William Gilpin School
Key Stage 1 – Long Term Planning

Year 1	Year 2
NUMBER **Number & place value** ▪ count to and across 100, forward and backwards, beginning with 0 or 1, and from any given number Autumn: make sure children are secure up to 30. Spring: make sure children secure up to 50. Summer: make sure children secure up to 100 and beyond. ▪ count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens Autumn: make sure children are secure with the place value of numbers up to 30; counting in twos. Spring: make sure children secure with the place value of numbers up to 50; counting in twos, fives and tens. Summer: make sure children secure with the place value of numbers up to 100 and beyond, secure counting in twos, fives and tens forwards and backwards. ▪ given a number, identify one more and one less Autumn: secure 1 more and one less with number to 30. Spring: revise 1 more and one less with larger numbers in maths mash up. Summer: revise 1 more and one less with larger numbers in maths mash up. ▪ identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to; more than; less than (fewer); most; least Autumn: counting and comparing who has more or less. Spring: comparing numbers using more/less than Summer: revise using maths mash up.	**NUMBER** **Number & place value** ▪ count in steps of 2, 3 and 5 from 0, and in 10s, count in tens from any number forwards and backwards. Autumn: make sure children can count forwards and backwards in 2, 5, and 10 up to 100. Spring: make sure children can count forwards and backwards in tens from any number to 100 and begin counting beyond 100. Summer: children count in 2, 5 and 10 from any given number to 100 and beyond. Children begin to count in threes. ▪ recognise the place value of each digit in a 2-digit number (tens, ones) Autumn: make sure children secure with place value of all 2 digit numbers. Spring: revise the place value of all 2-digit numbers including where 0 is a place holder and begin to identify the place value of numbers beyond 100. Summer: make sure children secure with the place value of 3-digit numbers including where 0 is a place holder. ▪ identify, represent and estimate numbers using different representations, including the number line. Autumn: can identify numbers up to 50 and beyond from given clues, missing numbers on a simple number line. Estimate amounts of objects up to 50 when shown pictures/objects. Spring: identify and represent numbers on partial and blank number lines up to 50 and beyond. Estimate amounts up to 50 and beyond. Summer: identify and represent numbers on partial and blank number lines up to 100 and beyond. Estimate amounts up to 100 and beyond. ▪ compare and order numbers from 0 up to 100; use <, > and = signs [42] Autumn: order and compare 2 digit numbers using < > =. Spring: revise order and comparison of 2 digit numbers and begin to order and compare 3 digit numbers using < > =. Summer: order and compare 3 digit numbers using < > =.

▪ read and write numbers from 1 to 20 in numerals and words Autumn: 1-10 in words and assess knowledge of numerals. Spring: 1-20 in words. Summer: revision if needed.	▪ read and write numbers to at least 100 in numerals and in words Autumn: make sure children are secure up to 100 in numerals, and up to twenty in words. Spring: make sure children are secure up to 100 and beyond in numerals, and learn multiples of 10 in word form. Summer: make sure children are secure with 3 digit numbers and numbers to 100 in words. ▪ use place value and number facts to solve problems Autumn: solve word problems by applying their knowledge gained throughout the term. (see above) Spring: solve word problems by applying their knowledge gained throughout the term. (see above) Summer: solve word problems by applying their knowledge gained throughout the term. (see above)

Addition & subtraction

- read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
  - Autumn: read simple + / - and use real objects or pictures to solve. (See Addition LL Stage1 / Subtraction LL Stage 1A)
  - Spring: read, interpret and practise writing + / - sentences and use jumps of 1 on a structured number line to solve. (See Addition LL Stage 2/ Subtraction LL stage 1B)
  - Summer: secure reading, writing and interpretation of + / - number sentences and secure the use of structured number lines and/or 100 square. Some more able children may move on to Addition LL Stage 3 / Subtraction LL stage 2).

- represent and use number bonds and related subtraction facts within 20
  - Autumn: practically find bonds to 10 using pictures and objects. More able children practically find bonds to 20 using pictures and objects.
  - Spring: rapid recall addition and subtraction facts to 10. More able children to continue to find bonds to 20 using pictures.
  - Summer: rapid recall and use addition and subtraction facts to 10. Begin to find bonds to 20 using pictures and objects. More able children rapidly recall bonds to 20.

