Progression in Maths at Thurnham CE Infant School through an Empowering Curriculum

Recovery elements

"At Thurnham our Empowering Curriculum will give pupils the key skills that they need to flourish; Brain Power, Resilience, Independence, Investigating and Creativity"

At Thurnham we adopt a Mastery approach to the teaching and learning of Mathematics and all pupils are exposed to fluency, reasoning and problem solving activities as part of their Mathematical teaching and when mathematical skills and concepts are applied in a cross-curricular way.

Highlighted in Green are the areas that have not been taught in 2020-21 in line with NCETM curriculum guidance with regards to the Ready to Progress Criteria.

Highlighted in Blue are the areas that were not identified as Ready to Progress criteria by the NCETM but we have covered them but not in as much detail as we usually would and will need to be reviewed again.

EYFS	YEAR 1	YEAR 2
The children starting school in September 2021 will have had very little transition into school. It was not possible to meet the children before they started in their usual preschool settings. Although preschools were open during lockdown it is not known how many attended or for what period of time.	The EYFS team, using the White Rose home learning resources as a basis for their activities, set maths activities during home learning. However, the engagement in these tasks, and the work that that was subsequently produced and submitted to the Seesaw learning platform, varied considerably in both quantity and quality.	Year 2 will use the Ready to Progress criteria provided by Year 1 to ensure that they cover any gaps from areas that were not covered, or not in as greater depth as usual in the forthcoming year.
The Baseline Assessment will be used in the first few weeks of school to allow them to understand children's starting points. Once this data has been entered into SIMS (by the end of term 1) and it has been analysed they will have a better picture of the year group, and will be able to identify and plan for significant gaps.	Year 1 will use the Ready to Progress criteria provided by EYFS to ensure that they cover any gaps from areas that were not covered, or not in as greater depth as usual in the forthcoming year.	Year 2 are also using some WRMH resources, which revisit key concepts of number and place value from Year 1, as well as following the Year 2 objectives. They use mental starters to go over fluency from year 1. They do Monday Mini Maths every week, which is always revision of what we have learned so far this year. Sometimes it is mental or whiteboard work, sometimes it is a sheet of written questions to get them used to having different types of questions one after the other (to prepare for Sats).
To close any gaps, EYFS will be using the White Rose Maths document for planning Adult Directed opportunities. This will be important for ensuring coverage of the curriculum. They plan Maths on a weekly basis.	The result for Year 1 has meant that there will be some disparity between pupils' mathematical understanding as they enter KS1. For example, there are pupils that can already achieve some of the Year 1 objectives such as being to count, forward and backward from any number up to 100, whilst others are still unfamiliar with numbers up to 10. As a consequence, Year 1 have adopted the new White Rose Maths planning for Year 1 which incorporates revision of concepts taught in EYFS, whilst still covering and extending pupils into the Year 1 curriculum objectives. Additionally Year 1 have catch up sessions after each lesson to address any pupils that may have presented with misconceptions or gaps in their	Year 2 also have intervention groups which will focus on key elements of the Year 2 WTS expectations, revisiting Year 1 expectations as needed.
Ongoing assessments will be done e.g. observations to plan in Next Steps, which feed into planning. The children's starting points are usually 40-60 months, however, they will ensure 30-50 months expectations are embedded before being sure they can move on. This may differ significantly among the children. They will need to ensure		

Number and place value

- count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number
- place numbers in order
- given a number, identify one more and one less

Number and place value

- 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
- identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
- read and write numbers from 1 to 20 in numerals and words

Number and place value

- count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- recognise the place value of each digit in a two-digit number (tens, ones)
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use <, > and = signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems

number- addition and subtraction

- Using quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer.

number- addition and subtraction

- read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit

number- addition and subtraction

- solve problems with addition and subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures

	numbers to 20 , including zero
	
	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9
		▪ applying their increasing knowledge of mental and written methods
		▪ recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
		▪ add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
		    ➢ a two-digit number and ones
		    ➢ a two-digit number and tens
		    ➢ two two-digit numbers
		    ➢ adding three one-digit numbers
		▪ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
		▪ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems

Number-Multiplication and division ▪ Solve problems, including doubling, halving and sharing.	**Number-Multiplication and division** • solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	**Number-Multiplication and division** ▪ recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ▪ calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs ▪ show that multiplication of two numbers can be done in any order (commutative)

Number-Fractions
- Solve problems including halving.

Measurement
- children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.

Number-Fractions
- recognise, find and name a half as one of two equal parts of an object, shape or quantity
- recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

Measurement
- compare, describe and solve practical problems for:

    - lengths and heights
    - mass or
    - capacity/volume
    - time)
- measure and begin to record the following:

    lengths and heights

    mass/weight

    capacity and volume

    time (hours, minutes,   seconds)
- recognise and know the value of different denominations of coins and notes
- sequence events in chronological order

and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Number-Fractions
- recognise, find, name and write fractions $^1/_3$, $^1/_4$, $^2/_4$ and ¾ of a length, shape, set of objects or quantity
- write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of $^2/_4$ and ½

Measurement
- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using >, < and =
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- find different combinations of coins that equal the same amounts of money
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- compare and sequence intervals of time

	<mark>using language recognise and use language relating to dates, including days of the week, weeks, months and years</mark> ▪ <mark>tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</mark>	▪ tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times know the number of minutes in an hour and the number of hours in a day

Geometry-properties of shapes

▪ They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Geometry-properties of shapes

▪ recognise and name common 2-D and 3-D shapes, including:
  - ▪ 2-D shapes (e.g. rectangles (including squares), circles and triangles)
  - ▪ 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres)

<mark>**Geometry-position and movement**</mark>
<mark>describe position, directions and movements, including half, quarter and three-quarter turns</mark>

Geometry-properties of shapes

▪ identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line
▪ identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
▪ identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid
▪ compare and sort common 2-D and 3-D shapes and everyday objects

Geometry-position and movement

▪ order and arrange combinations of mathematical objects in patterns
▪ use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three- quarter turns (clockwise and anti-clockwise), and movement in a straight line

Statistics

▪ interpret and construct simple pictograms, tally charts, block diagrams and simple tables
▪ ask and answer simple questions by

		counting the number of objects in each category and sorting the categories by quantity - ask and answer questions about totalling and comparing categorical data - interpret and construct simple pictograms, tally charts, block diagrams and simple tables - ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity - ask and answer questions about totalling and comparing categorical data