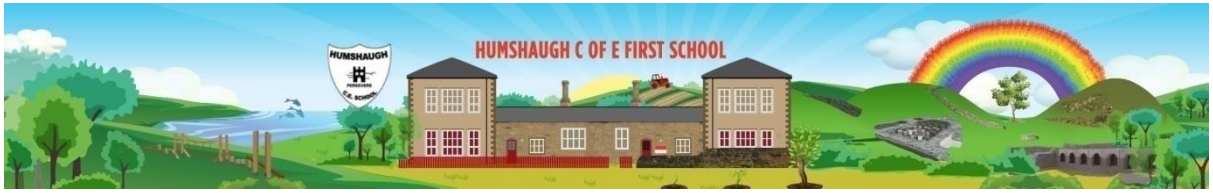
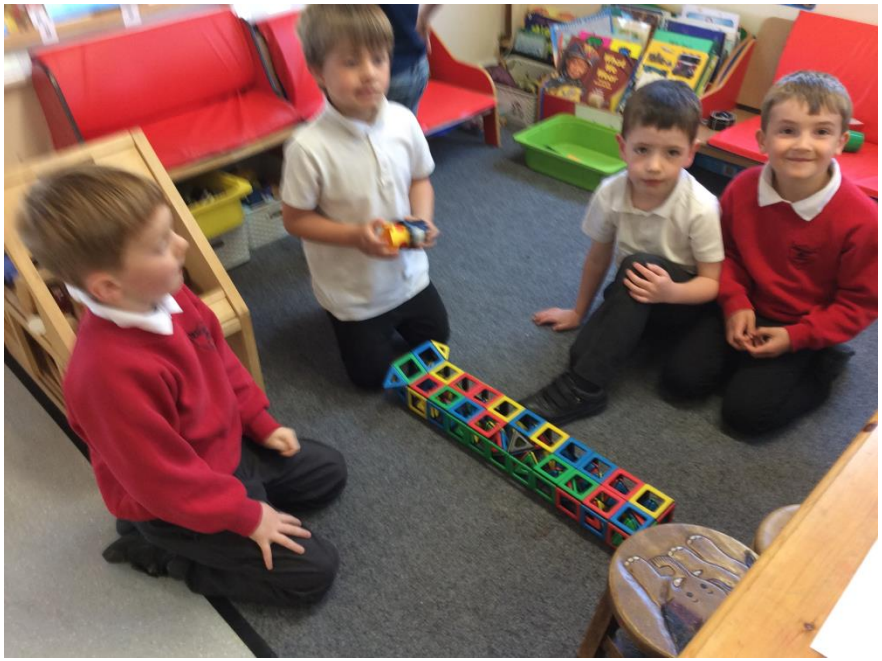


Early Years Curriculum

Mathematics



What does Mathematics look like in Early Years at Humshaugh C of E First School?

In Early Years at Humshaugh C o E First School children gain a positive and resilient attitude to mathematics. Children are taught a strong grounding in number and the vocabulary needed to articulate their mathematical thinking. They have the opportunity to learn both inside and outside of the classroom and be able to apply their skills and knowledge to a range of real life and meaningful contexts. Children are encouraged to be 'noticers' and see numbers and shapes everywhere they go and spot connections and patterns.

Mathematics is taught through stories, rhymes, playing games, exploring patterns and investigating as well as through specific teaching of skills and knowledge.

Our **2 year old Nursery** children have the opportunity to explore resources and be introduced to mathematical language and ideas. Number rhymes, counting, building, matching and sorting are all part of their daily experiences. Numbers are displayed and adults model the skills and language required. The children are encouraged to indicate numbers up to 5 with their fingers during number rhymes and in everyday situations. They also complete inset jigsaw puzzles, compare sizes (big and small) and weights (heavy and light) and investigate simple patterns. Our daily songs, stories and routines help them to develop and extend our mathematical vocabulary and knowledge.

