

Curriculum Intent
Key Stage 1 (Yr 1 & 2)
Subject long-term planning
Subject: Maths



**PENK VALLEY
ACADEMY TRUST**

*Learning
Together*



	Autumn Term	Spring Term	Summer Term
Unit Title	<p>Numbers to 10</p> <p>Part - whole within 10</p> <p>Addition and Subtraction within 10</p> <p>2D and 3D shapes</p> <p>Numbers to 20</p>	<p>Addition within 20</p> <p>Subtraction within 20</p> <p>Numbers to 50</p> <p>Length and Height</p> <p>Weight and Volume</p>	<p>Multiplication and Division</p> <p>Halves and Quarters</p> <p>Position and Direction</p> <p>Numbers to 100</p> <p>Time</p> <p>Money</p>
<p>Overall intent - rationale</p> <p>Why this? Why now?</p>	<p>Numbers to 10 & Part whole within 10 This unit will build upon solid number understand to 10 taught in Reception. This is then is applied to numbers to 20, then to 50. <i>A huge focus of year 1 maths lessons is to ensure children develop fluency in working with whole numbers, counting and recognising the place value of each digit in a number. This is an important step in developing pupils' number sense and building the foundations for working with larger numbers in the following school years.</i></p> <p>Addition & subtraction within 10 This unit builds upon the place value and number bonds learnt in reception (up to 10) then numbers to 20, then 50 are used in addition and subtraction calculations. Practical experiences develop concepts of addition & subtraction. <i>Although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3</i></p>	<p>Addition & subtraction within 20 This unit builds upon the place value and number bonds learnt in reception (up to 10) then numbers to 20, then 50 are used in addition and subtraction calculations. Practical experiences develop concepts of addition & subtraction. <i>Although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3</i></p> <p>Numbers to 50 This unit will build upon solid number understand to 10 taught in Reception. This is then is applied to numbers to 20, then to 50. <i>A huge focus of year 1 maths lessons is to ensure children develop fluency in working with whole numbers, counting and recognising the place value of each digit in a number. This is an important step in developing pupils' number sense and building the foundations for working with larger numbers in the following school years.</i></p> <p>Measurement This unit builds upon the very practical</p>	<p>Multiplication & division: This unit will build upon the counting in multiples of 2, 5, 10 in place value in Year 1. <i>The only curriculum aim in this topic area requires pupils to know how to use concrete objects, pictorial representations and arrays to solve one-step multiplication and division problems.</i> Link to counting in multiples of 2, 5 & 10. No specific objective for odd and even numbers but needs to have been taught in Year 1 to support X tables in Year 2.</p> <p>Position & direction: This unit builds on the reception prepositional language used in reception to describe objects. <i>As children learn more about geography they will also gain some practical knowledge about the movement of objects. For example, they will need to know how to describe directions, positions and movement, which includes whole, half, quarter and three-quarter turns.</i></p> <p>Numbers to 100 This unit will build upon solid number understand to 10 ,20 and 50 as taught in previous terms. This is then is applied to numbers to 100. <i>A huge focus of year 1 maths lessons is to ensure children develop fluency in working with whole</i></p>