- add and subtract one-digit and two digit numbers to 20, including zero
  - Autumn: add and subtract numbers within 10.
  - Spring: practically add and subtract one digit and two digit numbers to 20.
  - Summer: mentally add and subtract one-digit and two-digit numbers to 20.

- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ☐ - 9.
  - Autumn: practically solve one-step problems and missing number problems within 10. More able children to work within 20.
  - Spring: mentally solve one-step problems and missing number problems within 10. Practically solve one-step problems and missing number problems within 20 and beyond.
  - Summer: solve one-step problems and missing number problems within 50 and beyond.

Addition & subtraction

- solve word problems with addition and subtraction:
  - using concrete objects and pictorial representation, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
  - Autumn: solve simple addition and subtraction word problems using objects, pictures or number lines. Problems involving a two-digit number and ones. Solve some 2 step problems.
  - Spring: solve 2 step problems involving two-digits add/subtract ones or multiples of 10.
  - Summer: solve 2 step addition and subtraction problems involving 2 digit numbers and 3 digit numbers for high ability.

- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
  - Autumn: rapidly recall bonds to 20.
  - Spring: rapidly recall and use addition and subtraction facts to 20.
  - Summer: continue to recall and use addition and subtraction facts to 20. Use addition and subtraction facts to 10 to identify related facts to 100.

- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and ones
  - a two-digit number and tens
  - two two-digit numbers
  - adding three one-digit numbers
  - Autumn: secure reading, writing and interpretation of + / - number sentences and secure the use of structured number lines and/or 100 square. Some more able children may move on to Addition LL Stage 3 / Subtraction LL stage 2). Practise adding three on-digit numbers during Maths Mash Up.
  - Spring: children can add multiples of 10 to a 2-digit number using a number line or 100 square. Beginning to add or subtract two 2-digit numbers using number line (see Addition LL stage 3/ Subtraction LL stage 2).
  - Summer: children can add/ subtract two 2 digit numbers using a number line (see addition LL stage 3/ subtraction LL stage 2). More able children can add or subtract 2 and 3 digit numbers by partitioning the number (See Addition LL Stage 6 / Subtraction LL Stage 5).

	▪ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Autumn: work on addition/subtraction families (e.g. 2+8=10/8+2=10/10-2=8/10-8=2) with numbers up to 50 and beyond during maths mash up, starters and plenary. Spring: work on addition/subtraction families with numbers up to 100 and beyond during maths mash up, starters and the plenary. Use this to solve missing number and symbol problems. Summer: work on addition/subtraction families with 2-digit and 3-digit numbers during maths mash up, starters and the plenary. Use this to solve missing number and symbol problems. ▪ Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. Autumn: solve missing number problems and check calculations with numbers up to 50 and beyond. Spring: solve missing number problems and check calculations with numbers to 100 and beyond. Summer: solve missing number problems and check calculations with 2 and 3 digit numbers.

Multiplication & division ▪ 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. Autumn: solve simple verbal multiplication and division problems by grouping or sharing objects (See multiplication LL stage 1 / division LL stage 1a). Spring: solve simple multiplication and division number sentences by drawing objects – groups of / sharing (See multiplication LL stage 1 / division LL stage 1b). Children start practising to write symbols by copying number sentences. Summer: solve simple multiplication and division number sentences by drawing arrays (see multiplication LL stage 2 / division LL stage 1b). Some more able children may start using repeated addition / subtraction along a number line (See multiplication LL stage 3 / division LL stage 2). Children begin to generate number sentences from verbal or written problems.	**Multiplication & division** ▪ recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Autumn: children can identify even and odd numbers and understand that even numbers form the 2 times table. Children can count up and back in 2, 5 and 10 and begin to use this when multiplying and dividing. Spring: recap odd and even numbers; children know their 2 and 5 times tables, use this to solve simple number sentences Summer: recap odd and even numbers looking at 2 and 3 digit numbers. Children know their 2, 5 and 10 times tables. Use multiplication and division facts for 2, 5 and 10 times tables to solve simple problems. ▪ calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Autumn: secure children's ability to write multiplication and division number sentences and use of arrays to solve them (see multiplication LL stage 2 / division LL stage 1b). Some more able children may start using repeated addition / subtraction along a number line (See multiplication LL stage 3 / division LL stage 2). Spring: children can use repeated addition / subtraction along a number line (See multiplication LL stage 3 / division LL stage 2). Summer: secure use of repeated addition / subtraction along a number line (See multiplication LL stage 3 / division LL stage 2). Some will use recall of 2,5,10 times tables to multiply larger numbers (e.g. 15x5= / 10x5=50 / 5x5=25 / 50+25=75).

