Mathematics Statement of Intent, Implementation and Impact

Intent

At Humshaugh C of E (Aided) First School, we aim to equip our children to be fluent in the fundamentals of mathematics by presenting them with conceptual and procedural variation of tasks. We aim for our children to be able to recall and apply key number facts obtained in each year group (such as times tables, associated divisions and number bonds) to increasingly more complex problems including real-life problems.

We want our children to have a love for Mathematics and to appreciate how many elements of maths are crucial, transferable life skills. We want our children to make strong connections between mathematical concepts and use these to support their learning and understanding across other subject areas especially Science.

We aim for our children to explain and reason their Mathematics confidently to justify, argue or proof a line of enquiry using developed Mathematical vocabulary. We aim for our children to be the problem solvers of the future, who persevere, embrace challenge and enjoy the feeling of success.

In line with our Vision, 'Being Good Soil', we aim for our young mathematicians to cultivate a strong foundation so they can problem solve as future critical thinkers and to manage future finances prudently and responsibly, to be able to analyse data and organise their lives in an ethical and responsible way.

Implementation

At Humshaugh First School, our quality first daily Maths lessons are planned and sequenced so that new knowledge and skills build on what has been taught before. Our teachers follow the White Rose Maths Scheme of Work, using the small steps to ensure that the children understand key elements before moving on. Our teachers use the White Rose Maths materials and supplementary materials. A variety of teaching styles are used with concrete materials and manipulatives (such as Numicon, Denes, place value counters and cubes) being used at the start of topics and supporting pupils when needed. Our children can choose to use these materials freely. We encourage our children to create pictorial representations to support their calculations before moving onto abstract number sentences. The children's progression is assessed termly using the end of unit White Rose tests.

The use of 'Flashback four' is embedded across the school from EYFS - Y4. Flashback four is additional to the daily maths lesson and happens at the start of every Maths lesson. Its purpose is to develop fluency and strengthen memory recall through continued practise and recall opportunities. The questions are based on formative assessment i.e. linked directly to each classes' individual needs. This task is 'low stakes' therefore children understand that this is about developing strength of memory, therefore marking/feedback is carried out by the children themselves and discussions based on what can and cannot be remembered. If pupils are struggling to remember key facts/procedures, knowledge etc. then the same 'question' is repeated for subsequent Flashback fours until pupils have a strong memory recall.

White Rose Hub, Premium Resources, NCETM, NRICH and Andrell Education Big Maths are used by teachers to supplement our mastery curriculum. These resources are selected by teachers to ensure 'depth of learning' and appropriate challenge for all pupils.

All children also have access to their own personal account of Maths Whizz and J2E Times Table Blast where they can compete against other pupils and classes in school.

Impact

We aim for our fun, engaging and challenging Maths lessons taught by confident, knowledge rich staff to equip our children to be confident mathematicians. We want our children to:

· become fluent in the fundamentals of mathematics

· reason mathematically by following a line of enquiry, conjecturing relationships and generalisations.

· solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication.

To ensure that standards are being met across school, the Mathematics Subject Leader will undertake monitoring in the form of:

- Lesson observations and feedback
- Learning walks
- Pupil interviews
- Book scrutinies with teacher feedback

YEAR GROUP	Progression					
NURSERY -Problem solving, reasoning and curiosity about numbers runs throughout the year. -Variety and range of language runs throughout the year.	-counting forwards and backwards -1-1 correspondence counting -making sets -colours/shapes/sizes -represents numbers with fingers and marks -sorting and matching -comparing sets/numbers/sizes -more and less -recognises numbers of personal significance -patterns and attributes (matching/following)		-counting forwards and backwards -1-1 correspondence counting -counting an irregular collection of objects -making sets -matching quantities to numerals -colours/shapes/sizes -sorting and matching -comparing sets/numbers/sizes -more and less -same and different -recognises numerals 0-5 6-10 -ordering -patterns and attributes (matching/following/describing		-counting forwards and backwards -1-1 correspondence counting -counting an irregular collection of objects -estimates and checks -making sets -adding totals -matching quantities to numerals -colours/shapes/sizes -sorting and matching -comparing sets/numbers/sizes -more and less -same and different -recognises numerals 0-5 6-10 -ordering -patterns and attributes (matching/following/describing/continuing)	
RECEPTION	**Baseline Number: Place Value** 1-5 Also linked 2D Shape and Money	**Addition and subtraction –** Sorting into groups **Number and Place Value** **-**Comparing identical and non-identical groups - Comparing	**Number and Place Value** 6-10 Introduction to Doubling **Measurement** –Time -Length, height and distance **Geometry**	**Geometry** – Spatial Awareness -3D Shape -2D Shape -Exploring Patterns **Addition and Subtraction** – Combining 2 groups to find the whole -Number bonds to 10 using tens frame	**Addition and Subtraction** -Adding by counting on -Taking away by counting back **Number and Place Value** – Counting to 20 **Multiplication and Division** –Doubling	**Number and Place Value** – Counting to 20 **Geometry** -Complex patterns -2D Shapes -3D Shapes **Measurement** -Height -Time

