

Term	Autumn 1	
Year R	Number	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: - Children know that all numbers have meaning. - Children know that a number can have significance (door, age). - Children know that numbers can be represented by numerals. - Children have an understanding of one to one correspondence (careful counting). - Children know numeral representations of 5 or 10 and what they mean and what they are called. - Children know numbers increase as they go up in the number system. - Children know the value of each number.	Using Knowledge as a Skill: - Children will recognise numerals 1 to 5/ 10. - Children will count groups of objects, actions and objects that can't be moved. - Children will order numbers.
Vocabulary	Numbers (zero to ten), bigger and smaller, more and less	
Year 1	Number and Place Value	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: - Children need to know what numbers are (names of numbers). - Children need to know that numbers all have value and in the number system increase in value. - Children need to know numbers can be compared in relation to their value. - Children need to know that 0 equals nothing. - Children need to know what numerals look like and what they represent. - Children need to know the place value of 10 in a 2 digit number. - Children need to understand 1:1 correspondence. - Children need to know that numbers can be represented in different ways.	Using Knowledge as a Skill: - Children need to be able to count forward and backwards. - Children need to be able to order numbers by numerical value. - Children need to identify and recognise numbers. - Children need to be able to form digits 0-9. - Children need to find one more and one less than a number. - Children need represent numbers as words.
Vocabulary	More, Less, Equal to, More than, Less than, Fewer, Most, Least	
Year 2	Number and Place Value	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: Children will recap from year one: - That the number system increases - Numbers can be compared - Names of numbers and what they represent - Have knowledge of 10 more - Know that numbers can be represented in different ways. Children need to understand the value of each digit in a 2 digit number. (tens and ones) Children need to know what estimation means. Children need to know what $<> =$ represent.	Using Knowledge as a Skill: Children will find 10 more and 10 less than a number. Children need to be able to build and partition 2 digit numbers into tens and ones and other ways. Children need to estimate. Children need to order numbers and compare them using $<> =$. Children need to represent numbers to 100 in written form and numerals. Children need to apply their knowledge to solve problems.
Vocabulary	Estimate Revisit year 1 More, Less, Equal to, More than, Less than, Fewer, Most, Least	

Term	Autumn 2	
Year R	Number	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: - Children need to revisit numbers, counting and names. - Children need to know the meaning of 'more' and 'fewer' - Children need to know the meaning of total and altogether	Using Knowledge as a Skill: - Children can estimate and check - Children need to be able to compare sets of objects. - Children need to find a total by counting.
	Shape	
	- Children need to know that 2d shapes are flat. - Children need to know that 3d shapes are solid. - Children need to know names of shapes.	Children need to be able to recognise and name shapes.
Vocabulary	Numbers (zero to ten), more and fewer, altogether, estimate, compare, square, circle, triangle, pentagon, hexagon, octagon, rectangle, cube, cuboid, cylinder, prism, pyramid, flat, solid, hold,	
Year 1	Addition and Subtraction	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: - Children need to know what + means - Children need to know what - means - Children need to know what = means - Children need to know what a number bond is - Children need to know that addition is commutative - Children need to know what addition is the inverse of subtraction and subtraction is not commutative - Revisit numbers having meaning including 0 equalling nothing - Children need to know that adding makes things bigger - Children need to know that subtraction makes things smaller - Children need to know equal means the same	Using Knowledge as a Skill: - Children need to interpret and write number sentences using + - = - Children need to create fact families to show the relationship between addition and subtraction. - Children need to solve missing number problems applying their knowledge. - Children need to add and subtract within 20.
	Shape	
	Crucial Knowledge: - Children need to know 2d shapes are flat. - Children need to know 3d shapes can be held. - Children need to recognise a shape, in any shape orientation. - Children need to know names of shapes.	Using Knowledge as a Skill: - Children need to recognise and name 2d and 3d shapes. - Children need to sort shapes according to their properties.
Vocabulary	Addition and subtraction, add, subtract (and other words for (for example plus, take away etc), commutative, inverse, bigger, smaller, equal square, circle, triangle, pentagon, hexagon, octagon, rectangle, cube, cuboids, cylinder, prism, pyramid, flat, solid, hold	
Year 2	Addition and Subtraction	
Concept	Conceptual understanding and procedural fluency	
Knowledge and Skills	Crucial Knowledge: - Revisit signs from year 1 - Children need to know number bonds to 20 - Children have the knowledge of mental strategies - Children know that adding makes things bigger - Children know that subtraction makes things smaller - Children know equals means the same revisit from year 1) - Children know that addition is commutative (revisit from year 1) - Children know that subtraction is the inverse of addition (revisit from year 1) - Children know that subtraction is not commutative (revisit from year 1)	Using Knowledge as a Skill: - Children need to add and subtract - Children can derive and use number bonds to 20 to help find number bonds to 100 - Children can add and subtract 2 digit and ones - Children can add and subtract 2 digit and tens - Children can add and subtract 2 digit and 2 digit - Children can add three one digit numbers - Children can use inverse to check calculations - Children need to solve missing number problem
	Shape	
	Crucial Knowledge: - Children need to know shape names (revisit from year 1) - Children need to know properties of 2d and 3d shapes - Children need to know, understand and use faces, edges, corners, vertices and sides - Children need to know what symmetry means	Using Knowledge as a Skill: - Children need to name 2d and 3d shapes. - Children need to identify 2D shapes on faces. - Children need to identify properties of 2d and 3d. - Children need to find line of symmetry. - Children need to compare and sort. - Children need to recognise shapes in everyday objects.
Vocabulary	Addition, subtraction, adding, subtracting, plus, minus, take away, left, altogether, total, number bonds, commutative, inverse square, circle, triangle, pentagon, hexagon, octagon, rectangle, cube, cuboid, cylinder, prism, pyramid, flat, solid, hold, corners, vertices, edges, sides, faces, symmetry square, circle, triangle, pentagon, hexagon, octagon, rectangle, cube, cuboid, cylinder, prism, pyramid, flat, solid, hold	

