Mathematics at Abingdon Primary School

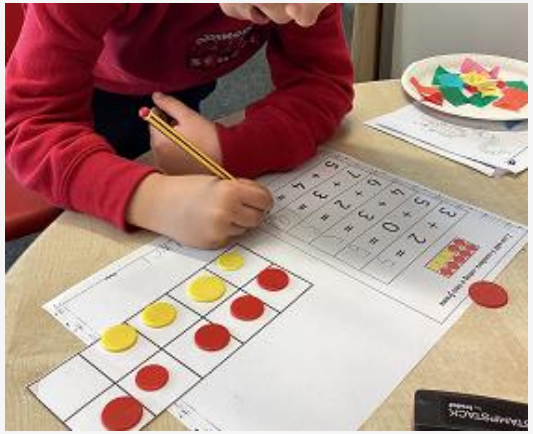
Our Bespoke Drivers

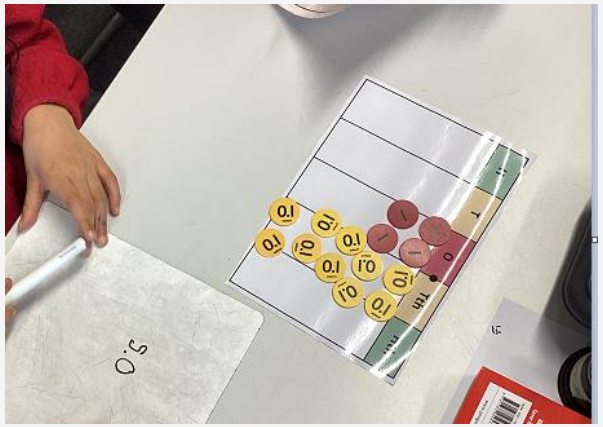
Role Models of all protected characteristics

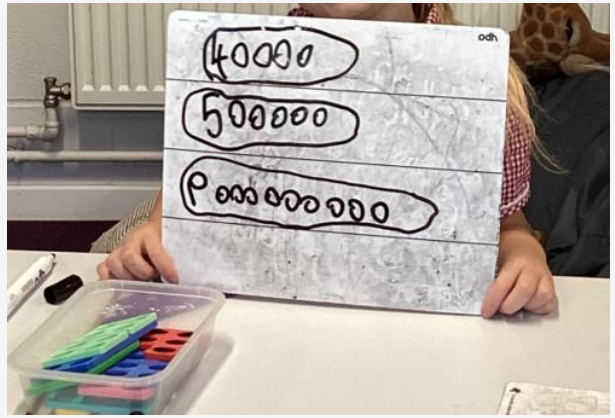
Accessing our local area and all it offers