		groups up to 10 **Addition and Subtraction** -One more -One less **-Number bonds to 5** Introduction to repeating patterns	– 3D Shapes **Measurement** - Money	-Number bonds to 10 using part-whole model **Measurement** -Weight -Capacity	-Halving and Sharing -Odds and Evens	
YEAR 1	**Number: Place Value to 10** Sorting and counting objects Read, write and order numbers Counting one more and one less Ordinal numbers Using number lines and manipulatives **Number: Addition and Subtraction to 10** Part whole	**Geometry: Shape** Naming, sorting and describing 3D and 2D shapes **Number: Place Value to 20** Count to 20 forwards and backwards Identify and represent numbers to 20 including using number line Understand and partition	**Number: Addition and Subtraction to 20** Represent and use number bonds within 20 Add by counting on Add by making 10 Subtraction (crossing 10) Related facts Compare number sentences Problem solving **Number: Place Value to 50 (Multiples of 2, 5**	**Number: Place Value to 50 (Multiples of 2, 5 and 10)** Compare and order numbers to 50 Partition into tens and ones One more and one less Count in 10s, 2s and 5s **Measurement: Length and Height** Compare, describe and solve practical problems **Weight and**	**Number: Multiplication and Division** Count in 2s 5s and 10s Make and add equal groups Make arrays Make doubles Make groups (grouping and sharing) Solve problems **Number: Fractions** Recognise, find and make a half and a quarter of a shape, object, or quantity **Geometry: Position**	**Number: Place Value to 100** Count to 100 Partitioning, comparing and ordering numbers to 100. One more and one less **Measurement: Money** recognise and know the value of different denominations of coins and notes **Measurement: Time** tell the time to the hour and half past

	model Number bonds to 10 Representing number stories Fact families	numbers to 20, including into tens and ones. Compare and order sets and numbers	**and 10)** Count to 50 forwards and backwards Find one more and one less Represent and partition numbers into tens and ones	**Volume** Compare, describe and solve practical problems	**and Direction** Describe position, direction and movement, including whole, half, quarter and three quarter turns	the hour and draw the hands on a clock face to show these times
YEAR 2	**Number: Place Value** Count and represent objects to 100 Partition into tens and ones Use a place value chart Compare and order sets and numbers Count in 2s, 3s, 5s and 10s **Number: Addition and Subtraction** Fact families,	**Number: Addition and Subtraction** Add and subtract a 2digit and a 1 digit number Add and subtract a 2digit and a 2 digit number Bonds to 100 (tens and ones) **Measurement: money** Recognise and use £ and p and combine amounts to	**Number: Multiplication and Division** 2 5 and 10 times tables, odd and even Make equal groups (sharing and grouping) Divide by 2, 5 and 10 **Statistics (within other curriculum areas, mainly Computing)** Tally charts, pictogram and block diagrams	**Geometry: Properties of Shape** Identify and describe the properties of 2-Dshapes (inc lines of symmetry), and 3D shapes Compare and sort common 2-D and 3-D shapes **Number: Fractions** Recognise, find, name and write fractions 1/2, 1/3, 1/4 , 2/4 and ¾ of a length, shape, set of objects or quantity	**Geometry: Position and Direction** Describe movement and turns Make patterns and shapes **Problem solving: efficient methods** Problem solving, problem of the day, **Measurement: Time** Tell the time to o'clock and half past, quarter past and quarter to Telling time to 5 minutes Hours and days	**Measurement: Mass, Capacity and Temperature** Compare mass Measure mass in grams Measure mass in kilograms Compare volume Millilitres Litres Temperature **Investigations** Application and consolidation

