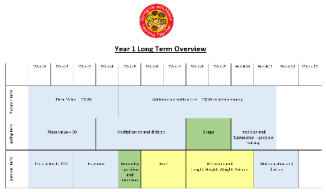
Year 4 Long Term Overview

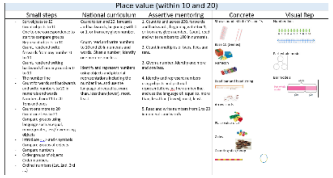
	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week 13
Autumn term	**Place Value** - Numbers up to 10,000 - Place value charts and counters - Number lines and these are also used for rounding - Partitioning - Negative numbers linked to temperature - Money					**Addition and Subtraction** - Partitioning - Column method - Missing numbers - Money - Worded problems / reasoning and problem solving			**Multiplication and division** - Bar models - M (Partitioning, grid and column) D (Grouping grid, hunk and mega hunk incl short division)				
Spring term	**Fractions** - What is a fraction? - Count in fractions - Equivalent fractions (1) - Equivalent fractions (2) - Calculate fractions of a quantity - Problem solving–calculate quantities - Fractions greater than 1 - Add 2 or more fractions - Subtract 2 fractions - Subtract from whole amounts -					**Decimals** - Recognise tenth - Tenths as decimals - Tenths on a place value grid - Tenths on a number line - Recognise hundredths - Hundredths - Hundredths as decimals - Hundredths on a place value grid - Make a whole - Write decimals - Compare decimals (2 dp) - Order decimals (2 dp) - Round decimals (1 dp) Halves and quarters (Connect Fractions and decimals)			**Length, Area and Perimeter** - Perimeter on a grid - Perimeter of a rectangle - Perimeter of rectilinear shape - What is area? - Counting squares - Making shapes - Comparing areas - MM, CM and M revisit - Kilometres (Compare and convert)		
Summer term	**Time** - Hours, minutes and seconds - Years, months, weeks and days - Analogue to digital –12 hour Analogue to digital –24 hour		**Money** - Pounds and pence (Link to tenths and making a whole) - Order money - Round to estimate money Four operations with money		**Statistics** - Interpret charts (using the information) - Comparison, sum and difference - Introduce line graphs Line graphs		**Geometry – Properties of shapes** -identify angels -compare and order angles -triangles -quadrilaterals -line of symmetry -complete a symmetric figure		**Position and direction** -Describe position -Draw on a grid -Move on a grid -Describe movement on a grid			

Daily Maths lessons at Hamer

Structure of a lesson

- Counting forwards and backwards (2 minutes)
- 6 a day arithmetic and revision question alternate days (5mins answer – recorded in books) 6 a day – give them the answers/ go over one question, revision question discuss with the children – during the revision question any misconceptions from children on the 6 a day can be targeted
- Vocabulary – including the my turn your turn approach or synonyms for other words eg add. This may be a retrieval based on the previous day.
- Main body of the lesson
- Independent work





When planning for learning:

- Start with the new long-term overview
- Use the same document that breaks this down into a medium-term plan
- Use the small steps on the medium-term plan to support planning
- Go to the White Rose documents on the O drive under – Updated Maths – 00 Maths – Deeping Materials – White Rose Hub – New White Rose – find your year group
- When designing the lesson, consider the following: What is the start point? What existing skills and knowledge may they have or need to revisit? What Concrete resources may you need? What Visual representations may you want use? What is the key learning in the lesson? What language do you need to model? Are there any sentence stems? Are there any key words the children need to know the definitions of? What is the end point?
- For support with designing questions for appropriate activities for independent learning please use the following
    - White Rose (On the O Drive follow above)
    - I See reasoning and problem solving (On the O Drive follow above)
    - Maths Hub – teaching for mastery (On the O Drive follow above)
    - NCTEM (On the O Drive follow above)
    - Classroom secrets
    - Nrich
- Remember the three key elements of Maths – Fluency, Reasoning and Problem Solving (There needs to be a balance between all three of them for children to develop a deep secure understanding and mastery of the curriculum)