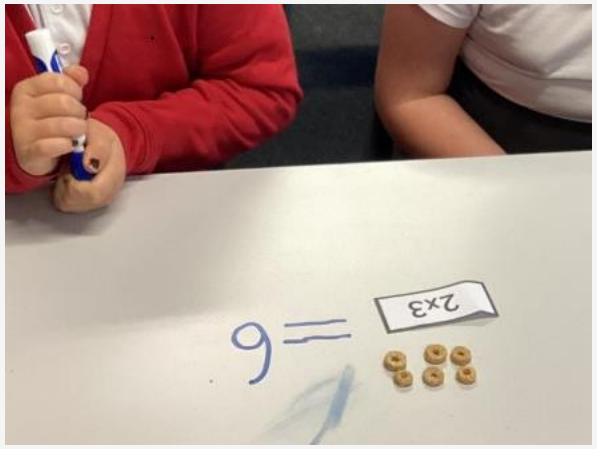
The Power of Word

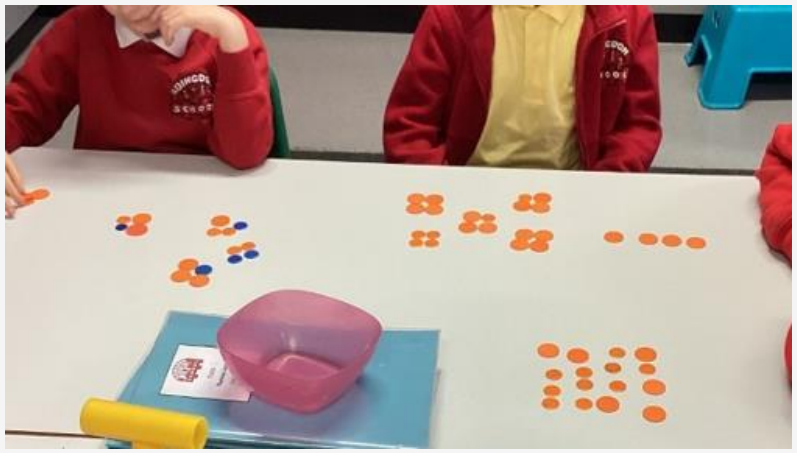
Mathematics at Abingdon



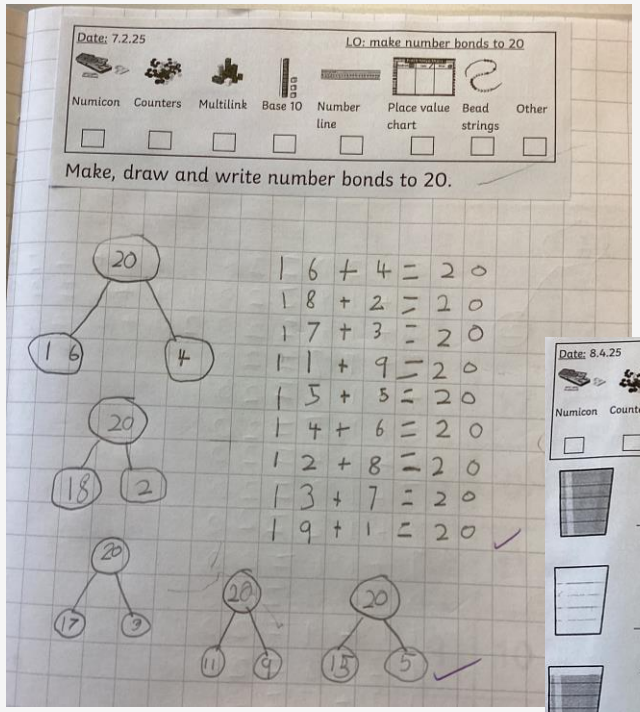


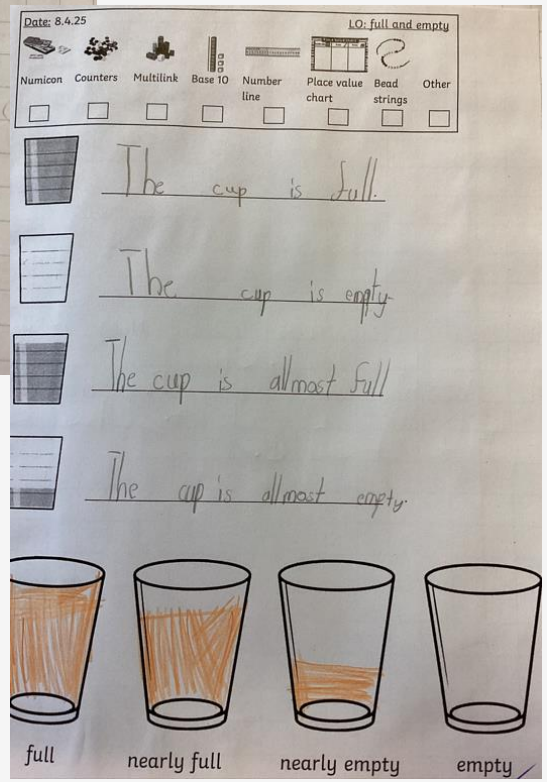


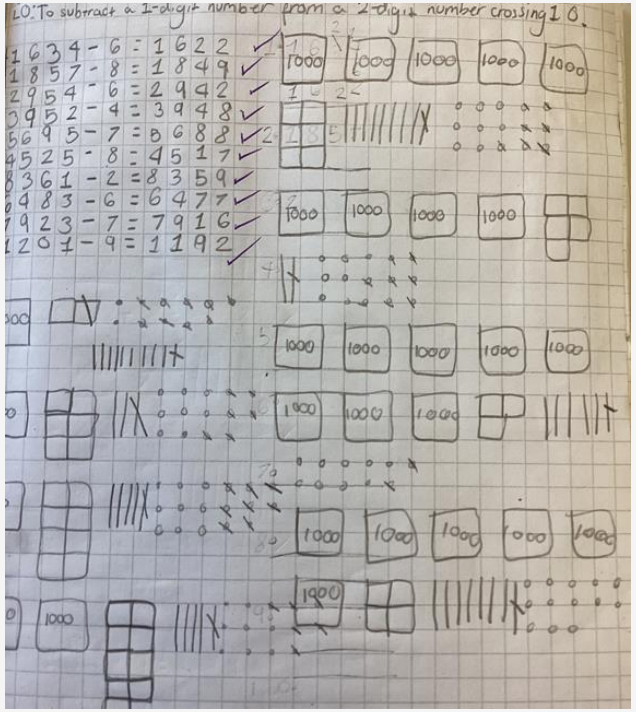


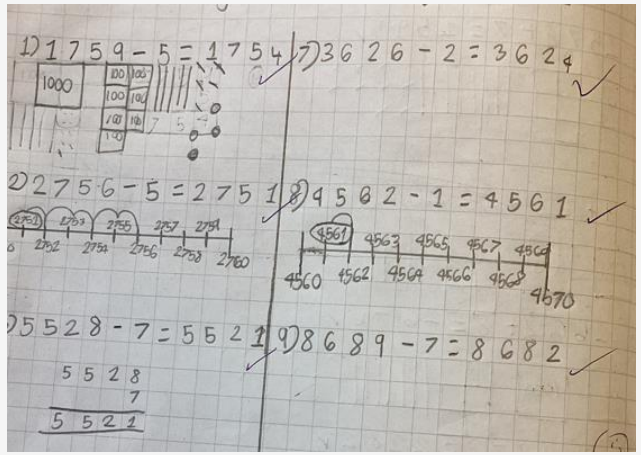


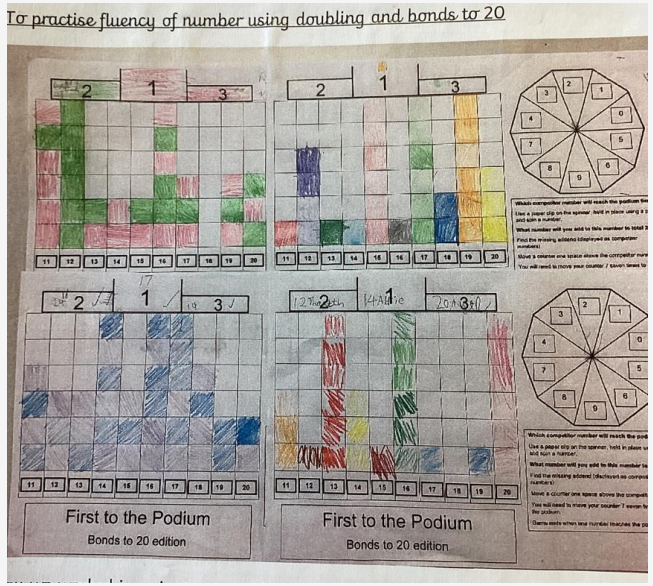
Mathematics at Abingdon











How is Learning Across Our School is Sequenced?