	bonds to 20 Bond to 100 (tens) 10 more and 10 less Add and subtract tens	make a value Solve problems with money inc finding totals and change **Number: Multiplication and Division** Recognise, make and add equal groups Use arrays 2 5 and 10 times tables	Ask and answer questions about data	Unit fractions and non-unit fractions Count in fractions **Measurement: Length and Height** Measure length (cm) Measure length (m) Compare lengths Order lengths Four operations with lengths	Find and compare durations of time	
YEAR 3	**Number: Place Value** Place value in 3-digit numbers Represent and compare numbers to 1000 Numberlines and different representations Find 1 10 and 100 more Order numbers	**Number: Addition and Subtraction** Add and subtract a 3-digit and 2-digit number Add and subtract a 3-digit and 3-digitnumber **Number: Multiplication and**	**Number: Multiplication and Division** Multiply a 2 digit number by a 1 digit Divide a 2-digit number by a 1 digit Problem solving Integer scaling **Measurement: Money**	**Measurement: Length and Perimeter** Measure, compare, add and subtract: lengths(m/cm/mm); Measure the perimeter of simple 2- D shapes. **Number: Fractions** Unit and non-unit Fractions Making the whole	**Number: Fractions** Equivalent fractions Compare fractions Order fractions Add fractions Subtract fractions **Measurement: Time** Months and years Hours in a day Telling the time to 5 minutes, 1 minute Using a.m. and p.m. 24-hour clock	**Geometry: Properties of Shape** *(carousel)* Turns and angles Right angles in shapes Compare angles Draw accurately Horizontal and vertical Parallel and perpendicular Recognise and

	Count in 50s **Number: Addition and Subtraction** Add and subtract multiples of 100 Add and subtract a 3-digit and 1-digit number	**Division** Recall and use multiplication facts for the 3,4 and 8 times tables Multiply and divide by 3,4 and 8 Compare statements and related calculations	Add and subtract amounts of money Work out change **Statistics** Interpret and present data using bar charts, pictograms and tables	Tenths Fractions on a numberline Fractions of a set of objects	Finding the duration Comparing durations Start and end times Measuring time in seconds	describe 2D shapes Recognise and describe 3-D shapes Make 3-D shapes **Measurement: Mass and Capacity** Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml)
YEAR 4	**Number: Place Value** Place Value of 4-digit numbers: Identify, represent and estimate order and compare and partition, rounding to the nearest 10, 100 and 1000 using concrete, pictorial and abstract Numberline to	**Measurement: Length and Perimeter** Kilometres Perimeter of a grid, rectilinear shapes **Number: Multiplication and Division** recall multiplication and division facts for multiplication tables up to 12 ×	**Number: Multiplication and Division** multiplying together three numbers recognise and use factor pairs and commutativity multiply two-digit and three-digit numbers by a one-digit number using formal written	**Number: Fractions** solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths **Number: Decimals**	**Number: Decimals** round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places **Measurement: Money** solve simple measure and money problems involving fractions and decimals to two	**Statistics** **Geometry: Properties of Shape** compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D

	10,000 Roman Numerals Negative numbers Count in 25s **Number: Addition and Subtraction** Addition and Subtraction of numbers up to 4 digits using column methods when appropriate Estimate and use inverse to check Problem solving (2-step) and reasoning	12	layout solve problems, integer scaling problems and harder correspondence problems **Measurement: Area** Find the area of rectilinear shapes by counting squares. **Number: Fractions** recognise and show families of common equivalent fractions count up and down in hundredths;	recognise and write decimal equivalents to find the effect of dividing a one- or two-digit number by 10 and 100,	decimal places **Measurement: Time** Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	shapes complete a simple symmetric figure **Geometry: Position and Direction** describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon.

Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Autumn	Getting to Know You			Just Like Me!			It's Me 1 2 3!			Light and Dark			Consolidation	
Spring	Alive in 5!			Growing 6, 7, 8			Building 9 and 10			Consolidation				
Summer	To 20 and Beyond			First Then Now			Find My Pattern			On The Move				

Autumn

Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Getting to Know You			Phase	Just Like Me!			It's Me 1 2 3!			Light and Dark		
Opportunities for settling in, introducing the areas of provision and getting to know the children.			Number	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.			Measure, Shape and Spatial Thinking	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