	Counting (Forwards and Backwards)	Times tables (Forwards and Backwards)	Resources to support
Nursery	Number rhymes Movement counting Environmental counting Touch counting Counting up to 10		Counting sticks Counting hoops Number lines Hundred squares Multiplication squares Numicon Meter ruler Bead strings Straws Competitions/races/games around tables etc Count me in Clap and count Sensory equipment (eg, use of a bouncing ball, dropping marbles in a jar) Killer 15 21 Fizz Buzz Around the world Clapping and chanting BBC super movers (Goes forwards and backwards) Number fun songs
Reception	Counting to 10 and 20 Counting in 1's from different starting points up to 20 Counting in 2's from different starting points up to 20 Counting in 10s from different starting points up to 100 How many? Subitising – looking at patterns and pictures up to 10 Counting rhymes eg, five little speckled frogs	Counting in 2s, 5s and 10s	
Year 1	Counting to 10 and 20 Counting in 1's from different starting points crossing over 50 Counting in 2's from different starting points crossing over 50 Counting in odd and even numbers Counting in coins (1p, 2p, 5p, 10p, £1, £2, £5, £10) Counting in units of measures (cm)	2, 5 and 10	
Year 2	Revision from Year 1 Counting in 10s from different starting points up to 100 Counting in 2's from different starting points up to 100 Counting in odd and even numbers Counting in coins (1p, 2p, 5p, 10p, 20p, £1, £2, £5, £10) Counting in fractions (halves, quarters and thirds from any number to 10) – using pictures/resources to support Counting in different unit of measures (mm, cm, m) Counting in different times intervals	2, 3, 4, 5 and 10	
Year 3	Revision from Year 2 Counting in 50s/100s from different starting points Counting in 1000s from different starting points Counting in fractions (halves, thirds, quarters, fifths, eighths and tens) – using pictures/resources to support Counting in coins (1p, 2p, 5p, 10p, 20p. 50p, £1, £2, £5, £10) Counting in different unit of measures (mm, cm, m) Counting in different time intervals	2, 3, 4, 5, 6, 8 and 10	
Year 4	Revision from Year 3 Counting in 10's, 25s, 50's, 100s, 1000s from different starting points to 10,000 Counting in 10,000's from any start point Counting in square numbers Counting in coins in any amount (eg, 20p, 30p, 50p) Counting in unit fractions simplifying along the way (Eg ¼. ½. 3/4 , 1) Counting in decimals (tenths and hundredths) Counting in degrees (90, 180, 270 etc) Counting in different unit of measures (mm, cm, m, km) Counting in different time intervals	2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12	
Year 5	Revision from Year 4 Count in 10s, 25s, 50s, 100s, 1000s, 10000s, 100000s from different starting points to a million Counting in different units of measures Counting in prime numbers and cube numbers Counting below zero Counting in non-unit fractions (eg, 3/4)	2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12	
Year 6	Revision from Year 5 Counting in 10s, 25s, 50s, 100s, 1000s, 10000s, 100000s, 1000000s, from different starting points to ten million Counting in squared numbers to 20 Counting in decimals to 2 decimal places (including going below zero)	Times tables up to 15	

Place value

Small steps

- Count in 1,000s
- 1,000s, 100s, 10s and 1s
- Partitioning up 10,000
- Number line to 10,000
- Roman numerals
- Compare numbers up 10,000
- Order numbers up 10,000
- Multiply by 10
- Multiply by 100
- Divide by 10
- Divide by 100
- Round to the nearest 10
- Round to the nearest 100
- Round to the nearest 1,000
- Count in 25s
- 1, 10, 100 more or less
- 1,000 more or less
- Negative numbers
-

National curriculum

Count in multiples of 6, 7, 9. 25 and 1000.

Find 1000 more or less than a given number.

Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)

Order and compare numbers beyond 1000

Identify, represent and estimate numbers using different representations.

Round any number to the nearest 10, 100 or 1000

Solve number and practical problems that involve all of the above and with increasingly large positive numbers.

Count backwards through zero to include negative numbers.

Assertive mentoring

1.Count in multiples of 6, 7, 9, 25 and 1000.