	<p>Geometry In this unit children are exposed to a wider range of 2D shapes and 3D shapes than in Reception. Shared vocab is used and applied to different shapes. Different orientations are introduced for 2D shapes. In year 1, pupils will dive into learning about common 2D and 3D shapes. The curriculum recognises that it might take a bit of time for children to get to grips with these forms. This is why children need to focus on being able to recognise and name common 2D and 3D shapes.</p> <p>Numbers to 20 This unit will build upon solid number understand to 10 taught in Reception. This is then applied to numbers to 20, then to 50. A huge focus of year 1 maths lessons is to ensure children develop fluency in working with whole numbers, counting and recognising the place value of each digit in a number. This is an important step in developing pupils' number sense and building the foundations for working with larger numbers in the following school years.</p>	<p>introduction in Reception of measurement. Child begin to use non-standard units of measure At first, year 1 use non-standard units of measurement such as pencils, cubes, cups and similar objects before learning about metric and imperial units in the following school years. In year 2 standard units will be introduced.</p>	<p>numbers, counting and recognising the place value of each digit in a number. This is an important step in developing pupils' number sense and building the foundations for working with larger numbers in the following school years.</p> <p>Time This unit builds upon fractions of $\frac{1}{2}$ to support o'clock then half past. Counting in multiples of 5 also supports the teaching of half past as they learn it is 30 minutes past the hour.</p> <p>Money Introduced in Year 1.</p>
<p>Key knowledge (information), concepts (understanding) & skills (independent ability)</p>	<p>Numbers to 10 Digits 0-9</p> <p>identify and represent numbers using objects and pictorial representations</p> <p>To be able to read and write numbers to 100 in numerals</p> <p>To be able read and write numbers from 1 to 20 in numerals and words</p> <p>Addition & subtraction</p>	<p>Addition & subtraction Y1 vocabulary for addition & subtraction.</p> <p>Understand number facts 1-20</p> <p>Understand what happens when you add numbers together and what happens when you subtract numbers</p> <p>To be able to from a given a number, identify one more and one less</p>	<p>Multiplication & division Multiplication is repeated addition. Division is sharing & grouping.</p> <p>Understand how to use equipment to show arrays.</p> <p>solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p>

(Must be all three)

Y1 vocabulary for addition & subtraction.

Understand number facts 1-20

Understand what happens when you add numbers together and what happens when you subtract numbers

To be able to from a given a number, identify one more and one less

To be able to add and subtract one-digit and two digit numbers to 20, including zero

To be able to solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$

Geometry- 2D & 3D

2D shapes are flat, 3D shapes are solid.

To be able to recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]

To be able to recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

Numbers to 20

Digits 0-9

Value of 1 and 2 digit numbers up to 50.

To be able to add and subtract one-digit and two digit numbers to 20, including zero

To be able to solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$

Numbers to 50

Digits 0-9

Value of 1 and 2 digit numbers up to 50.

To be able to count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

To be able to count numbers to 100 in numerals; count in multiples of twos, fives and tens

Understand what happens when you count in multiples of 2, 5 & 10s.

identify and represent numbers using objects and pictorial representations

To be able to read and write numbers to 100 in numerals

To be able read and write numbers from 1 to 20 in numerals and words

Measurement

Know the terms length, height, mass/weight, capacity/volume & time.

Understand what comparing means.

Position & direction

Know directional language- it related to where things are.

Understand directions and movements are linked and can change.

To be able to describe position, direction and movement, including whole, half, quarter and three-quarter turns

Numbers to 100

To be able to count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

To be able to count numbers to 100 in numerals; count in multiples of twos, fives and tens

To be able to read and write numbers to 100 in numerals

Time

language relating to dates, including days of the week, weeks, months and years

language [for example, before and after, next, first, today, yesterday,

Understand how time is chronological

To be able to sequence events in chronological order

To be able to tell the time to the hour and half past the hour and draw the hands on a clock face to show these times

Money

know the value of different denominations of

	<p>To be able to count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p> <p>To be able to count numbers to 100 in numerals; count in multiples of twos, fives and tens</p> <p>Understand what happens when you count in multiples of 2, 5 & 10s.</p> <p>identify and represent numbers using objects and pictorial representations</p> <p>To be able to read and write numbers to 100 in numerals</p> <p>To be able read and write numbers from 1 to 20 in numerals and words</p>	<p>Understand how to record and describe results.</p> <p>To be able to compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> Ø lengths and heights Ø mass/weight Ø capacity and volume Ø time <p>To be able to measure and begin to record the following :</p> <ul style="list-style-type: none"> Ø lengths and heights Ø mass/weight Ø capacity and volume Ø time (hours, minutes, seconds) 	<p>coins and notes</p> <p>To be able to identify coins and notes and their correct values</p>
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Key stage: 1

Subject: Maths

Year 2

School: Marshbrook

	Autumn Term	Spring Term	Summer Term
Title	<p>Numbers to 100</p> <p>Addition and Subtraction</p> <p>Money</p> <p>Multiplication and Division</p>	<p>Multiplication and Division</p> <p>Statistics</p> <p>Length and Height</p> <p>Properties of Shape</p> <p>Fractions</p>	<p>Position and Direction</p> <p>Problem solving and efficient methods</p> <p>Time</p> <p>Weight, Volume and Temperature</p>