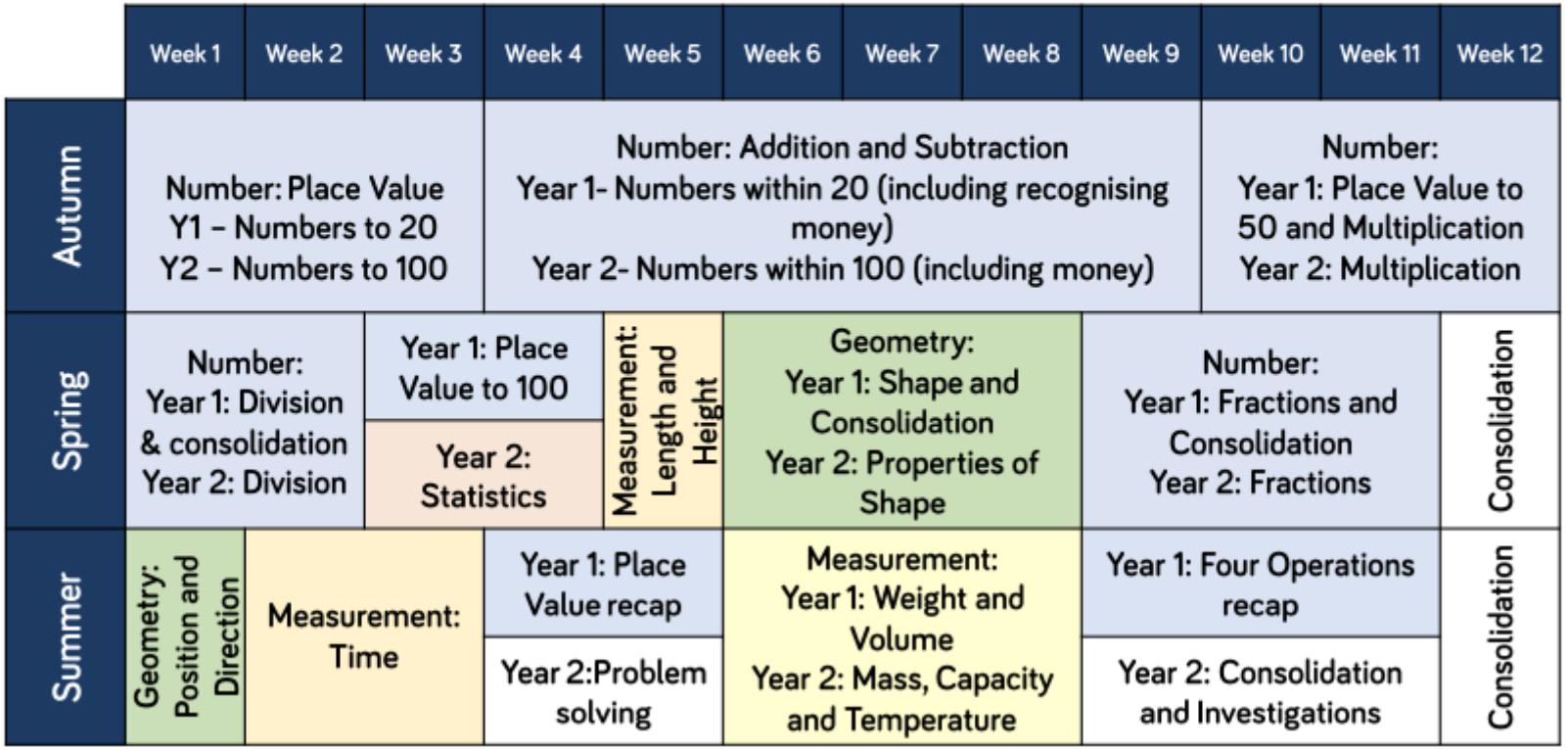
Spring

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing zero Comparing numbers to 5 Composition of 4 & 5			6, 7 & 8 Combining 2 amounts Making pairs			Counting to 9 & 10 Comparing numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-shapes Spatial Awareness Patterns		