	▪ show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Autumn: work on multiplication/division families (e.g. 2x5=10 / 5x2=10 / 10÷2=5 / 10÷5=2) with multiplications of 2 and 5 up to 10x during maths mash up, starters and plenary. Spring: secure work on multiplication/division families with 2 and 5 up to 10x during maths mash up, starters and the plenary. Begin to apply this knowledge to work out missing numbers on other number sentences e.g. first number sentences provided and others with 1 number missing. Summer: secure work on multiplication/division families with 2, 5 and 10 up to 10x during maths mash up, starters and the plenary. Continue to apply this knowledge to work out missing numbers on other number sentences e.g. first number sentences provided and others with 1 number missing. ▪ solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. Autumn: solve multiplication and division word problems about money/measures using arrays. Spring: solve multiplication and division word problems about money/measures using repeated addition/subtraction. Summer: solve multiplication and division word problems about money/measures using arrays/repeated addition/subtraction/ mental methods. More able may start solving 2 step problems e.g. buying multiple objects at same price and finding change.

Fractions ▪ recognise, find and name a ½ as one of two equal parts of an object, shape or quantity Autumn: practise halving objects such as food and naming or writing half to label it. Spring: identify shapes which have been divided equally in half. Fold and shade half of a shape and label by naming and writing ½. Summer: half small quantities by sharing by two equally and label. ▪ recognise, find and name a ¼ as one of four equal parts of an object, shape or quantity Autumn: practise cutting objects such as food into quarters and naming or writing ¼ to label it. Spring: identify shapes which have been divided equally in quarters and fold or shade ¼ of a shape and label by naming and writing ¼. Summer: quarter small quantities by sharing by 4 equally and label.	**Fractions** ▪ recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity Autumn: revise ½ and ¼ by cutting food, folding and shading shapes and sharing quantities. Teach children ¾ by cutting food and shading shapes. Children begin to match labels and pictures / write simple fractions. Spring: revise ½, ¼ and ¾ and learn about 1/3 and 2/3 by shading shapes and sharing. Children match labels and pictures and can write simple fractions. Summer: recognise 1/3, 1/4, 1/2, 2/3 and ¾ and make sure children are secure with naming and writing fractions. Children can write fractions. ▪ write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of 2/4 and ½ Autumn: children find ½ and ¼ of amounts up to 20 by sharing quantities. Spring: children find ½, ¼ and ¾ of amounts by sharing quantities and begin to identify how many halves, quarters and thirds are equivalent to a whole. Summer: children identify simple equivalent fractions such as 2/4 = ½.

GEOMETRY

Properties of shapes

recognise and name common 2-D and 3-D shapes, including:

- 2-D shapes (e.g. rectangles (including squares), circles and triangles)
  Autumn: introduce 2D shapes. Find shapes around the school, draw pictures and name, sort shapes, make Christmas decorations and/or wrapping paper with shape patterns. Square, rectangle, circle and triangle.
  Spring: recap square, rectangle, circle and triangle in Maths Mash-up. Introduce hexagons as any 6 sided shape.
  Summer: Recap square, rectangle, circle, triangle and hexagons in Maths Mash-up. Introduce pentagons as any 5 sided shape and octagon as any 8 sided shape.

- 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).
  Autumn: introduce 3D shapes. Find shapes around the school, build models and name, sort shapes, make Christmas decorations. Cube, pyramid and sphere.
  Spring: recap cube, pyramid, and sphere in Maths Mash-up. Introduce cone and cylinder.
  Summer: Recap cube, pyramid, sphere, cone and cylinder in Maths Mash-up. Introduce cuboid. Make sure children can identify cubes and cuboids.