Maths Year 1: Long Term Overview 24/25

	Number: Place Value (within 10)	Number: Addition and subtraction (within 10)	Geometry: Shape
Autumn	Sort and count objects Count objects from a larger group Represent objects Recognise numbers as words Count on from any number 1 more 1 less Count backwards within 10 Compare groups by matching Fewer, more, same Less than, greater than, equal to Compare numbers Order objects and numbers	Part-whole model Write number sentences Fact families – addition facts Number bonds within and to 10 Number bonds to 10 Find a part Fact families – the eight facts Subtraction – take away/cross out Subtraction – take away Subtraction on a number line Add/Subtract 1 or 2	Recognise and name 2-D and 3-D shapes Sort 2-D and 3-D shapes Recognise and name shapes Patterns with 2-D and 3-D shapes
	Problem Solving and Reasoning		

	Number: Place Value (within 20)	Number: Addition and subtraction (within 20)	Number: Place Value (within 50)	Measurement: Length and height	Measurement: Mass and volume
Spring	Understand 10, 11, 12 and 13 Understand 14, 15, 16, 17, 18 and 19 Understand 20 1 more and 1 less Use a number line to 20 Estimate on a number line to 20 Compare & order numbers to 20	Add by counting on within 20 Add ones using number bonds Find & make number bonds to 20 Doubles and near doubles Subtract ones using number bonds Subtraction – counting back and finding the difference Related facts	Count from 20 to 50 20, 30, 40 and 50 Count by making groups of tens Groups of tens and ones Partition into tens and ones The number line to 50 Estimate on a number line to 50 1 more, 1 less	Compare lengths and heights Measure length using objects Measure length in centimetres	Heavier and lighter Measure mass Compare mass Full and empty Compare volume Measure capacity Compare capacity
	Problem Solving and Reasoning				

	Number: Multiplication and division	Number: Fractions	Geometry: Position and Direction	Number: Place Value (within 100)	Measurement: Money	Measurement: Time
Summer	Count in 2s Count in 10s Count in 5s Recognise equal groups Add equal groups Make arrays Make doubles Make equal groups - grouping and sharing	Recognise and find a half of an object or a shape Recognise and find a half of a quantity Recognise and find a quarter of an object or a shape Recognise and find a quarter of a quantity	Describe turns Describe position – left and right Describe position – forwards and backwards Describe position – above and below Ordinal numbers	Count from 50 to 100 Tens to 100 Partition into 10s and 1s The number line to 100 1 more, 1 less Compare numbers with the same number of tens Compare any two numbers	Unitising Recognise coins Recognise notes Count in coins	Before and after Days of the week Months of the year Hours, minutes and seconds Tell the time to the hour Tell the time to the half hour
	Problem Solving and Reasoning					

Maths Year 2: Long Term Overview 24/25

	Number: Place Value	Number: Addition and subtraction	Geometry: Shape
Autumn	Numbers to 20 Count objects to 100 by making 10s Recognise tens and ones Use a place value chart Partition and write numbers to 100 Flexibly partition numbers to 100 Write numbers to 100 in expanded form 10s and 1s on the number line to 100 Estimate numbers on a number line Compare objects Compare numbers Order objects and numbers Count in 2s, 3s, 5s and 10s	Bonds to 10 Addition and subtraction bonds within 20 Bonds to 100 (tens) Add and subtract 1s Add by making 10 Add three 1-digit numbers Add to the next 10 Add and subtract across a 10 Subtract from a 10 Subtract a 1-digit number from a 2-digit number (across a 10) 10 more, 10 less Add and subtract 10s Add and subtract two 2-digit numbers (not across a 10) Add and subtract two 2-digit numbers (across a 10)	Recognise 2-D and 3-D shapes Count sides and vertices on 2-D shapes Draw 2-D shapes Lines of symmetry on shapes Use lines of symmetry to complete shapes Sort 2-D shapes Count faces and edges and vertices on 3-D shapes Sort 3-D shapes Make patterns with 2-D and 3-D shapes
	Problem Solving and Reasoning		

	Measurement: Money	Number: Multiplication and division	Measurement: Length and height	Measurement: Mass and volume
Spring	Count money – pence and pounds (notes and coins) Choose notes and coins Make the same amount Compare amounts of money Make a pound Find change	Recognise, make and add equal groups Introduce the multiplication symbol Multiplication sentences Use arrays Make equal groups – grouping & sharing The 2, 5 and 10 times-table Divide by 2, 5 and 10 Doubling and halving Odd and even numbers	Measure in centimetres & metres Compare and order lengths and heights Four operations with lengths and heights	Compare mass Measure in grams and kilograms Four operations with mass Compare volume and capacity Measure in millilitres and litres Four operations with volume and capacity Temperature
	Problem Solving and Reasoning			

	Number: Fractions	Measurement: Time	Statistics	Geometry: Position and Direction
Summer	Equal and unequal parts Recognise and find a ½, ¼, 1/3 Find the whole Unit and Non-unit fractions Recognise the equivalence of a half and 2/4 Recognise and find ¾ Count in fractions up to a whole	O'clock and half past Quarter past and quarter to Tell the time past and to the hour Tell the time to 5 minutes Minutes in an hour Hours in a day	Make tally charts Tables Block diagrams Draw pictograms (1–1) Interpret pictograms (1–1) Draw pictograms (2, 5 and 10) Interpret pictograms (2, 5 and 10)	Language of position Describe movement Describe turns Describe movement and turns Shape patterns with turns
	Problem Solving and Reasoning			

Maths Year 3: Long Term Overview 24/25

	Number: Place Value	Number: Addition and Subtraction	Number: Multiplication and Division
Autumn	Represent and partition numbers to 100 Number line to 100 Hundreds Represent and partition numbers to 1,000 Flexible partitioning of numbers to 1,000 Hundreds, tens and ones Find 1, 10 or 100 more or less 10 Number line to 1,000 Estimate on a number line to 1,000 Compare and order numbers to 1,000 Count in 50s	Apply number bonds within 10 Add and subtract 1s, 10s and 100s Spot the pattern Add and subtract 1s across a 10 Add 10s across a 100 Subtract 10s across a 100 Add and subtract two numbers (no exchange) Add and subtract two numbers (across a 10) Add and subtract two numbers (across a 100) Add 2-digit and 3-digit numbers Subtract a 2-digit number from a 3-digit number Inverse operations	Multiplication – equal groups Use arrays Multiples of 2, 5 and 10 Sharing and grouping Multiply and divide by 3 The 3, 4 and 8 times-table Multiply and divide by 4 Multiply and divide by 8
	Problem Solving and Reasoning + links measure throughout		