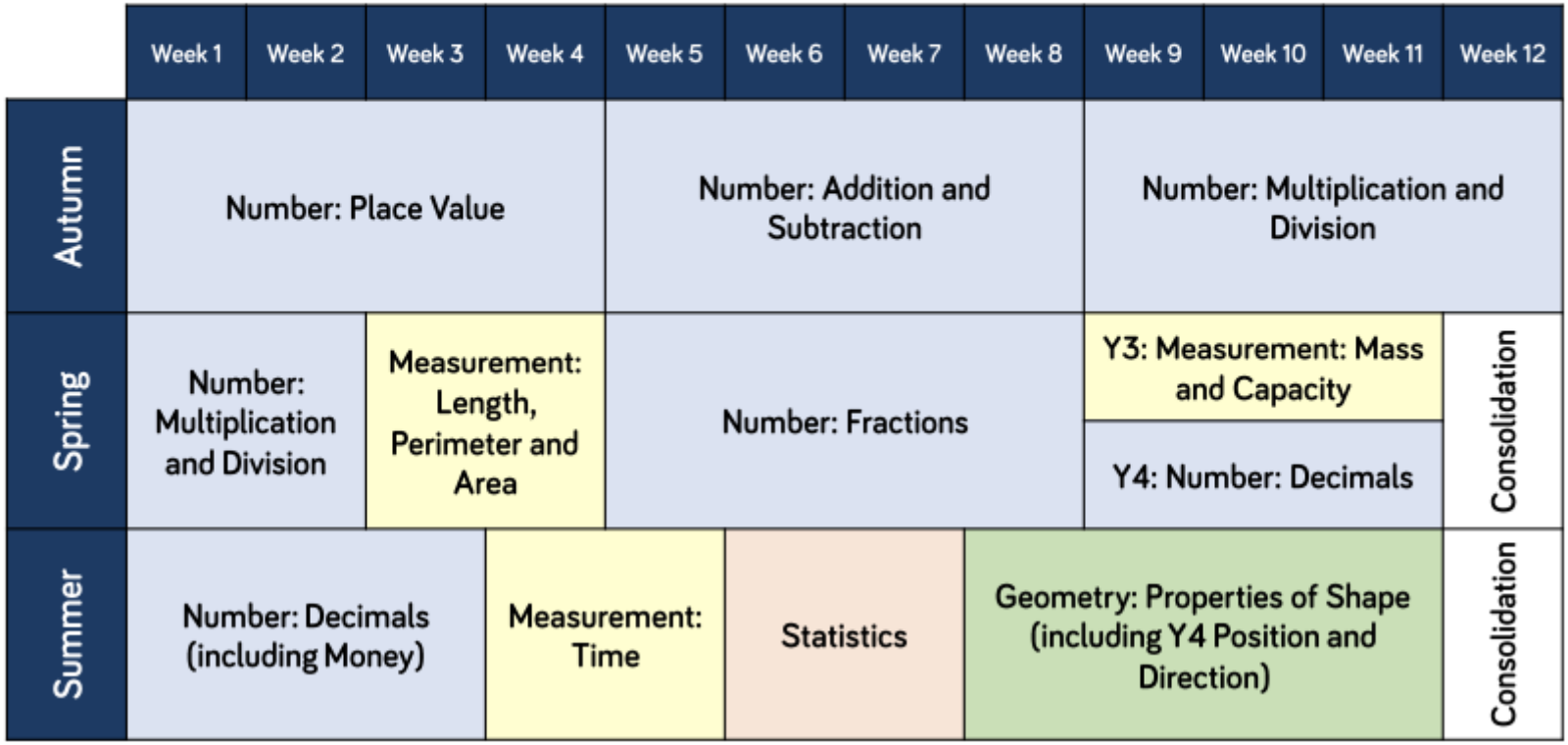
Summer

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even & Odd			Deepening Understanding Patterns and Relationships		
Spatial Thinking	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		

WRM – Year 1/2 – Scheme of Learning 2.0s



WRM – Year 3/4 – Scheme of Learning 2.0s



See below for adapted overview for Class 3

Adapted White Rose Mixed Age Plans

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn LO	Geometry: 2D & 3D Shape, Angles and Lines										Consolidation	
Autumn JL	Number: Place Value				Number: Addition and Subtraction				Number: Multiplication and Division			
Spring LO	Statistics: Charts, Tables & Graphs				Measurement: Y3 Time Geometry: Y4 Position on a Grid		Measurement: Length & Perimeter				Consolidation	
Spring JL	Number: Multiplication and Division				Number: Fractions				Number: Fractions and Decimals			
Summer LO	Measurement: Time				Measurement: Y3 Mass & Capacity/Temperature Y4 Symmetry					Consolidation		
Summer JL	Number: Place Value				Number: Addition and Subtraction				Number: Multiplication and Division			