2. Find 1000 more or less than a given number. Round any number to the nearest 10, 100 or 1000.

3. Count backwards through zero to include negative numbers.

4. Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000.

5. 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.

17. 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 ones, tenths and hundredths.

Concrete

Base 10 (Dienes)



Numicon



Place value counters



Bead bar and bead string





Arrow cards



Place value dice

Coins



Counting stick/hoop

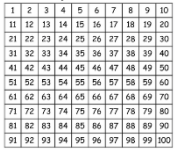


Visual Rep

Place value charts

100s	10s	1s

100 square

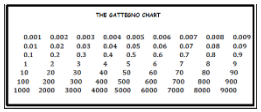


Number lines





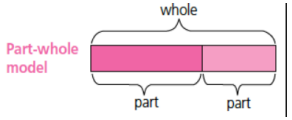
Gattegno chart



Part whole model



Bar models



- Expanded in to column. Column method as written numbers 4 digit and 2/3 digits. Mental method supported by a number line for 4 digits add ones, 4 digits add 10s, 4 digits add 100s

Addition and subtraction

Small steps

- Add and subtract 1s, 10s, 100s and 1000s
- Add two 4-digit numbers – no exchange (maybe not needed)
- Add two 4-digit numbers – one exchange
- Add two 4-digit numbers – more than one exchange
- Subtract two 4-digit numbers – no exchange (Maybe not needed)
- Subtract two 4-digit numbers – one exchange
- Subtract two 4-digit numbers – more than one exchange
- Estimate answers
- Checking strategies

VCP
+
Partitioning
Expanded column
Column

-
Number lines and practical
Expanded column
Column

National curriculum

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Assertive mentoring

6. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

7. Estimate and use inverse operations to check answers to a calculation.

8. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Concrete

Base 10 (Dienes)



Numicon



Place value counters

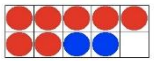


Bead bar and bead string





Tens frames



Discreet sets of objects e.g. counters, multilink





Money



Cuisenaire number rods



Visual Rep

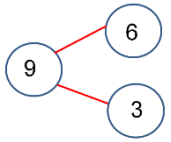
Calculation mat

100s	10s	1s

100 square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Part whole models



Number lines



Bar models

16	25
41	

16 + 25 = 41

28	
10	18

28 – 10 = 18

- Mental calculations where appropriate. Expanded in to column for multiplication. Division – Using Mega hunk to support short division.

Multiplication and Division

Small steps

- Factor pairs
- Multiply by 1 and 0
- Divide by 1
- Multiply 6, 7, 9, 11 and 12 using partitioning
- Multiply 6, 7, 9 11 and 12 using grid method / expanded column
- Divide using 6. 7 and 9 using hunk method
- Divide using 6, 7 and 9 using mega hunk method
- Multiply 3 numbers
- Efficient multiplication

Times table / Mental Maths lessons

- 6 times table and division facts
- 7 times table and division facts
- 9 times table and division facts
- 11 and 12 times tables

National curriculum

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Count in multiples of 6, 7, 9. 25 and 1000

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Recognise and use factor pairs and commutativity in mental calculations.

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Assertive mentoring

9. Recall multiplication and division facts for multiplication tables up to 12 × 12.

10. Recognise and use factor pairs and commutativity in mental calculations

11. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

Concrete

Base 10 (Dienes)



Numicon



Place value counters



Bead bar and bead string





Discreet sets of objects e.g. counters, multilink to group and share





Money



Arrays







Cuisenaire number rods

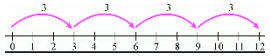


Visual Rep

Multiplication grid



Number lines



Bar models

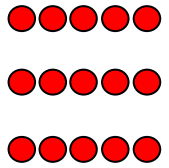
7	7	7
21		

7 x 3 = 21

24		
8	8	8

24 ÷ 8 = 3

Arrays



5 x 3 = 15

15 ÷ 5 = 3

Fractions

Small steps

- What is a fraction?
- Equivalent fractions (1)
- Equivalent fractions (2)
- Calculate fractions of a quantity
- Problem solving– calculate quantities
- Fractions greater than 1
- Add 2 or more fractions
- Subtract 2 fractions
- Subtract from whole amounts

Counting fractions done through the counting in every lesson

National curriculum

Recognise and show, using diagrams, families of common equivalent fractions.

Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

Add and subtract fractions with the same denominator.

Assertive mentoring

13. Recognise and show, using diagrams, families of common equivalent fractions.

15. Add and subtract fractions with the same denominator.

16. Recognise and write decimal equivalents of any number of tenths or hundredths; and the decimal equivalents to ¼, ½ and three quarters

Concrete

Cuisenaire number rods



Numicon



Discreet sets of objects e.g. counters, multilink





Paper strips

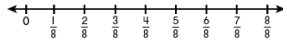


Fraction tiles

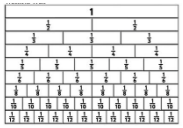


Visual Rep

Fraction number lines



Fraction wall



Bar models

12			
3	3	3	3

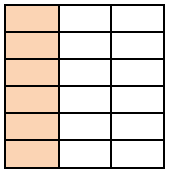
? (under the last three 3s)

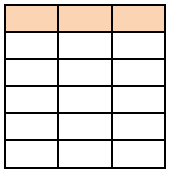
¼ of 12 = 3

1					
1/6	1/6	1/6	1/6	1/6	1/6

$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$

Arrays/area model

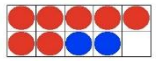
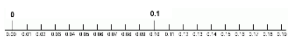
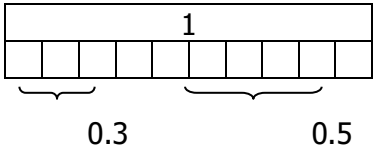
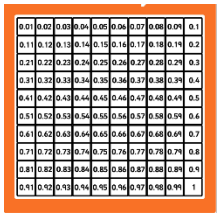
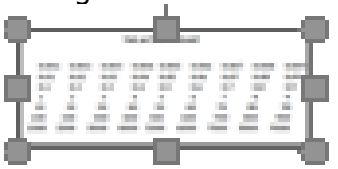




$\frac{1}{3} + \frac{1}{6}$

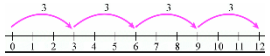
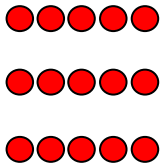
$\frac{6}{18} + \frac{3}{18} = \frac{9}{18} = \frac{1}{2}$

Decimals

Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Recognise tenth - Tenths as decimals - Tenths on a place value grid - Tenths on a number line - Recognise hundredths - Hundredths - Hundredths as decimals - Hundredths on a place value grid - Make a whole - Write decimals - Compare decimals (2 dp) - Order decimals (2 dp) - Round decimals (1 dp) - Halves and quarters (Connect Fractions and decimals)	Decimals Recognise and write decimal equivalents of any number of tenths or hundredths . Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths Solve simple measure and money problems involving fractions and decimals to two decimal places. Convert between different units of measure [for example, kilometreto metre] Compare numbers with the same number of decimal places up to two decimal places. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents to! ",! $and % "	14. Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten 18. Round decimals with one decimal place to the nearest whole number. Solve simple measure and money problems involving fractions and decimals to 2 decimal places.	Cuisenaire number rods  Numicon  Numicon baseboard  Bead bar and bead string   Tens frames  Base 10 (Dienes)  Metre stick  Arrow cards 	Number lines  Bar model  0.3 + 0.5 = 0.8 Decimal number square  Gattegno chart 

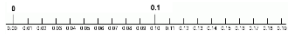
- Expanded in to column for multiplication. Division – Using Mega hunk to support short division.

