Progression of skills: Maths - Ratio and Proportion

Curriculum intent:

At Shawclough, our intent for Mathematics is to teach a rich, balanced and progressive curriculum using Maths to reason, problem solve and develop fluent conceptual understanding I n each area. Our curriculum allows children to better make sense of the world around them by making connections between Mathematics and everyday life. Our policies, resources and schemes of work support our vision and clearly outline where Maths can be incorporated across different curriculum areas. The structure of the Mathematics curriculum across school shows clear progression in line with age related expectations. Teaching curriculum content in blocks allows children to explore skills and knowledge in depth and gain a secure understanding of particular subject matter. Key knowledge and skills are also revisited regularly allowing repetition to embed learning. A concrete, pictorial, abstract approach provides children with a clear structure in which they can develop their depth of understanding of mathematical concepts. We aim to ensure that Mathematics is a high profile subject which children view positively and with a 'Can do' attitude.

For the youngest children developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationship between and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding- such as using manipulative, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes

Intended Experiences **Nursery**	**Intended Experiences** **Reception**	**Early Learning Goal** **Maths – Numerical pattern**
To spot patterns and talk about them e.g. stripes on a scarf. To react to changes in amounts e.g in hiding and returning rhymes (two little dicky birds) To notice and arrange things in patterns To begin to understand position through words alone e.g. in front behind To begin to use vocabulary to describe the time of day e.g. morning, afternoon, evening, yesterday, tomorrow To select shapes appropriately when building To extend a pattern that has been made and create my own simple patterns (ABAB) To start to talk about upcoming events e.g. Birthdays and then talk about what happened after the event To understand in front behind, on top, next to To talk about patterns and spot errors To continue and create patterns To sequence a pattern of events using time language e.g. first, next, then. To talk about 2D and 3D shapes (using informal vocab e.g. sides, straight, round, flat) To describe a familiar route using vocab e.g. in front, behind	To understand the 'one more than/one less than' relationship between consecutive numbers · To link the number symbol (numeral) with its cardinal number value. To count to 10 by rote To compare manipulatives (e.g. saying when one tower is bigger/smaller) To find one more/ one less using resources To continue and copy patterns To create their own patterns To subitise, recall number bonds, estimate and compare quantities and have a deep understanding of number to 10. To to 20, knowing the teen numbers · To compare two quantities saying when one is bigger/smaller/ same To say a number that is one more/ less without resources. To spot errors in the pattern and can name a pattern e.g. ABAb To star to identify odd and even numbers linked to sharing	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

Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
					Solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication and division facts.
					Solve problems involving the calculation of percentages (for example, of measures, and such as 16% of 360) and the use of percentages for comparison.
					Solve problems involving similar shapes where the scale factor is known or can be found.

					Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
VOCABULARY					
					Ratio, scale, factor, similar, proportion, part, whole, scale, similar, notation.