Hallfield Primary School

Growing, Learning, Achieving Together

Year 5 Maths Curriculum Overview

A Structure for Mathematics

The sequence for teaching builds skills over time with a deep understanding of mathematical concepts that can be applied to a range of concepts. Throughout a lesson, teachers should plan to include opportunities to practice, use and apply, problem solve and reason and explain. As per the Curriculum, Teaching and Learning policy, the teaching of mathematics embeds the principles of mastery and quality first teaching. Teachers use the practices of metacognition and self-regulation as well as managing cognitive load when planning and teaching. The following framework offers practical guidance and should be referred to in planning.

Prior knowledge

Teachers should be clear about the children's prior learning before entering the new teaching unit and how they are building on these to move children forward, as well as introducing new skills and concepts. The overview below shows how in each year group concepts are revisited and built on throughout a year.

Vocabulary

At the beginning of each new unit, children will be introduced to key vocabulary relevant to the unit. Throughout the unit these words will be learned and revisited. The vocabulary progresses throughout the year groups and is revisited within similar units from Year 1-6.

Discover

Within a lesson, a 'Discover Challenge' is introduced to the students linked to the main learning of the lesson. Here the children explore new maths problems and have a chance to tackle a challenge applying the maths knowledge they already know. The teacher encourages any strategies and children should not be afraid to make mistakes as a culture of learning from mistakes is embedded into lessons.

Share

Following on from the Discover, the children and teacher have a chance to share their strategies for how they approached the Discover questions. Often there are multiple solutions- this encourages different ideas, thinking and approaches within the class.

Think together

Next in the 'Think together' section the children and teacher have a go at some similar problems together. The children use what they have learnt to approach new but similar challenges. The main teaching input takes place in this section and the children have a chance to practise methods and strategies using models before doing their independent work.

Independent task

Having received the teaching input, the children progress onto their independent learning. The learning in books is designed to develop fluency of their knowledge and skills. The tasks set follow a pattern of practice to use and apply which aim to develop fluency of a skill involving a range of representations. Having practiced the skill, the following challenges aim to develop problem solving and reasoning skills and develop a deeper understanding of key ideas and concepts.

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End of unit check

Having covered a unit in a block of lessons, the children complete an 'End of Unit' check, which involves a set of questions covering all the knowledge, skills and concepts that have been taught. This is useful for teachers to address any misconceptions and gaps in learning that can be planned for in future lessons.

Term	Mathematical strand	Key coverage
Autumn	Number-place value	Numbers to 10,000 Rounding to the nearest 10, 100 and 1,000 10,000s, 1,000s, 100s, 10s and 1s The number line to 100,000 Comparing and ordering numbers to 100,000 Rounding numbers within 100,000 Roman numerals to 10,000 100,000s 10,000s, 1,000s, 100s, 10s and 1s Number line to 1,000,000 Comparing and ordering numbers to 1,000,000 Rounding numbers to a 1,000,000 Negative numbers Number sequences
	Number- addition and subtraction	Adding whole numbers with more than 4 digits Subtracting whole numbers with more than 4 digits Mental addition and subtraction Using inverse operations Problem solving – addition and subtraction
	Statistics	Interpreting tables Two-way tables Interpreting line graphs Drawing line graphs
	Number- multiplication and division	Multiples Factors Prime numbers Using factors Squares Cubes Inverse operations Multiplying whole numbers by 10, 100 and 1,000 Dividing whole numbers by 10, 100 and 1,000

	Measurement - length	Measuring perimeter Calculating perimeter Calculating area Comparing area
Spring	Number- multiplication and division	Multiplying numbers up to 4 digits by a 1-digit number Multiplying 2-digit numbers Multiplying a 3-digit number by a 2-digit number Dividing up to a 4-digit number by a 1-digit number Division with remainders Problem solving – division with remainders
	Number- fractions and decimals	Equivalent fractions Converting improper fractions to mixed numbers Converting mixed numbers to improper fractions Number sequences Comparing and ordering fractions Fractions as division Adding and subtracting fractions with the same denominator Adding and subtracting fractions Multiplying fractions Calculating fractions of amounts Using fractions as operators Writing decimals Decimals as fractions Understanding thousandths Writing thousandths as decimals Ordering and comparing decimals Rounding decimals Understanding percentages Percentages as fractions and decimals Equivalent fractions, decimals and percentages
Summer	Number- decimals	Adding and subtracting decimals Decimal sequences Problem solving – decimals Multiplying decimals by 10 Multiplying decimals by 10, 100 and 1,000 Dividing decimals by 10 Dividing decimals by 10, 100 and 1,000
	Geometry- properties of shape	Measuring angles in degrees Measuring with a protractor Drawing lines and angles accurately Calculating angles on a straight line Calculating angles around a point Calculating lengths and angles in shapes Recognising and drawing parallel lines Recognising and drawing perpendicular lines

		Regular and irregular polygons Reasoning a bout 3D shapes
	Geometry -position and direction	Reflection Reflection with coordinates Translation Translation with coordinates
	Measurement- length	Metric units Imperial units of length Imperial units of mass Imperial units of capacity Converting units of time Timetables
	Measurement – volume	What is volume? Comparing volumes Estimating volume Estimating capacity