<p>Overall intent – rationale</p> <p>Why this? Why now?</p>	<p>Place Value: Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100. They use larger numbers to at least 1,000, applying partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, $146 = 100 + 40 + 6$, $146 = 130 + 16$). Using a variety of representations, including those related to measure, pupils continue to count in 1s, 10s and 100s, so that they become fluent in the order and place value of numbers to 1,000. <i>This unit builds on the place value from Year 1- now it is progressed to 2 digit numbers and using these to solve place value problems. They will continue to compare and order numbers. In year 2, children will continue to practise counting, comparing and ordering numbers. As understanding the value of digits in a number is so important in maths, place value is a huge focus of the learning material.</i></p> <p>Addition & subtraction This unit builds on the addition and subtraction from Year 1, now 3 one digit numbers are added together, 2 digit and 2 digit numbers are added and subtracted. <i>Place value heavily supports the addition and subtraction and it is essential this knowledge is in place to support mental and informal written calculations.</i> <i>Although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3</i></p> <p>Money This unit builds on the money unit from Year 1. Children will move on to giving change in both pounds and pence in Year 3.</p> <p>Multiplication & division</p>	<p>Multiplication & division In Year 1 children counted in multiples of 2, 5, 10. Then drew and used arrays to calculate x problems. Times tables are taught and introduced showing the link between counting in multiples and the times tables. Once this is established division facts can be derived. <i>A milestone in Year 2 maths is the introduction of the multiplication tables in year 2. Pupils will be expected to learn the 2, 5 and 10 times tables by the end of year 2, before learning about the times tables up to 12×12 in the following years.</i></p> <p>Statistics: Not taught in Year 1 but will build on counting in multiples of 2, 5, 10 and reading scales in measurement (Y2) <i>Introduced for the first time to the national curriculum for maths in year 2, statistics will help children take their first steps into using pictorial representations to analyse data.</i></p> <p>Measurement: Non standard units of measurement are used in Year 1 and in Year 2 standard measurements are used. <i>As children continue to expand their maths knowledge, they are introduced to standard measurement units. They will practise comparing and ordering different measurements, intervals of time, combinations of coins and more.</i></p> <p>Geometry: This unit will build on the 2D and 3D shapes experienced in Year 1. It will develop the mathematical vocab already introduced and children will be exposed to a wider range of shapes linked to everyday shapes. <i>2D and 3D shapes. Everyday objects are often used to make it easier for students to grasp these concepts. They will be expected to know common maths vocabulary and terms such as edges, vertices, line symmetry and more.</i></p>	<p>Position and direction Follows on from time taught in Year 1, as children will already be familiar with mathematical vocabulary of clockwise, turn, quarter turn, half turn & 3 quarter turn.</p> <p>Problem solving and efficient methods Pupils solve simple problems in contexts, deciding which of the 4 operations to use and why.</p> <p>Time Time follows fractions as children will have already been introduced to quarter, half in the previous unit.</p> <p>Measurement Non standard units of measurement are used in Year 1 and in Year 2 standard measurements are used. <i>As children continue to expand their maths knowledge, they are introduced to standard measurement units. They will practise comparing and ordering different measurements, intervals of time, combinations of coins and more.</i></p>
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	<p>In Year 1 children counted in multiples of 2, 5, 10. Then drew and used arrays to calculate \times problems. Times tables are taught and introduced showing the link between counting in multiples and the times tables. Once this is established division facts can be derived.</p> <p>A milestone in Year 2 maths is the introduction of the multiplication tables in year 2. Pupils will be expected to learn the 2, 5 and 10 times tables by the end of year 2, before learning about the times tables up to 12×12 in the following years</p>	<p>Fractions</p> <p>In Year 1, $\frac{1}{2}$ and $\frac{1}{4}$ is introduced, Year 2 builds on this by using equivalent fractions for $\frac{1}{2}$ equal to $\frac{2}{4}$, and introduces $\frac{3}{4}$ and $\frac{1}{3}$.</p> <p>While learning about multiplication and division, children will begin to relate them to fractions. For example, if 10 is divided by 2, it equals 5 and 5 is half of 10.</p>	
<p>Key knowledge (information), concepts (understanding) & skills (independent ability)</p> <p>(Must be all three)</p>	<p>Place Value</p> <p>The digits 0-9</p> <p>To know what estimate means.</p> <p>Understanding place value of 1 and 2 digit numbers.</p> <p>Understand relationship between numerals and words.</p> <p>To be able to count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</p> <p>To be able to read and write numbers to at least 100 in numerals and in words</p> <p>To be able to identify, represent and estimate numbers using different representations, including the number line</p> <p>To be able to recognise the place value of each digit in a two-digit number (tens, ones)</p> <p>To be able to compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs</p> <p>To be able to use place value and number facts to solve problems</p>	<p>Multiplication & division</p> <p>Know multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</p> <p>Know odd and even numbers.</p> <p>Understand how multiplication facts can be used to identify division facts.</p> <p>Understand that on the right of each whole number is an invisible decimal point, and that when you divide by 10 a number slides one place to the right, so 34 becomes 3.4 and 570 becomes 57. When a number is divided by 100, it has to slide two places to the right, so 5910 becomes 59.1, 300 becomes 3, 6 becomes 0.06</p> <p>To be able to recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</p> <p>To be able to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and</p>	<p>Position & direction</p> <p>Know positional language</p> <p>Understand how a sequence or pattern is created.</p> <p>To be able to order and arrange combinations of mathematical objects in patterns and sequences</p> <p>To be able to describe position, direction and movement, including movement in a straight line and Distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)</p> <p>Problem solving and efficient methods</p> <p>To be able to use a hundred square.</p> <p>To know the order of numbers to 100.</p> <p>To be able to solve missing number problems.</p> <p>To be able to solve problems with the 4 operations.</p> <p>Time</p> <p>Know time can be told using an analogue clock.</p> <p>Know a clock is in intervals of 5 minutes</p>