	Number: Multiplication and Division	Measurement: Length and Perimeter	Fractions:	Measurement: Mass and Capacity
Spring	Multiples of 10 Related calculations Reasoning about multiplication Multiply a 2-digit number by a 1-digit number – no exchange Multiply a 2-digit number by a 1-digit number – with exchange Link multiplication and division Divide a 2-digit number by a 1-digit number – no exchange Divide a 2-digit number by a 1-digit number – flexible partitioning and with remainders	Measure in metres, centimetres and millimetres Equivalent lengths (metres and centimetres and millimetres) Compare, add and subtract lengths Measure and calculate perimeter	Understand the denominators of unit fractions Compare and order unit and non-unit fractions Understand the numerators of non-unit fractions Understand the whole Fractions and scales Fractions on a number line Count in fractions on a number line Tenths Equivalent fractions on a number line and as bar models	**M**easure, compare, add and subtract **mass** (kg/g); Measure, compare, add and subtract: **volume/capacity** (l/ml)
	Problem Solving and Reasoning + links measure throughout			

	Fractions:	Measurement: Money	Measurement: Time	Geometry: Shape	Statistics
Summer	Add and subtract fractions Partition the whole Unit fractions of a set of objects Non-unit fractions of a set of objects Reasoning with fractions of an amount	Pounds and pence Convert pounds and pence Add money Subtract money Find change	Roman numerals to 12 Tell the time to 5 minutes Tell the time to the minute Read time on a digital clock Use am and pm Years, months, days and hours Hours and minutes – use start and end times Hours and minutes - use durations Minutes and seconds	Turns and angles Right angles Compare angles Horizontal and vertical Parallel and perpendicular Recognise and describe 2-D and 3-D shapes Draw polygons Make 3-D shapes	Interpret pictograms Draw pictograms Interpret and draw bar charts Collect and represent data Two-way tables
	Problem Solving and Reasoning + links measure throughout				

Maths Year 4: Long Term Overview 24/25

	Number: Place Value	Addition and Subtraction	Measurement	Multiplication and Division A
Autumn	Represent, partition and order numbers to 10,000 Find 1, 10, 100, 1,000 more or less Number line to 10,000 Estimate on a number line to 10,000 Roman numerals Round to the nearest 10, 100 or 1,000 **Count in multiples of 6, 7, 9, 25 and 1000**	Add and subtract 1s, 10s, 100s and 1,000s Add and subtract two 4-digit numbers – no exchange, one exchange, more than one exchange Efficient subtraction Estimate answers Checking strategies Problem solving using money and measurement	What is area? Count squares Make shapes Compare areas	Multiples of 3 Multiply and divide by 6, 9, 7 6, 9, 7, 11, 12 times-table and division facts Multiply by 1 and 0 Divide a number by 1 and itself Multiply three numbers **Count in multiples of 6, 7, 9**
	Reasoning and problem solving (include Measurement)			

	Multiplication and Division B	Measurement	Fractions A	Decimals A
Spring	Factor pairs Multiply and divide by 10, 100 Related facts – multiplication and division Informal written methods for multiplication Multiply and divide a 2 and 3-digit number by a 1-digit number Word problems using measurement Correspondence problems Efficient multiplication	Measure in kms and ms Equivalent lengths (kms and ms) Perimeter on a grid Perimeter of a rectangle Perimeter of rectilinear shapes Find missing lengths in rectilinear shapes Calculate perimeter of rectilinear shapes Perimeter of regular polygons Perimeter of polygons	Understand the whole Count beyond 1 Partition a mixed number Number lines with mixed numbers Compare and order mixed numbers Understand improper fractions Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers Equivalent fractions on a number line and fraction families Add two or more fractions Add and subtract fractions and mixed numbers Subtract from whole amounts and mixed numbers	Tenths as fractions and decimals Tenths on a place value chart and number line Divide a 1 and 2-digit number by 10 Hundredths as fractions and decimals Hundredths on a place value chart Divide a 1- or 2-digit number by 100 Add and subtract numbers to one decimal place
	Reasoning and problem solving (include Measurement)			

	Decimals B	Measurement: Money	Measurement: Time	Shape	Statistics	Position and Direction
Summer	Make a whole with tenths Make a whole with hundredths Partition decimals Flexibly partition decimals Compare decimals Order decimals Round to the nearest whole number Halves and quarters as decimals	Addition and subtraction of up to 4 digits with decimals Write money using decimals Convert between pounds and pence Compare amounts of money Estimate with money Calculate with money Solve problems with money	Years, months, weeks and days Hours, minutes and seconds Convert between analogue and digital times Convert to and from the 24-hour clock Add and subtract intervals	Recap angles and polygons Triangles Quadrilaterals Polygons Lines of symmetry Complete a symmetric figure	Interpret charts Comparison, sum and difference Interpret line graphs Draw line graphs	Describe position using coordinates Plot coordinates Draw 2-D shapes on a grid Translate on a grid Describe translation on a grid
	Reasoning and problem solving (include Measurement)					

Maths Year 5: Long Term Overview 24/25

	Number: Place value	Addition and Subtraction	Multiplication and Division	Fractions
Autumn	Roman numerals to 1,000 Numbers and partition numbers to 1,000,000 Read and write numbers to 1,000,000 Powers of 10 10/100/1,000/10,000/100,000 more or less Number line to 1,000,000 Compare and order numbers to 1,000,000 Round to the nearest 10, 100 or 1,000 Round within 100,000 Round within 1,000,000	Mental strategies Add whole numbers with more than four digits Subtract whole numbers with more than four digits Round to check answers Inverse operations (addition and subtraction) Multi-step addition and subtraction problems Compare calculations Find missing numbers	Multiples and Common multiples Factors and Common factors Prime, Square and Cube numbers Multiply by 10, 100 and 1,000 Divide by 10, 100 and 1,000 Multiples of 10, 100 and 1,000	Find fractions equivalent to a non-unit fraction Recognise equivalent fractions Convert improper fractions to mixed numbers Convert mixed numbers to improper fractions Compare and order fractions less than 1 Compare and order fractions greater than 1 Add and subtract fractions with the same denominator Add fractions within 1 Add fractions with total greater than 1 Add to and subtract from a mixed number Subtract fractions Add two mixed numbers Subtract two mixed numbers
	Reasoning and problem solving (include Measurement)			