GEOMETRY & MEASURES

Properties of shapes

- identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line
  Autumn: identify and describe the properties of 2D shapes: square, rectangle, circle, triangle, pentagon, hexagon and octagon. Repeated patterns of shapes.
  Spring: recap the 2D shape names and properties. Find symmetry in a vertical line by folding/using a mirror.
  Summer: recap 2D shapes and their properties including line of symmetry. Identify regular and irregular shapes and investigate whether irregular shapes have a line of symmetry.

- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
  Autumn: identify and describe the properties of 3D shapes: cube, pyramid, sphere, cone, cylinder and cuboid. Use vocabulary edges, vertices and faces. Activities include guess my shape, shape hunt
  Spring: recap the 3D shape names and properties. Introduce triangular prisms. Activities include making 3D shapes.
  Summer: recap 3D shapes and their properties. Use knowledge of 3D shape properties to make top trump style game.

- identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid
  Autumn: discuss curved and flat faces on 3D shapes. Begin to identify the shape of faces.
  Spring: discuss the shape of faces when describing properties of 3D shapes: cube, pyramid, sphere, cone, cylinder, cuboid and triangular prisms.
  Summer: include shape of faces and whether they are curved or flat faces when making top trump game.

	▪ compare and sort common 2-D and 3-D shapes and everyday objects. Autumn: sort shapes into sets and discuss criteria. (see statistics objectives) Spring: Sorts shapes using a Venn diagram and discuss criteria. (see statistics objectives) Summer: Sorts shapes using a Venn / Carroll diagram and discuss criteria. (see statistics objectives)

Position, direction, motion	Position, direction, motion
▪ Describe position, directions and movements including half, quarter and three- quarter turns. Autumn: describe and follow half and whole turn instructions. Describe positions of objects in relation to each other e.g. next to, above, below etc. Describe directions using forwards, backwards, sideways. Spring: describe and follow half, whole and quarter turns. Describe position of objects in relation to each other on a grid. Describe directions using forwards, backwards, left and right. Summer: describe and follow half, whole, quarter and three quarter turns. Start to use simple coordinates to describe position of objects on a grid. Make sure children are secure with their lefts and rights.	▪ order and arrange combinations of mathematical objects in patterns Autumn: make and continue repeated patterns of 2/3 shapes by printing or drawing around shapes. Make and continue repeated patterns of 2/3 colours. Spring: make combinations of patterns using shapes and colours. Summer: solve problems where children have to find different combinations of 3/ 4 colours e.g. 3 different scoops of ice cream in a cone. ▪ use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line. Autumn: describe and follow half, quarter and three quarter turns and begin to identify these as right angle turns where appropriate. Secure use of simple coordinates to describe position. Ensure children know their left and right. Spring: describe and follow half, quarter and three quarter turns both clockwise and anti-clockwise. Describe and follow route directions using north, east, south and west. Summer: ensure children are secure with the following mathematical vocabulary: left, right, clockwise, anticlockwise, north, east, south, and west. Make a route on a grid and describe the route using N, E, S, W and number of squares travelled.

Measures

compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)
- capacity/volume (full/empty, more than, less than, quarter)
- time (quicker, slower, earlier, later)

Autumn: compare and describe measurements and use relevant vocabulary e.g. longer/shorter, heavier/lighter, more than/less than, quicker/slower.
Spring: compare and describe measurements starting to refer to measures recorded.
Summer: solve practical measuring problems by comparing and describing measurements e.g. how many objects can we use that are lighter that 1kg.

- measure and begin to record the following:
  - lengths and heights
  - mass/weight
  - capacity and volume
  - time (hours, minutes, seconds)

Autumn: use non-standard uniform measurements e.g. cubes to measure length and height, mass and capacity verbally discussing their measurements. Children can read time to the hour.
Spring: continue to use non-standard uniform measurements to measure length and height, mass and capacity and begin to record measurements. Some more able children may start using standard measures. Children can read time to hour/half hour and begin to understand there are 60 minutes in an hour.
Summer: use standard measures to find length and height (cm/m), mass (g/kg) and capacity (ml/l). Children understand that there are 60 seconds in a minute and 60 minutes in an hour. Children continue to read time to hour and half hour. Some more able children may start working on quarter hour times.

Measures

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
  Autumn: make sure children can measure using standard units to the labelled divisions including temperature.
  Spring: children can read scales when measuring and some are beginning to measure between labelled divisions e.g. .5cm.
  Summer: make sure children are secure with measuring length/height in any direction, mass, temperature and capacity. Children begin to estimate measurements using their knowledge of different scales.