Our **3-4 year old Nursery** children continue to focus on numbers to 5, recognising the numerals, counting and recognising amounts so that they gain a secure knowledge of these numbers. Some of our children also develop further to recognise, count and recognise amounts the numbers 6-10 including showing them with their fingers, as a result of following their own fascination for numbers. They begin to make symbols and marks to record their maths. They solve problems, compare quantities, talk about and play with 2D and 3D shapes. They also learn to understand positional language and make comparisons with size, length, weight and capacity. They talk about and make patterns and learn to describe a sequence of events. The children complete simple jigsaw puzzles, playing lots of number games, singing number rhymes and listening to and joining in with stories with a mathematical focus as well as using mathematical vocabulary during our daily routines.

In **Reception**, as part of our Mathematics teaching we follow the **White Rose Maths Scheme** which helps the children to 'dig deeper' with their thinking. They continue to develop their key skills with numbers to ten, learning to subitize (the ability to know how many just by looking at the pattern of the objects without counting them individually) and count beyond ten: comparing numbers and amounts and understanding one more and one less. The children find out about the composition of numbers and discover number bonds for numbers 1-10 through problem solving and practical activities. The children learn different ways to record their own ideas. They have opportunities to explore 2D and 3D shapes to see how they can be composed and decomposed and to help develop their spatial reasoning skills. The children create their own repeating patterns and compare weight, length and capacity. They learn how to explain their reasoning and investigate different possibilities as well as how to solve problems. Jigsaw puzzles, number games, number rhymes and stories continue to be a strong focus throughout Reception, as well as daily routines and the links to number and shape space and measures in all areas of the curriculum.

EYFS Humshaugh C o E First School Curriculum - Mathematics

Year group	Skills	Knowledge	Vocabulary	Resources, activities Books
2 Year Old Nursery children	**NUMBER** Matching objects that are the same. Being able to sort objects by one criteria Subitizing 1 and 2 things Selecting 1 or 2 items when asked Counting 1,2 or 3 objects. Recognising the numerals 1,2 and 3 Showing 1, 2 and 3 with fingers Use numbers beyond 3 with the intention of counting objects (but not always in the right order or missing some.) Recite numbers to 5 Joining in with number rhymes up to 5 Mark making Begin to share out objects to others e.g. at snack (not necessarily equally). **SHAPE SPACE AND MEASURES** Building with blocks and boxes. Follow simple instructions containing position words 'in', 'on' and 'under'	Colour, size and shape recognition Understand big and little, colour names and some shape names. "I can see 1 and I can see another 1" (subitizing) Know some number names Sequence of numbers 1,2,3 Know some finger rhymes and number rhymes Knows that sharing objects or food means giving some to everyone in the group Know what basic positional vocabulary e.g. 'in', 'on' and 'under' means in different contexts.	match, the same sort How many? count, one, two, three, lots, more, less, all gone number show me, fingers four, five share on, off, on top, in, out, over, under, up, down	Song/ rhyme number bags Loose parts Trim Trail, big bricks etc outdoors. Blocks, boxes and shapes Building towers Construction with different resources Hiding games, obstacle courses, Tidy up Time

	Balancing shapes. Fitting shapes into a shape sorter. Filling/Emptying different containers. Investigating objects which are different shape, size and weight- same and different Noticing patterns Completes inset jigsaw puzzles independently (at least 5 pieces) Begins to completing floor jigsaws with support	Knows how to match and sort circles, triangles and squares Know that some things are heavy and some are light, some are big and some are small, some are tall or high, heavy or light. Knowing routines Recognise patterns such as stripes/ dots. Know that you match shapes but might need to turn around or jiggle a piece to get it in an inset puzzle Know that you may have turn a piece around or use trial and error to attach a jigsaw piece.	circle, square, triangle, round, pointy, shape full, empty big, small, heavy, light, tall or high pattern stripes, dots puzzle jigsaw	Shape sorter, inset boards, shape lottos Sand and water toys Printing in creative area **Elmer** Inset puzzles Floor Jigsaw puzzles.
Nursery 3-4 yrs	**NUMBER** Subitize 3 things-pictures/ objects Touch counting to 5 Count small collections of things and other things like jumps. Selecting 2, 3 or 4 things when asked from a larger group. Counting back from 5 Rote counting to 10 Show numbers to 5 on fingers. Experiment with marks to represent amounts (using	Recognise small amounts without counting Know how to touch/ move objects to count them. Know that the last number you count identifies the number in the set (cardinal principle) Know when to stop counting. Know some number rhymes. Know the number names to 10. Know that numbers can be represented in different ways.	How many? count same /different/ nearly the same 54321 12345678910 dice, fingers, numbers, Numicon s	Loose parts play Objects to count Song and rhymes words and objects e.g 5 little ducks, 5 little speckled frogs Numbers 1-5 Lottos **Six Dinner Sid**