	Multiplication and Division	Fractions	Decimals and Percentages	Measurement Area	Statistics
Spring	Multiply up to a 4-digit number by a 1-digit number Multiply a 2-digit number by a 2-digit number (area model) Multiply a 2, 3 and 4-digit number by a 2-digit number Solve problems with multiplication Short division Divide a 4-digit number by a 1-digit number Divide with remainders	Multiply a unit fraction by an integer Multiply a non-unit fraction by an integer Multiply a mixed number by an integer Calculate a fraction of a quantity Fraction of an amount Find the whole Use fractions as operators	Decimals up to 2 decimal places Equivalent fractions and decimals (tenths and hundredths) Thousandths as fractions and as decimals Thousandths on a place value chart Order and compare decimals Round to the nearest whole number and 1 dec place Percentages as fractions and as decimals	Perimeter of rectangles Perimeter of rectilinear shapes Perimeter of polygons Area of rectangles Area of compound shapes Estimate area	Draw line graphs Read and interpret line graphs Read and interpret tables Two-way tables Read and interpret timetables
	Reasoning and problem solving (include Measurement)				

	Geometry	Position and Direction	Number: decimals	Negative Number	Converting Units Volume
Summer	Understand and use degrees Classify and estimate angles Measure angles up to 180° Draw lines and angles accurately Calculate angles around a point and on a straight line Lengths and angles in shapes Regular and irregular polygons 3-D shapes	Read and plot coordinates Problem solving with coordinates Translation Translation with coordinates Lines of symmetry Reflection in horizontal and vertical lines	Use known facts to add and subtract decimals within 1 Complements to 1 Add and subtract decimals across 1 Add and subtract decimals with the same number of decimal places Add and subtract decimals with different numbers of decimal places Efficient strategies for adding and subtracting decimals Decimal sequences Multiply and divide by 10, 100 and 1,000 Multiply and divide decimals – missing values	Understand negative numbers Count through zero in 1s Count through zero in multiples Compare and order negative numbers Find the difference	Kilograms and kilometres Millimetres and millilitres Convert units of length Convert between metric and imperial units Convert units of time Calculate with timetables Cubic cm Compare volume Estimate volume Estimate capacity
	Reasoning and problem solving (include Measurement)				

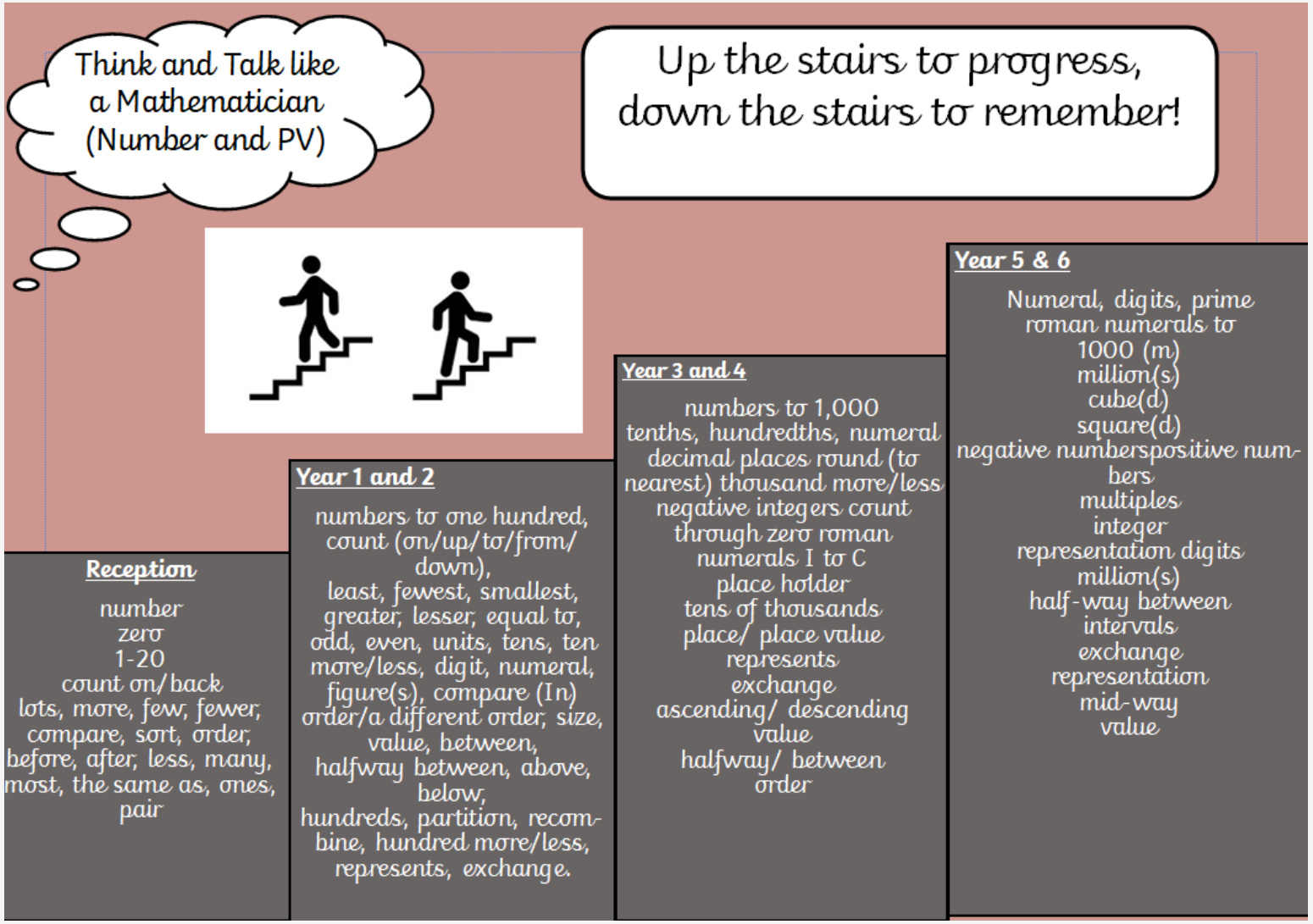
Maths Year 6: Long Term Overview 24/25

	Number: Place Value	Measure	Addition and Subtraction	Multiplication and Division	Fractions	Multiplication and Division
Autumn	Read write 10 million Round any number Neg numbers in context Problem solve Multiplication/division – powers of 10	Converting units of measure Length mass Problem solve measure X ÷ powers of 10	All methods Solve multi-step problems in context Mental calculations estimate	Factors, multiples, prime numbers BIDMAS Revise 4 digit x 1 digit 4 digit ÷ 1 digit Use decimals in multiplication and division Mental calculations	Simplifying fractions Comparing fractions Add and subtract with different denominators Multiplying proper fractions Dividing proper fractions by a whole number	4 digit x 2 digit 4 digit ÷ 2 digit