Multiplication and Division

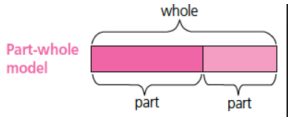
Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
Written methods consolidation Multiplication using grid alongside expanded and column method Division using mega hunk alongside short division (bus stop) - Multiply 2-digits by 1-digit - Multiply 3-digits by 1-digit - Divide 2-digits by 1-digit(1) - Divide2-digits by 1-digit (2) - Correspondence problems	Multiply two digit and three digit numbers by a one digit number using formal written layout. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	11. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. 12. Solve probs involving x and +, inc. using the distributive law to mult 2 digit nos by 1 digit, integer scaling probs and harder correspondence probs such as n objects are connected to m objects	Base 10 (Dienes)  Numicon  Place value counters  Bead bar and bead string   Discreet sets of objects e.g. counters, multilink to group and share   Money  Arrays    Cuisenaire number rods 	Multiplication grid  Number lines  Bar models 7 | 7 | 7 21 7 x 3 = 21 24 8 | 8 | 8 24 ÷ 8 = 3 Arrays  5 x 3 = 15 15 ÷ 5 = 3

Measurement (Length, Area and Perimeter)

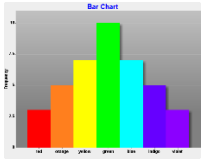
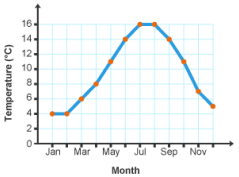
Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Perimeter on a grid - Perimeter of a rectangle - Perimeter of rectilinear shape - What is area? - Counting squares - Making shapes - Comparing areas - MM, CM and M revisit - Kilometres (Compare and convert)	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Convert between different units of measure [for example, kilometre to metre] Find the area of rectilinear shapes by counting squares	19. Convert between different units of measure (e.g. kilometre to metre). 20. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares	Ruler  Meter stick  Link to real life objects eg, pencils, books, tables	2d shapes 

Time				
Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Hours, minutes and seconds - Years, months, weeks and days - Analogue to digital –12 hour - Analogue to digital –24 hour	Convert between different units of measure [for example, kilometreto metre; hour to minute] Read, write and convert time between analogue and digital 12and24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	AM19. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days). 22. Read, write and convert time between analogue and digital 12 and 24-hour clocks.	Clocks   Calendar  Stopwatches 	Timetables eg train or bus Number line 

Money

Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Pounds and pence (Link to tenths and making a whole) - Order money - Round to estimate money - Four operations with money	Estimate, compare and calculate different measures, including money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places.	21. Estimate, compare and calculate different measures, including money in pounds and pence.	Money  Hamer shop	Bar models 

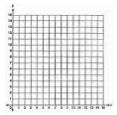
Statistics

Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Interpret charts (using the information) - Comparison, sum and difference - Introduce line graphs - Line graphs	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	29. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. 30. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.		Bar charts  Variety of tables  Line graphs 

	Game 1	Game 2	Game 3	Game 4	Game 5	Frequency
Peter	1	0	0	2	3	6
John	0	2	1	0	0	3
Ryan	1	0	1	1	0	3
Claire	2	0	2	1	2	7
Bill	3	1	1	0	1	6
Susan	0	1	3	1	0	5

Geometry – properties of shapes

Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Identify angles - Compare and order angles - Triangles - Quadrilaterals - Lines of symmetry - Complete a symmetric figure	Identify acute and obtuse angles and compare and order angles up to two right angles by size. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	23. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes 24. Identify acute and obtuse angles and compare and order angles up to two right angles by size 25. Identify lines of symmetry in 2-D shapes presented in different orientations 26. Complete a simple symmetric figure with respect to a specific line of symmetry.	Links to real life objects Eg, Pringles tin, Balls, Cereal packets 2d shapes – including quadrilaterals and polygons  3d shapes – cuboids, prisms and cones  Making shapes 2D and 3D including drawing Angle eaters  Peg boards  Mirrors 	2d representations of 3d shapes 

Geometry – position and direction				
Small steps	National curriculum	Assertive mentoring	Concrete	Visual Rep
- Describe position - Draw on a grid - Move on a grid - Describe a movement on a grid	Describe positions on a 2-D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a given polygon. Describe movements between positions as translations of a given unit to the left/ right and up/ down.	27. 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. 28. Plot specified points and draw sides to complete a given polygon	Using your hands – Making a L with your thumb and index finger	2d grid in the first quadrant  Using 2d shapes on the grids