres and square metres estimate the area of **irregular shapes** Estimate volume and capacity Solve problems involving converting between units of time	Identify 3-D shapes, including cubes & other cuboids, from 2-D representations Know angles are measured in degrees: **estimate** and compare **acute, obtuse** and **reflex angles** Identify: angles at a poin and one whole turn **(total 360o)** angles at a point on a straight line and ½ a **turn (total 180o)** other **multiples of 90o**

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YEAR 5 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

(M) and recognise years written in Roman numerals	**Statistics** Solve comparison, sum and difference problems using information presented in a **line graph**	Divide numbers up to 4 digits by a one-digit number using **short division** and interpret **remainders** appropriately for the context Multiply and divide whole numbers and those involving **decimals** by 10, 100 and 1000 Recognise and use **square numbers** and **cube numbers**, and the **notation** for squared (^{2}) and cubed (^{3}) Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Add and subtract fractions with the same **denominator** and denominators that are multiples of the same number multiply **proper fractions** and mixed numbers by whole numbers, supported by materials and **diagrams** Recognise and use thousandths and relate them to tenths, hundredths and **decimal equivalents** Round decimals with two **decimal places** to the nearest whole number and to one **decimal place** Recognise the **per cent** symbol (%) and understand that per cent relates to 'number of parts per hundred', and write **percentages** as a fraction with denominator 100, and as a decimal	Use all four operations to solve problems involving measure	Use the properties of rectangles to deduce related facts and find missing lengths and angles Identify, describe and represent the position of a shape following a **reflection** or **translation**, use the appropriate language, know that the shape has not changed
YEAR 5 AGE ACCOMPLISHED					

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YEAR 6 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Ration and Proportion	Measurement	Geometry
ASSESSMENT STRANDS						
Round any whole number to a required degree of accuracy	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate **degree of accuracy**	**Multiply** multi-digit numbers up to four digits by a 2-digit whole number using **long multiplication** Divide numbers up to four digits by a 2-digit whole number using long division, and interpret remainders as whole number **remainders**, **fractions**, or by **rounding**, as appropriate for the context Solve problems involving addition, subtraction, multiplication and division Uses estimation to check answers to calculations and determines, in the context of a problem, an appropriate degree of accuracy. **Algebra** Use simple **formulae** **Statistics** Interpret and construct **pie charts** and **line graphs** and use these to solve problems Calculate and interpret the **mean** as an **average**	Uses written division methods in cases where the answer has up to two decimal places Solves problems which require answers to be rounded to specified degrees of accuracy Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts.	Solves problems involving the calculation of percentages eg of measures and calculations such as 15 per cent of 360, and the use of percentages for comparison	Use, read, write and convert between standard units of **length, mass, volume and time** using **decimal notation** to up to three decimal places	Draw and translate simple shapes on the coordinate plane, and reflect them in the **axes** Compare and **classify geometric shapes** based on their **properties** and sizes and find unknown angles in any triangles, **quadrilaterals**, and **regular polygons**
CURRICULUM COVERAGE						
Read, write, order and compare numbers up to	Solve **addition** and **subtraction** problems	Divide numbers up to four digits by a 2-digit number using **short division** where appropriate, interpreting remainders according to the context	Use **factors** to simplify fractions; use common multiples to express fractions in the same **denomination**	Solve problems involving the relative sizes of two quantities where missing values	Solve problems involving the calculation and conversion of units of measure, using	Draw 2-D shapes using given dimensions and angles

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YEAR 6 TEACHING AND ASSESSMENT PROGRESSION FOR MATHS

10 000 000 and determine the value of each digit Use negative numbers in context, and calculate intervals across 0		Use knowledge of the order of operations to carry out calculations involving the four operations Perform mental calculations, including with mixed operations and large numbers Identify **common factors, common multiples** and **prime numbers** Multiply 1-digit numbers with up to **two decimal places** by whole numbers **Algebra** Generate and describe **linear number sequences** Express missing number problems **algebraically** Find pairs of numbers that satisfy an **equation** with two unknowns **Enumerate** possibilities of combinations of two variables. **Statistics**	Compare and order fractions, including fractions > 1 Add and subtract fractions with different denominators and mixed numbers, using the concept of **equivalent fractions** Multiply simple pairs of proper fractions, writing the answer in its simplest form Divide **proper fractions** by **whole numbers** Associate a fraction with division and calculate **decimal** fraction equivalents] for a **simple fraction** Use equivalences between simple fractions, decimals and **percentages**, including in different contexts	can be found by using **integer multiplication** and division facts Solve problems involving the calculation of **percentages** and the use of percentages for comparison Solve problems involving similar shapes where the **scale factor** is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	**decimal notation** up to three decimal places where appropriate Convert between **miles** and **kilometres** Recognise that shapes with the same areas can have different **perimeters** Recognise when it is possible to use **formulae** for area and volume of shapes Calculate the area of **parallelograms** and triangles Calculate, **estimate** and compare volume of cubes and cuboids using standard units, including **cubic centimetres** (cm^3) and **cubic metres** (m^3), and extending to **mm**^{3} and **km**^{3}	Recognise, describe and build simple 3-D Shapes, including making nets Illustrate and name parts of circles, including **radius, diameter** and **circumference** and know that the diameter is twice the radius Recognise angles that meet at a point are on a straight line/ are vertically opposite, and find missing angles Describe positions on the full coordinate grid (all four **quadrants**)
YEAR 6 AGE ACCOMPLISHED						