Addition & subtraction

To know Year 2 vocabulary for addition & subtraction.

Know that there are mental and written methods for addition and subtraction.

Understand addition the answer will be greater, subtraction the answer will be less.

To be able to add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
Ø a two-digit number and ones
Ø a two-digit number and tens
Ø two two-digit numbers
Ø adding three one digit numbers

To be able to solve problems with addition and subtraction

Money

To know value of all coins and notes.

Understand that different combinations of coins can equal the same amounts of money

To be able to combine amounts to make a particular value

To be able to solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

equals (=) signs

To be able to solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Statistics

Place value and number operation knowledge.

Understand how tables and graphs are formed

To be able to interpret and construct simple pictograms, tally charts, block diagrams and simple tables

Measurement

To know vocabulary measure length/height in any

To understand how lengths, can be compared.

Understand how lengths

To be able to estimate and measure length/height using rulers, scales, thermometers and measuring vessels

To be able to compare and order lengths and record the results using $>$, $<$ and $=$

Fractions

Know a $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$

Understand a fraction is part of a whole.

$\frac{1}{2}$ is equivalent to $\frac{2}{4}$

Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$

Know the number of minutes in an hour and the number of hours in a day

Understand the hands of a clock (hour & minute)

Understand direction clock turns (clock wise)

Know clock hands moving is a measurement of time.

To be able to compare and sequence intervals of time

To be able to tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times

Measurement

To know vocabulary measure direction (m/cm); mass (kg/g); temperature ($^{\circ}$ C); capacity (litres/ml)

To understand how mass, volume/capacity can be compared.

Understand how mass, volume/capacity can be measured.

To be able to estimate and measure mass (kg/g); temperature ($^{\circ}$ C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

To be able to compare and order mass, volume/capacity and record the results using $>$, $<$ and $=$

& of a length, shape, set of objects or quantity

Recognise the equivalence of $\frac{1}{2}$ and $\frac{2}{4}$

Write simple fractions for example, $\frac{1}{2}$ of 6 = 3