	Decimals	Decimals/Percentages	Algebra	Statistics	Ratio and Proportion	Measurement
Spring	Place value within 1 Place value – integers and Round, add and subtract decimals Multiply and divide by 10, 100 and 1,000 Multiply and divide decimals by integers	Decimal and fraction equivalents Fractions as division Understand percentages Fractions to percentages Equivalent fractions, decimals and percentages Order fractions, decimals and percentages Percentage of an amount Percentages – missing values	1-step and 2-step function machines Form expressions Substitution Formulae Form equations Solve 1-step and 2-step equations Small steps Find pairs of values Solve problems with two unknowns	The first quadrant Read and plot points in four quadrants Solve problems with coordinates Translations Reflections	Add or multiply? Use ratio language Introduction to the ratio symbol Ratio and fractions Scale drawing Use scale factors Similar shapes Ratio problems Small steps Proportion problems	Angles around a point Intersecting lines Area and Perimeter Volume

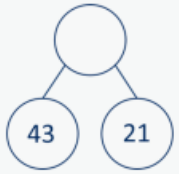
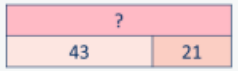
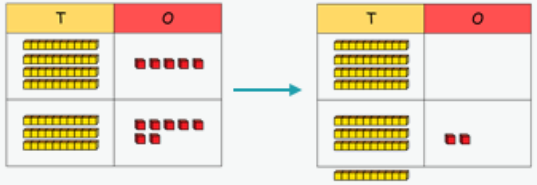
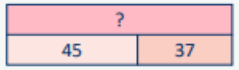
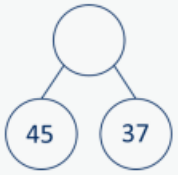
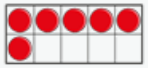
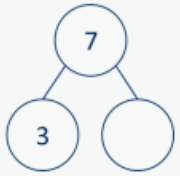
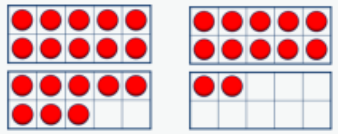
	Geometry	SATs	Consolidation
Summer	Measure and classify angles Calculate angles Vertically opposite angles Angles in a triangle Angles in a quadrilateral Angles in polygons Circles Draw shapes accurately Nets of 3-D shapes		**Maths problems**

Vocabulary Progression



Mathematical vocabulary is key to the learning of mathematical concepts.

Calculations policy

Progression of skills	Key representations
Add 2-digit numbers (not across a ten) Lining up ones and tens in columns will support with later written methods.	… ones + … ones = … ones … tens + … tens = … tens   3 ones + 1 one = 4 ones 4 tens + 2 tens = 6 tens 6 tens + 4 ones = 64 
Add 2-digit numbers (across a ten) Begin to exchange 10 ones for 1 ten.	There are …. ones, so I do/do not need to make an exchange. … ones = … ten and … ones    5 ones + 7 ones = 12 ones 12 ones = 1 ten and 2 ones 4 tens + 3 tens + 1 ten = 8 tens 8 tens and 2 ones = 82
Missing numbers Solve missing number problems and use the inverse to check.	How many more do you need to make …?  6 + □ = 10 10 − □ = 6 If … is a whole and … is a part, then … is the other part. □ + 3 = 7 7 − 3 = □  … can be partitioned into … and … 10 + 8 = 12 + □ 

The calculation policy is divided into four sections: addition, subtraction, multiplication
and division.
It follows the concrete, pictorial, abstract approach.

How are knowledge and skills built on through school?

Here is an example of the progression of knowledge of the key mathematical concepts.
There is one for each mathematical topic.

ABINGDON PRIMARY SCHOOL – Mathematics Progression of Knowledge

		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	**Counting**	Orally count from 0-10 and then from 0 – 20 Recognise anything can be used to count Counts actions or objects (including irregular arrangements) which cannot be moved estimates how many objects they can see and checks by counting them	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals count in multiples of twos, fives and tens given a number, identify one more and one less	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	count from 0 in multiples of 4, 8, 50 and 100 find 10 or 100 more or less than a given number	count backwards through zero to include negative numbers count in multiples of 6, 7, 9, 25 and 1 000 find 1 000 more or less than a given number	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	use negative numbers in context, and calculate intervals across zero
	Comparing Numbers	compare quantities of identical and then non-identical objects compare groups up to 10 use the language of more than and fewer than order numbers from 1-20	use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use <, > and = signs	compare and order numbers up to 1 000	order and compare numbers beyond 1 000 compare numbers with the same number of decimal places up to two decimal places	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
	Identifying, representing and estimating numbers	select the correct numeral to represent 1-5, then 1-10 objects	identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		
	Reading and writing numbers	write the correct numeral for a given number 1 - 10	read and write numbers from 1 to 20 in numerals and words.	read and write numbers to at least 100 in numerals and in words	read and write numbers up to 1 000 in numerals and in words tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
	Understanding place value			recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) 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 units, tenths and hundredths	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers are up to three decimal places

