Progression of skills: Maths - Statistics

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

INTERPRETING, CONSTRUCTING AND PRESENTING DATA					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Interpret and present data using bar charts, pictograms and tables.	Interpret and present discrete and continuous data, using appropriate graphical methods, including bar charts and time graphs.	Complete, read and interpret information in tables, including timetables.	Interpret and construct pie charts and line graphs and use them to solve problems.
	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.				
SOLVING PROBLEMS					

		Solve one-step and two-step questions (e.g. 'How many more?' and 'How many fewer?'), using information presented in scaled bar charts and pictograms and tables.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Solve comparison, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.
VOCABULARY					
Count, sort, vote, group, set, list, table.	Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, label, title, Most popular, most common, least popular, least common	Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, Chart, bar chart, frequency table, Carroll diagram, Venn diagram, label, title, axis, axes, diagram Most popular, most common, least popular, least common	Count, tally, sort, vote, survey, questionnaire, data, block graph, pictogram, represent, group, set, list, table, Chart, bar chart, frequency table, Carroll diagram, Venn diagram, label, title, axis, axes, diagram Most popular, most common, least popular, least common	Count, tally, sort, vote, survey, questionnaire, Data, database, graph, block graph, pictogram, represent, group, set, list, table, Chart, bar chart, frequency table, bar line chart, Carroll diagram, Venn diagram, line graph, label, title, axis, axes, diagram Most popular, most common, least popular, least common, maximum/minimum value, outcome	Count, tally, sort, vote, survey, questionnaire, Data, database, graph, block graph, pictogram, represent, group, set, list, table, Chart, bar chart, frequency table, bar line chart, Carroll diagram, Venn diagram, line graph, pie chart, label, title, axis, axes, diagram Most popular, most common, least popular, least common, maximum/minimum value, outcome, Mean (mode, median, range as estimates for this), statistics, distribution.