'At Holywell Village First School we have high aspirations for our children to become well-rounded and responsible future citizens. We ensure that they are happy, independent and have positive self-esteem. Our children have a thirst for learning. They are curious about the world around them and are confident to 'have a go'. They are reflective learners who persevere and demonstrate good communication and social skills. They are thoughtful, caring and kind.

Maths at Holywell - Teaching and Learning Profile 2022-2023

The road to mastery:

At Holywell our journey towards developing a new Maths Mastery curriculum began in September 2016 and since then, we have we have invested a lot of resources in developing staff's professional development to support this change of teaching and learning. In 2016, the Year 4 maths coordinator and Year 2 class teacher became part of the NCETM Mastery Specialist Teacher Research Groups as part of the Maths Hub National Programme to support mastery in primary schools. As part of this they had the opportunity to work alongside the maths mastery leads from North Tyneside schools and observe teaching.

The first whole school focus was on the introduction of the key mastery principle of 'representation' and through this the use of manipulatives such as Numicon, Place Value Counters, Cuisenaire Rods etc. All members of staff attended an INSET day on Numicon and the school purchased Numicon resources for every class from Nursery to Year 4. Throughout the year, staff training focussed on the key principles of fluency and mathematical thinking and how children's learning could be deepened through problem solving and reasoning activities. As a result of this, the school introduced 'greater depth' problems which are based on problem solving skills and a 'Captain Challenge' problem which develops children's reasoning skills. There is an expectation that all children, regardless of ability, will have the opportunity to have a go at these problems throughout a week and unit of work. All teachers from Year One to Four had observed a Shanghai teacher teach a 'mastery lesson' and reflect on this style of teaching with other practitioners who are introducing a mastery approach.

In 2017-2018, pre and post assessments were introduced from Years 1 -4 and were used to inform planning and teaching. Lesson design was also incorporated into this and the Maths coordinator, with input from the staff, devised a new unit overview proforma, which identified how teaching should be planned and a long term overview which links to the White Rose Maths Hub scheme. Staff also participated in training on the use of bar models and images from Years 1 – 4. The maths coordinator completed her Mastery Maths lead training with the NCETM Primary Mastery Specialist Programme and became a Mastery Maths Specialist for the Great North Maths Hub. As a result, they lead Teacher Research Groups for schools in Northumberland, North Tyneside and Newcastle to develop, embed and sustain maths in their own settings.

The focus in school for 2018/2019 was redesigning the calculation policy so that it matched the mastery principles and the use of a concrete, pictorial and abstract (CPA) approach. The use of precise vocabulary and Stem sentences was also a priority and staff received CPD on this. In Year 4, a system for identifying how children who are 'quick graspers' are being challenged was also developed through 'Diving Deeper' problems.

In 2019-2020, school began work on developing conceptual and procedural variation and the use of pre-teaching strategies. However, this work was halted half way through due to school closures because of Covid 19 and this became the focus for 2020-2021.

Curriculum prioritisation is the focus for the academic year 2020 – 2021 and the subject leader has planned professional development for staff to enable them to use the new NCETM prioritisation materials in their curriculum design. They will also support staff in ensuring that the learning trajectory is progressive and builds on prior learning/steps in a cumulative way through a lesson, unit or work or

concept. A whole school development this year has been language acquisition and this was also an area for development with maths.

2021 -22 When looking maths in the EYFS and KS1, it was identified that the we needed to strengthen the pupils fluency and flexibility with number facts and relationships and school therefore, enrolled and on the National NCETM 'Mastering Number' programme for Reception, Year 1 and Year 2. The Year 3 class teacher also took part in the 'Sustaining Mastery Maths' programme to help them embed maths in their own classroom practice.

In order to support new staff within Holywell, the maths lead has taken a break from their 'Mastery Maths Specialist role' with the Great North Maths Hub. However, to ensure that they keep up to date with developments in mastery maths, the Year 2 class teacher and subject lead has joined the 'sustaining Mastery Maths' work group and 'Embedding Mastering Number' work group. They attend half termly workshops and disseminate information of developments during whole school CPD opportunities.
An area for development this academic year is ensuring 'Equity for all pupils' and whole school staff training has been delivered October 2022.

The impact of these current and past developments will be monitored by the maths coordinator, SLT and maths governor through lesson observations, book and planning scrutinies, pupil and staff voice conversations throughout the year. See the School Improvement Plan for more information.

What Maths lessons look like at Holywell:

At Holywell, children receive input from their teacher to match their needs. We teach mathematics to whole classes and do not label children (this includes within the classroom). Lessons are planned based on formative assessment (pre assessments) of what students already know and we include all children in learning mathematical concepts.

At the planning stage, teachers consider what scaffolding may be required for children who may struggle to grasp concepts in the lesson and suitable challenge questions for those who may grasp the concepts rapidly. Decisions are not made about who these children may be prior to the lesson. Children are sat in mixed ability groupings and these seating's change on a regular basis depending on the children's needs, content of the lesson and concept being taught.

We follow a lesson design of teacher input, fluency activity, then application through a greater depth problem (Problem solving) and/or a captain Challenge problem (conjecturing). Where some children are already fluent in a skill, they may begin on the greater depth or Captain Challenge problem which allows them to reason, make connections and think mathematically. They may work on these activities with the class teacher or independently, whilst the teacher and support staff deliver specific interventions to children. Lessons are designed on the principle of 'concrete, pictorial to abstract' and where applicable, a range of manipulatives are used across the school to support children secure key concepts, and to become fluent in methods of calculation. Careful questioning is also used to probe the pupil's understanding throughout a lesson and responses are expected in full sentences, using precise mathematical vocabulary.

There is a daily Hi 5 Maths session from Years 1 to 4 which focuses on the practise of basic key skills per session. The session is quick paced and interactive. In Key Stage 1 this lasts between 15- 20 minutes and Key Stage 2 between 20 – 25 minutes. All children should be actively involved in the session and included through differentiated questioning, challenge tasks and support.

Pupils in Reception, Year 1 and Year 2 undertake a daily 10 minute 'Mastering Number' session using the principles of the 'Mastering Number' programme which aims to develop fluency and flexibility with number facts and relationships. A key representation used in this is the Rekenrek and school has enough for all pupils in Reception, Years 1 and 2. .

In order to address the aims of the NC, our long/medium term plans have been adjusted to allow longer on topics. Each lesson focus is on one key conceptual idea and connections are made across mathematical topics. To outsiders it may appear that the pace of the lesson is slower, but progress and understanding is enhanced. Our assessment procedures recognise that the aims of the curriculum cannot be assessed through coverage (ticking many objectives off a list) but through depth within a topic.

Tracking attainment and progress:

The school has introduced the ‘Small Steps Progression’ document which they have taken from the White Rose Maths Hub and NCETM curriculum Prioritisation materials and adapted it as an assessment tool for mathematics. Staff use these small steps and assess children’s progress against these as they are taught. At the end of each maths unit, teachers indicate which children are not working at the expected level and working at a greater depth. This data is collected in by the SLT (Maths coordinator) and children who have not yet made the expected progress, or children who are working behind the expectations for their year group are identified.

Pupil Progress meetings are then held to review the successes of the term, and to identify next steps for those vulnerable children identified. The information from these meetings is used to plan support timetables and further CPD for staff. The data analysis is supported by lesson observations, planning and book scrutinies and small step progression monitoring which are carried out termly.