Medium Term Plans

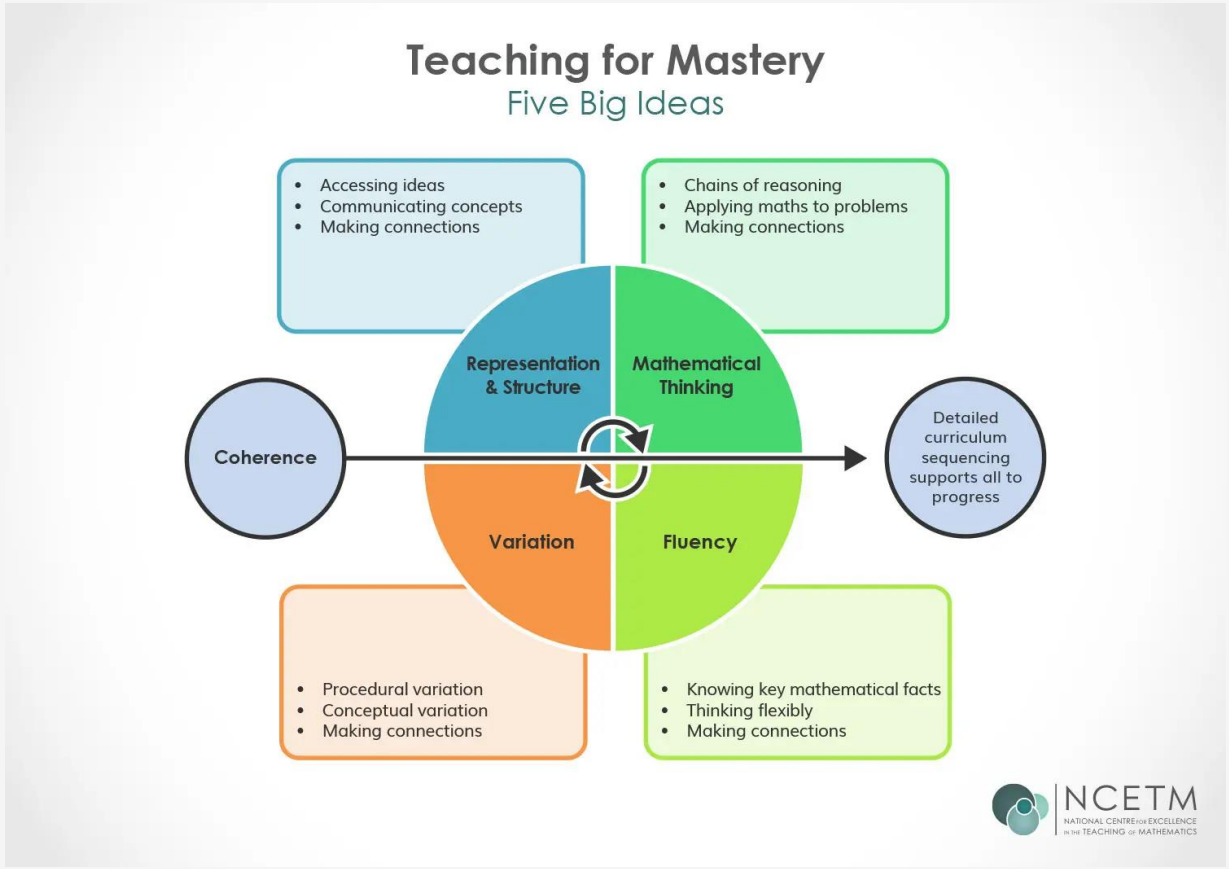
Step 1 Apply number bonds within 10	
Step 2 Add and subtract 1s	
Step 3 Add and subtract 10s	
Step 4 Add and subtract 100s	
Step 5 Spot the pattern	
Step 6 Add 1s across a 10	
Step 7 Add 10s across a 100	
Step 8 Subtract 1s across a 10	

We follow the White Rose Scheme and the medium term plans help sequence the learning for each area of maths.

North West Maths Hub

MATHSHUBS
NORTH WEST ONE

We are a Maths Hub school and work closely with them. They run a series of nationally co-ordinated and accredited professional development projects which we are involved in. We use Mastering Number in KS1 as discrete lessons. We are also involved in the focus group linked to mixed age year group teaching.

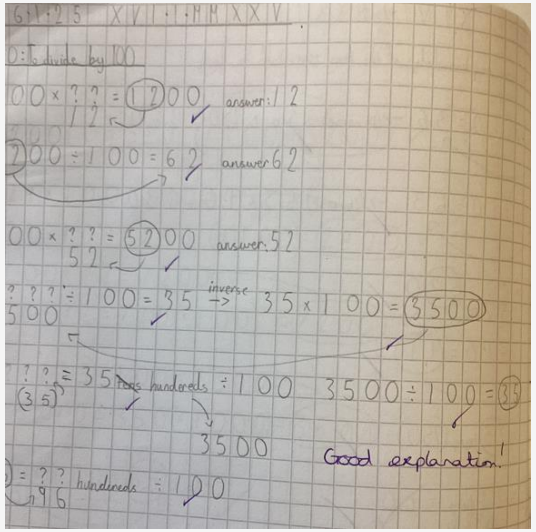


Times Tables Rock Stars

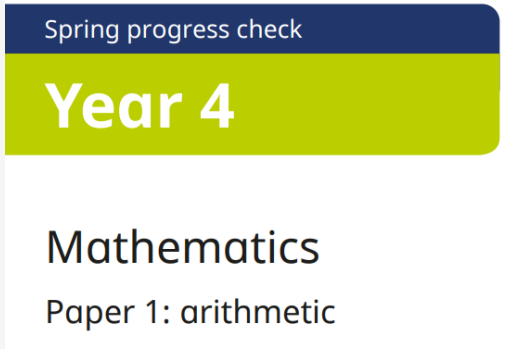
We use NumBots (EYFS/KS1) and Times Table Rock Stars (KS1/KS2) to support our learning of the four operations. We award certificates for attainment and effort on a weekly basis.
We have a TTRS Day to promote how beneficial it is to know our multiplication tables!

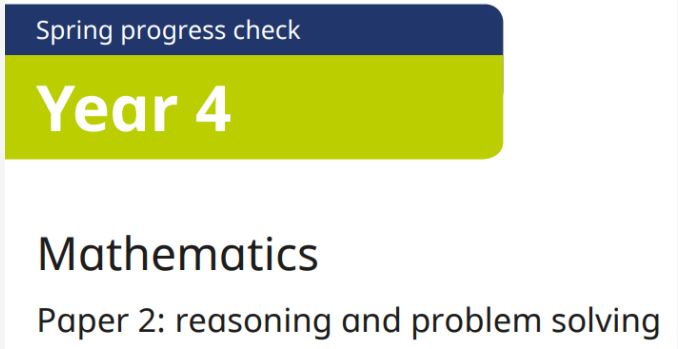
Assessment

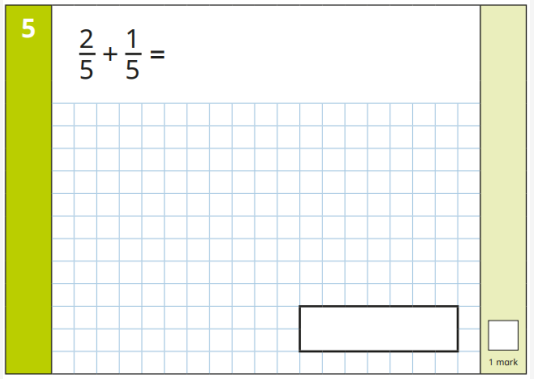
We use a number of formative assessment strategies in maths:
Live marking/feedback
Whole class questioning
Mini whiteboards
AfL lollipop sticks
Nest Pair Share