Term	Spring 1	
Year R	Number	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children need to know how to hold a marking instrument. - Children need to know how to make a mark. - Children need to understanding how to find how many through adding and subtracting. - Children need to recognise the numbers 1-10. - Children need to know comparative language. - Children need to know what a group is and how to form them. - Children need to know the names of numbers beyond ten. - Children need to understand that numbers have meaning and what value they represent. - Children need to have knowledge of money – what it is – what it is for – why we have it - Children need to know that each coin has a value. - Children need to understand the vocabulary of more and less. - Children need to understand how to add and take away and the language used to describe this.	Using Knowledge as a Skill: Revisit from Autumn: Children need to start to record their own maths answers and problems. Children need to practically add and subtract Children need to select correct numerals to 10 Children need to compare 2 groups. Children need to separate groups of 3 or 4 objects in different ways. Children need to counts objects, and immovable objects. Children need to recognise number in environment Children need to count beyond 10 Children need to have secure 1:1 correspondence (careful counting). Children need to articulate more and fewer. - Children need to use everyday language related to money. - Children need to find a total of 2 groups by counting all (revisit) - Children need to say one more and one less. - Children need to practically add and subtract and describe what they have done using language. - Children need to record using their own marks and creates own mathematics problems
Vocabulary	Add, subtract, name of numbers, big, small, more, fewer, less, pence, coins, 1p, 2p, 5p, 10p, 20p, 50p, £1, £2, £5 etc, takeaway, left, altogether, total	
Year 1	Multiplication and Division	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children understand the language and how to multiply and divide. - Children understand what multiplication means - Children understand what division means - Children know multiplication is a form of repeated addition	Using Knowledge as a Skill: - Children need to multiply numbers together. - Children need to divide numbers by sharing. - Children need to count in 2s. - Children need to count in 5s. - Children need to count in 10s. - Children need to solve multiplication and division problems.
	Fractions	
	Crucial Knowledge: - Children understand fractions is an equal part of a whole. - Children know a half. - Children know a quarter	Using Knowledge as a Skill: - Children can recognise, find and name a half as one of two equal parts of a shape, object or quantity. - Children can recognise, find and name a quarter as one of two equal parts of a shape, object or quantity.
	Position and Direction	
	Crucial Knowledge: - Children know positional language. - Children know directional language. - Children know movement language.	Using Knowledge as a Skill: Children need to describe position, direction and movement including whole, half, quarter and three-quarter turn/carry out.
Vocabulary	Times, divide, multiply, share, jumps of, by, multiplication, repeated addition, groups of Half, quarter, equal, part, whole Above, below, in between, in front, behind, turn, right, left, quarter, forwards, backwards	

