

Maths at Landewednack CP School - November 2019

Our aim is for children to enjoy maths and be excited about their daily maths lessons. We want children to understand and become fluent in age appropriate maths, which will mean that they can tackle problems and reason about maths confidently. We want children to see maths all around them and across the curriculum which will help them to develop vital life skills in this subject.

For the past two years we have been on a journey to improve mathematics teaching and learning across our school. As a school we have been working hard to incorporate the three aims of the National Curriculum: Fluency, Reasoning and Problem Solving. We understand that in order for children to have a deep understanding, they need to regularly practise all three of these. We have reasoning sentence starters displayed in classrooms and maths working walls display examples of fluency, reasoning and problem solving which the children can use every day to help them with their independent work.

Maths in Seagulls (Reception and Year 1)

In Reception the children begin their mastery journey with adult led activities with a particular mathematical focus. The teacher uses AET planning to ensure objectives are met and to support teaching for mastery. The children are taught in groups of varying size according to the task that has been planned. The children learn about maths in everyday situations and are encouraged to use their mathematical skills at different times of the day such as snack time. This ensures that maths is meaningful. Resources used are often chosen to fit in with the class topic. Open-ended questioning is often used to help children explore and secure their understanding. Recording maths is done in workbooks and also recorded on Tapestry. Photographic evidence is also included in books and on Tapestry.

In Year 1 maths is teacher led. Currently the teacher is using Maths No Problem. Lessons are planned and taught on PowerPoint presentations and high quality images and resources are used to develop the link between the concrete, pictorial and abstract. The children are taught to use Numicon, tens frames, number lines and various counting equipment and they record their understanding in their workbooks with further problem solving and reasoning skills developed in their maths journals.

In Seagulls the teachers have identified that children forming numbers correctly is something that they are working towards.

Maths in Choughs (Year 2 and Year 3)

In Choughs, Hamilton Trust mixed aged objectives are used to inform planning. The children explore maths through small steps in weekly blocks. The lessons are planned and taught using PowerPoints, interactive resources and video clips. Year 3 and 2 are taught both separately and together depending on the objectives. When the lessons are split, the teacher will work with one year group, while the other year group completes a meaningful task that might have been rolled over from the day before. Sometimes the teacher will work with a year group on a focussed task in the classroom, while the other year group completes an investigation in the hall or the library. The third TA targets individuals to help to develop their confidence. The teacher and TAs always talk through the lesson beforehand so that the TA is aware of their role or any misconceptions that could arise and how to cope with them.

Resources used regularly in the classroom are: bead strings, white boards, base ten, Numicon, hundred squares and multilink.

The children experience maths across the curriculum such as counting back in history; using charts, graphs and tables; coding. The teacher encourages reasoning not just in maths, but in all subjects and uses sentence starters displayed in the classroom to help the children form their sentences.

Choughs are working hard to improve their number fluency and calculation strategies so that they are in line with the SPCMAT policy.

Razorbills – Year 4 and Year 5

Razorbills' maths is planned using the White Rose mixed age schemes of learning. White Rose has been chosen because it uses a mastery approach and gives examples of activities for each of the areas of mastery: fluency, reasoning and problem solving. The longer blocks allow the children to dig deeper into a particular area of maths. Each area is broken down into small steps for each year group. The teacher looks at the content for the block and as far as possible, matches up the objectives/small steps for Y4 and Y5. NRICH is also used to provide investigations and further problem solving and reasoning tasks. The teacher tries to include fluency, reasoning and problem solving in every session and the children's maths books are full of examples of this, which have been clearly labelled.

A variety of images and resources are regularly used to help children understand the link between the concrete, pictorial and abstract. Children can choose when and what to use from the maths drawers to help them during the lessons.

The children are grouped during maths so that the Year 4 children sit on tables together (at the back) and the Year 5 children sit together (near the front). Where possible, lessons are taught together and the Y4 input is used as a recap for Y5. The Y4 children are then sent off to complete their tasks with a TA whilst the Y5 children get their input. Work is occasionally differentiated, but usually the same work is available for all children to access and the TA will work with children who need extra support.

Children use traffic lights to self-assess. The work is then marked by a TA the following morning before school. Comments are not often used but the codes * , P , H are used by the TA to show understanding.

* = understand,

P = More practice needed,

H = Help needed.

The TA will then catch children as they come into the classroom to go through any misunderstandings, misconceptions or to practise.

In Razorbills they are beginning to explore using maths across the curriculum and are excited to be learning about how maths can be used in a variety of subjects.

In Kittiwakes (Year 6)

Maths is planned using the White Rose schemes of learning. White Rose has been chosen because it uses a mastery approach and gives examples of activities for each of the areas of mastery: fluency, reasoning and problem solving. The longer blocks allow the children to dig deeper into a particular area of maths. However, we understand that it is important to revisit these areas throughout the year. Each block has been broken down into small steps that may take 1 or more lessons to ensure the children fully understand and are confident. NRICH is also used to provide investigations and further problem solving and reasoning tasks. The teacher understands the importance of fluency, reasoning and problem solving but also knows that some lessons may be just focussed on fluency and others may have more of a problem solving focus. Reasoning is taught and encouraged across all maths lessons and can be verbal or written. The sentence starters displayed on the Maths working wall help the children to reason mathematically.

Resources are used in every maths lessons to help children make links between the concrete, pictorial and abstract. PowerPoints use images and examples of the classroom resources to show representations of the maths being learnt.

Misconceptions are addressed on PowerPoints. Method posters are created and displayed on the maths wall so that children can use it to help them to work independently. These can also be photographed and copies taken home to help them complete homework. Lessons are not differentiated, but skills are built upon so that the more confident a child becomes, the deeper they can take their learning. Work can be set out in a ladder, where the children need to complete a task before they move up the ladder. The easiest tasks will often incorporate some element of problem solving or reasoning so that children have experience of this even if they do not make it to the top of the ladder!

Children self-assess using the codes 1-3 in a circle next to their work.

1 being "I don't understand"

2 – "I am nearly there"

3 – "I understand"

The work is then marked by the teacher or TA and they will write a number in green or pink next to the child's assessment of how well they have done. Any misconceptions or misunderstandings are always picked up before the next session. Children are encouraged to purple-polish their mistakes.

Kittiwakes want to explore how maths is used across the curriculum so that children can enjoy maths in a variety of ways. There are so many ways maths can be incorporated across the curriculum and we are excited about exploring this.