	numerals/ tallies and their own symbols) Match numerals to amounts up to 5 Identify numbers in the environment. Learn how to play simple number games. **PROBLEM SOLVING** Respond verbally to questions that involve simple mathematical language. Solve simple mathematical problems. Compare amounts in sets. Sequence up to 3 simple pictures for either routines or stories. Sort objects into sets by 2 different criteria. Understand and use positional language effectively. Make small same size sets of dissimilar items (up to 5 in a set) e.g. find 4 bears to go with 4 chairs. Count different things e.g. steps, hops, claps. Share up to 4 objects between 2 people fairly. **SHAPE**	Begin to recognise numbers. Know that numbers are everywhere. Know how to count along a track Know and understand the key vocabulary to respond in simple problem solving activities. Know what order things happen -sequencing events Identify objects that are the same, different. Know key positional language. Know what a set means (a group of things match by at least one criterion) Understand that you can count movements or sounds as well as things Know that you can share by going 'one for you, one for me 'etc.	How many altogether/left? more than fewer than, left, same, none, share First, after, before, then, next On, on top, off, in, out, under, over, next to, behind, in front, inside, outside, Hop, step, clap, tap share, fair, the same,	**The Hungry Caterpillar** **Ten Seeds** Number blocks, Counting with Rodd Dice Dominoes Skittles Spinners Number tracks Big Numicon shapes Numicon 5 Frames Dot plates Objects to count and sort Number tiles Sequencing pictures sorting hoops Useful websites-Top Marks for counting games. NCETM NRich Maths Early Years Educator, Teach Early Years.com Clapping games Musical instruments

	Use construction materials for building. Explore shapes and select appropriate shapes for a purpose. Identifying shapes in the environment Can identify a shape from a description of its properties Learn how to complete 6/8 piece jigsaws **MEASURE** Talk about and compare objects according to size, length, weight and capacity. Talk about how objects are the same and different. Be aware of the days of the week and understand that different things happen on different days. **PATTERN** Be able to identify patterns. Copy and continue an AB pattern. .	Know how construction joins together. Know the names of some 2and 3D shapes and describe them. Know and use key vocabulary accurately for the task of comparison. Know some different strategies to complete jigsaws e.g. matching colours, shapes or the picture, using trial and error to find where a piece goes, a piece turning round so it fits etc Know that objects can be sorted according to different criteria. Begin to know some of the days of the week Sequencing events Recognise pattern and understand the language of pattern Know the same object is repeated again and again	bricks, clocks, cubes, build, fix circle, triangle, square, rectangle cube, cone. straight, flat, round, corner, side, curved, point long longer longest tall, taller, tallest short, shorter, shortest medium sized, heavy/light, full/empty -half full Morning, afternoon, night time ,yesterday tomorrow Repeat, same, match	Boogie mites Construction resources 2 and 3D shapes jigsaws Egg timers 2D and 3D shapes Class 1 Visual timetable with the day of the week at the top and that day's activities sequenced below peg boards, pattern cards Threading, printing. Loose parts e.g. shells, sticks, leaves etc