Year 2	Multiplication and Division	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children know what an odd number is. - Children know what an even number is. - Children know can count in more than 1 and recognise patterns 5, 10, 2 (even). - Children know the meaning of multiply and divide and equal. - Children know how to multiply and divide. - Children know that multiply is commutative (division is not!) - Children know that multiplication is repeated addition - Children know what an array shows - Children know they are the inverse	Using Knowledge as a Skill: - Children recognise odd and even numbers - Children recall and use multiply and divide facts for 2, 5, 10 multiplication - Children count in 2s, 5s, 10s - Children calculate mathematical statements for multiply and divide - Children identify how to solve the problem by which pictorial representation (sharing/ arrays) - Children can show multiply is commutative - Children can interpret an array by identifying the number sentence - Children can show division and multiply are inverse through fact families and missing number problems
	Fractions	
	Crucial Knowledge: - Children know what a fraction is - Children know how to find a fraction - Children know what the numbers in the fraction represent - Children know names of $\frac{1}{3}$, $\frac{1}{4}$ / $\frac{2}{4}$ and $\frac{3}{4}$ - Children know what equivalence means	Using Knowledge as a Skill: - Children can recognise, find, write, name $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of length, shape, set off objects or quantity - Children can solve fraction calculations $\frac{1}{2}$ of 6 = 3 - Children can recognise equivalence $\frac{2}{4} = \frac{1}{2}$
	Position and Direction	
	Crucial Knowledge: - Children have knowledge of what a pattern is. - Children know what a sequence is - Children know of position, directional and movement language - Children know what is meant by clockwise and anti-clockwise	Using Knowledge as a Skill: - Children need to recognise a pattern and sequence - Children can order and arrange combinations of mathematical objects in patterns and sequences - Children need to describe position and direction and movement (straight line and turns $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ - clockwise and anticlock wise
Vocabulary	Times, divide, multiply, share, jumps of, by, multiplication, repeated addition, groups of Half, quarter, equal, part, whole, three quarters, 2 quarters, same Above, below, in between, in front, behind, turn, right, left, quarter, forwards, backwards, clockwise, anti-clockwise	

Term	Spring 2	
Year R	Measurement	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children need to know positional language. - Children know names of shapes of 2d and 3d shapes. - Children know measurement language such as longest, shortest, heavier, lighter etc	Using Knowledge as a Skill: - Children need to recognise shapes in the environment and those that are similar. - Children need to construct with them and talk about them. - Children use positional language to describe. - Children describe every day shapes. - Children use shapes appropriately - Children identify and name 2d and 3d shapes - Children need to order 2 or 3 items in length, height, weight and capacity - Children need to create a pattern.
Vocabulary	Above, up, below, behind, in between, in front Longest, shortest, heavier, lighter, longer, shorter, heavy	
Year 1	Measurement	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children will understand and use comparative language for each measure. - Children know how to measure the measurement (units it's recorded in and equipment required) - Children know what to record for the appropriate scale.	Using Knowledge as a Skill: - Children will compare length, height, mass, weight, capacity, volume. - Children will describe length, height, mass, weight, capacity and volume. - Children will solve problems using height, weight, length, mass, capacity and volume. - Children will measure and record height, weight, length, mass, capacity and volume.
Vocabulary	More, less, fewer, compare, measure, cm, kg, long, short, longer, shorter, longest, heaviest, lightest, shortest, full, empty, half full	
Year 2	Measurement	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children will know the units for each measure. - Children will know of what/ how to estimate.	Using Knowledge as a Skill: - Children can identify and use appropriate standard units to estimate and measure accurately in any direction (length and height, mass, temperature and capacity). - Children will measure to the nearest unit using appropriate equipment. - Children can compare and order lengths, mass, volume, capacity using $<$ $>$ $=$ to record
	Time	
	Crucial Knowledge: - Children know what each number represents (5 minutes + hour) on a clock. (revisit from year 1) - Children know that the minute hand is on the 6 for half past and 12 for o'clock. (revisit from year 1) - Children know that the little hand tells you the hour. (revisit from year 1) - Children know that the long hand tells you the minutes. (revisit from year 1) - Children know that the 3 is quarter past as it has travelled one quarter. - Children know that the 9 is quarter to as it has travelled 3 quarters.	Using Knowledge as a Skill: Children need to tell and write the time to the nearest 5 minutes/ quarter. (read a clock and draw the hands on).
Vocabulary	More, less, fewer, compare, measure, cm, kg, long, short, longer, shorter, longest, heaviest, lightest, shortest, full, empty, half full, degrees, hot, cold Minutes, hours, days, weeks, month, 24 hour, clockwise, anti-clockwise, o'clock, half past, quarter past, quarter to	