- compare and order lengths, mass, volume/capacity and record the results using >, < and =
  Autumn: children compare and order measurements when using standard units. Children are introduced to the symbols >, < and =
  Spring: children compare measurements using < > and =
  Summer: make sure children are secure with measuring and comparing measurements using < > =

- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
  Autumn: make sure children are secure with using p for pence when recording additions and subtractions. Children can identify the £ symbol when drawn by an adult.
  Spring: children find different combinations of coins to make a given total and record their findings using £ and p.
  Summer: children work with pence and pounds in different contexts and record their work using £ and p.

- find different combinations of coins that equal the same amounts of money
  Autumn: find different combinations of coins to make totals up to 30p and beyond.
  Spring: find different combinations of coins to make totals up to 50p and beyond.
  Summer: find different combinations of coins to make totals up to £1 and beyond.

▪ recognise and know the value of different denominations of coins and notes Autumn: children introduced to the coins and notes we have in Britain. Children can identify how many 1p coins are in 10p and 20p. Spring: children recognise and name the coins and notes we have in Britain. Children can identify how many 1p coins are in different multiples of 10p and how many 10p coins are in a pound. Summer: children secure with the coins and notes we have in Britain and start using them to solve simple addition and subtractions including how many different ways to make 10p and/or 20p. Children use 'p' to show pence when writing labels, additions or subtractions. ▪ sequence events in chronological order using language such as: 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 Autumn: recap days of the weeks in maths mash up. Children introduced to months of the year. Children sequence events in other topic areas as well as maths using language such as before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Spring: children sequence events that happen within one day and within a week to recap days of the week. Summer: children secure with days of the week and months of the year. Children can confidently sequence events including events on a timeline (e.g. in history). ▪ tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Autumn: read and begin to find hour times on an analogue clock. Spring: read and find hour and half past times on an analogue clock. More able children may begin to record hour and half hour times by drawing hands on a clock face. Summer: children securely read and find hour and half past times on an analogue clock and can confidently record times on an analogue clock by drawing well differentiated hour and minute hands.	▪ solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change Autumn: children can solve additions and subtractions involving money up to 50p and beyond including some 2 step problems. Spring: children can solve addition and subtractions involving money up to £1 including 2 step problems. Summer: make sure children are secure with solving 2 step problems using either pence or pounds. ▪ compare and sequence intervals of time Autumn: children can sequence the events of their day and record times events happen e.g. hour/half past. Spring: children can sequence events on a timeline and record when events happen using date and time. Summer: children can compare and sequence intervals of time e.g. how much time has passed e.g. hours and half hours. ▪ 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. Autumn: make sure children are secure with o'clock and half past times and introduce quarter past/to. Children practise drawing hands on the clock. Spring: make sure children are secure with time to the quarter hour and can draw these times on a clock. Children are introduced to 5 minute intervals on the analogue clock. Summer: children can read, find and write times on an analogue clock to 5 minute intervals.

	Statistics ▪ interpret and construct simple pictograms, tally charts, block diagrams and simple tables Autumn: children practise collecting data with a tally and presenting results using a pictogram (More able use a pictogram where a picture shows 2 votes). Spring: children revise completing a tally then learn how to produce a block diagram (more able start to use basic scales such as 2 / 10) Summer: children complete tally using a template of a table or drawing their own table. They then choose whether to show their results in a pictogram, block diagram or simple bar chart. ▪ ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Autumn: children sort objects in to sets and count amounts to answer a given questions and record results Spring: children sort using Venn diagrams and count objects to answer a given question. Summer: children sort objects using a Venn/ Carroll diagram and count objects to answer a given question. Children begin to ask their own questions which can be answered by sorting. ▪ ask and answer questions about totalling and comparing categorical data. Autumn: children are given a question, complete a given tally table with votes and present their findings using a pictogram (More able use a pictogram where a picture shows 2 votes) Spring: children are given a question, fill in a table template with a tally of votes and present their findings in one of 2/3 given ways (including use of ICT) Summer: children make up their own questions based on a given topic area, collect votes in a tally and choose how to present their work (including use of ICT).