Reception	**NUMBER** Sorting sets in different ways- what's my rule? Odd one out Subitisingupto 6 Conceptual subitisinge.g 3 and 1 is 4 Find up to 10 objects accurately from a larger group Partitioning and number composition of numbers to ten. Find different ways of making and representing a number. Match objects , actions and sounds to a numeral Compare numbers and amounts- which is bigger/ smaller Count forwards and backwards to 10 and beyond Combine 2 groups to find a total Play dice and spinner games Write and order numbers to 10. To be able to match pairs and count in 2's. To be able to find and identify doubles. To be able to share equally **PROBLEM SOLVING** Record maths in their own ways	Know that you don't always have to count- recognising small amounts of things Know that if you group objects, you can work out how many there are. Know that numbers are made up of other numbers. Know the cardinal counting principal- (last number in the set) Know that numbers can be represented in different ways. Understand one more than and one less than. know the order of numerals 1-10 and 10-1 Be able to count verbally to 20 and beyond Know and be able to use the + - = symbols and write/say a number sentence To be able to automatically recall number facts to 10. Know how to form the numerals 1-10 To understand and identify odd and even numbers To understand and know doubles to 10.	Same and not the same e.g red and not red. How many? Part part whole sharing more than, fewer Add, take away Same/ different/ nearly the same. More than, less than, fewer, equal to Odd, even Doubles/ same	Loose parts for sorting. Counting and number songs e.g 10 little men in a flying saucer 10 Green Bottles 10 in the bed 5 currant buns Numicon cubes Number jigsaws Hopscotch skittles **Ten Seeds** **Ten Black Dots** **Count to ten and back Again** Dot cards Numeral cards Tens frame Number tracks 100 squares Visual displays of number bonds MMS number formation White Rose Maths Resources

	Explain why something is the odd one out Find the missing number in a sequence. Estimate how many **SHAPE** Develop spatial reasoning skills by playing with shapes and construction Compose and decompose 2 and 3D shapes **MEASURE** Compare length, weight ,size, capacity and time	To be able to talk about sharing fairly. Use stem sentences to explain knowledge and thinking e.g "I know it's a ….. because its….." Understand the difference between estimating and counting. Be able to identify shapes by name and know some of their properties	Share Tally Repetition of previous vocab taught. Estimate, count Shape names-triangle, square, circle, rectangle, sphere, cube, cuboid, cone, pyramid sides faces corners Comparative language-heavier than, lighter than, longer than, taller than, shorter than. Heaviest, lightest, longest, shortest, quicker, slower, full, empty, nearly full, nearly empty, half full On, on top, off, in, out,	Dot to dots Board games Dominoes Games/ resources: Snakes and Ladders Dominoes Dice Lycra/parachute Numbered cars Beanbags Skittles Jigsaws Magnetico (to build 3D structures and shapes) Egg timers, Ipad Timer App Height chart Tape measures Money (to be used in play) Calendar Balance scales, Rulers Measuring jugs Baking, making

	Understand and use a wide range of positional language Understand and order the seasons Sequence a day using time vocabulary Say the days of the week **PATTERN** Copy and continue an AB and AABB and ABBA patterns. Create own patterns, noticing and correcting errors and describing the pattern rule Notice and identify patterns in the environment and in numbers.	Know how to relate themselves to objects or two objects to each other in a wide range of positions Know the order of the 4 seasons. Know the days of the week and the seasons of the year in the right order Know that a pattern can be made with actions sounds or objects Know that there are patterns in numbers. Understand and identify when there is an error in the pattern. Know that patterns can be found everywhere in nature and man-made things.	under, high, low, next to, behind, in front, inside, outside, around, in between, through, , above, below Spring, Summer, Autumn, Winter, morning, afternoon, evening, night, bed time, now, next, after, later, soon Days of the week	playdough **The Enormous Turnip** **The Secrets of Winter** **The Growing story** **Once There were Giants** **Who sank the boat?** **Rosie's walk** **Sunflower House** **The Hungry Caterpillar** Sequencing pictures **Jasper's Beanstalk** Class 1 Visual timetable with the day of the week at the top and that day's activities sequenced below Loose parts- natural and found materials Compare Bears Musical instruments

Mathematics ELGs

Number ELG:

Children at the expected level of development will: -

- Have a deep understanding of number to 10, including the composition of each number;
- Subitize (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns ELG

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.