Term	Summer 1	
Year R	Number	
Concept		
Knowledge and Skills	Crucial Knowledge: • Revisit spring 1 • Children need to understand what is meant by doubling. • Children need to understand what is meant by halving. • Children need to know that doubling means twice as many. • Children need to know that half means splitting the number in half and comparing the groups to make sure they are equal.	Using Knowledge as a Skill: • Recap Spring 1 • Children can use everyday language related to money. • Children can find the total of 2 groups by counting all. • Children need to say one more and ones less • Children can practically add and subtract using language • Children need to record using own marks and creates own maths problems • Children need to double and half (through sharing).
Vocabulary	Revisit language from spring 1 Doubling, halving, twice, two, compare, equal	
Year 1	Time	
Concept		
Knowledge and Skills	Crucial Knowledge: • Children know time vocab to sequence • Children understand the time periods in a day • Children understand how to order 1st 2nd and 3rd • Children know language related to dates and how they all combine – 24 hours in a day etc • Children know what each number represents (5 minutes + hour) on a clock. • Children know that the minute hand is on the 6 for half past and 12 for o'clock. • Children know that the little hand tell you the hour. • Children know that the long hand tell you the minutes.	Using Knowledge as a Skill: • Children need to tell the time to the hour and half past the hour by reading a clock. • Children need to draw the hands on a clock to show the above.
Vocabulary	First, second, third, next, then, after, hour, minutes, months, morning, afternoon, o clock., half past	
Year 2	Statistics	
Concept		
Knowledge and Skills	Crucial Knowledge: • Children need to know what each diagrams features are and how to interpret this. • Children need to understand what each diagram represents and how this does it.	Using Knowledge as a Skill: • Children can interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • Children can ask and answer simple questions by counting the number of object in each category and sorting the category by quantity. • Children can ask and answer simple questions about totalling and comparing categorical data.
Vocabulary	Pictogram, block diagram, tally chart	

Term	Summer 2	
Year R	Time/ consolidate	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children need to know language to describe time – long, short, minutes, hours, days, months etc. - Children need to have an understanding of time structure – first, second etc. - Children need to explore the equipment to measure short periods of time and how this works.	Using Knowledge as a Skill: - Children use everyday language related to time. - Children need to order and sequence familiar events. - Children need to measure short periods of time in a simple way.
Vocabulary	Long, short, minute, hour, days, months, first, second, third, quick, slow, morning, afternoon	
Year 1	Money / problem solving	
Concept		
Knowledge and Skills	Crucial Knowledge: - Children know that each coin and note represents a value and what it is. - Children will revisit all knowledge (using teachers AfL and discussion with maths lead).	Using Knowledge as a Skill: - Children need to recognise the value of each coin and note - Children can solve problems involving money - Children can solve maths problems using all mathematical themes covered over the year.
Vocabulary	Coin, pence, pounds	
Year 2	Problem solving	
Concept		
Knowledge and Skills	Crucial Knowledge: Children will revisit all knowledge (using teachers AfL and discussion with maths lead).	Using Knowledge as a Skill: Children can solve maths problems using all mathematical themes covered over the year.
Vocabulary	Language need to be revisited when revisiting the knowledge.	