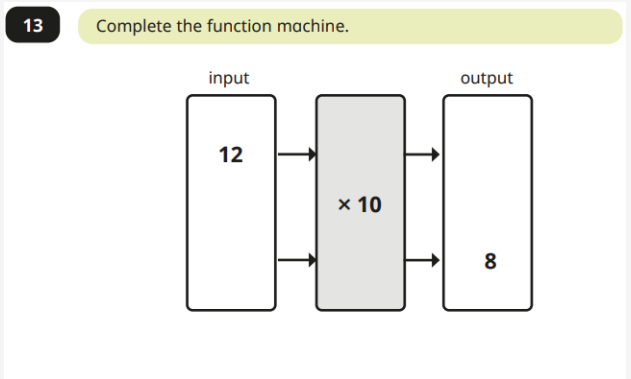


We assess the children termly using White Rose assessments – Arithmetic paper and reasoning and problem solving paper .









Challenge and Adaptations

We believe that maths should be accessible for all. Adaptations are planned into lessons. They might look like:

Use of additional resources – scaffolding (e.g. Visual representations – Dual coding, assisted technology, concrete resources)

Teacher expertise – e.g.; additional processing time, use of talk partners, scribing, modelling. I do , we do you do

Referring back to previous learning and vocabulary.

Pre-teaching vocabulary.

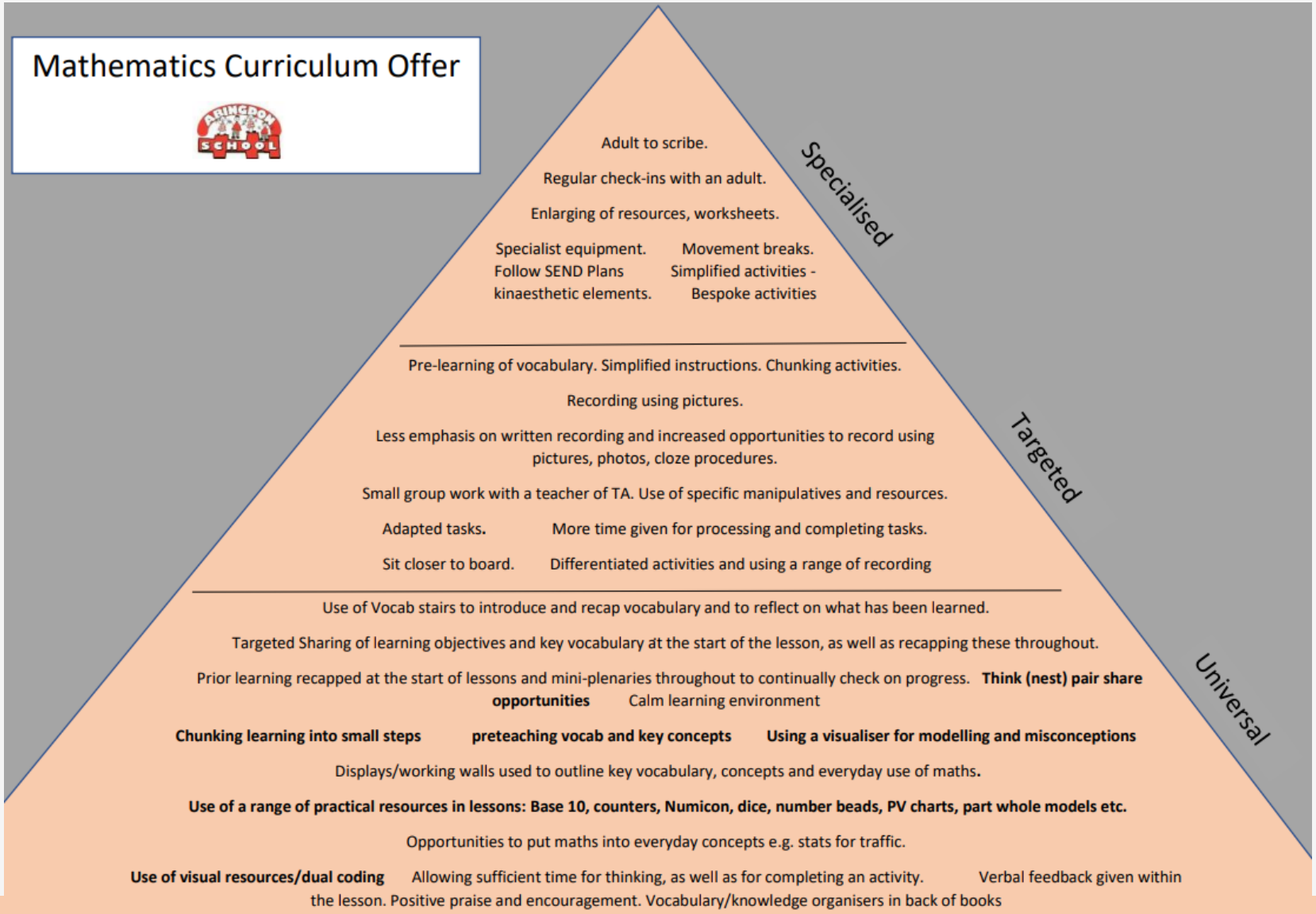
Use of visits and visitors.

Manipulatives

We use the Five a day principle alongside our own current focuses for adaptations:

1) "Nest/Pair/Share"
2) Pre-teaching of vocabulary and any key concepts
3) Visual resources and dual coding across the whole school
4) Chunking learning
5) Using the visualiser for modelling and misconceptions

Provision Pyramids



What do our children say about our curriculum?

"Maths is my favourite subject and I like to be challenged with the Going For Gold activities!"

"It is really useful having practical resources in our maths lessons as it helps me understand what we are doing!"

"Sometimes maths is difficult but my teacher goes through the steps clearly, which really helps me,"