Mathematics at Cavendish Close Junior Academy

Long and Medium Term Planning

The subject leader for maths, together with the teachers review the long term plan for maths to ensure the appropriate coverage and progression is planned for across school. The school follows Maths No Problem as their main text book which supports the coverage and consistency across and between year groups.

The school has a calculations policy which is in line with the models and methods used in Maths No Problem to ensure consistency and progression in the teaching of written calculation methods.

Short Term Planning

Planning is completed weekly with a presentation matched to each learning objective which contains key questions. Planning is progressive from one day to the next following small steps of learning to allow all children to move along together. Planning also takes into account prior learning and retrieval practice is incorporated to allow for continuous revision.

Each day is based around a clear leaning objective where small steps of learning are planned in to ensure coherence throughout a lesson. Model and images are planned in following the schools calculation policy to support the children's learning. Opportunities are taken to plan in reasoning opportunities throughout the lesson. Guided and independent work is planned in to support the learning of the lesson and allows teachers opportunity to asses learning within the lesson and across a week.

Maths environment

Working walls are used to support the children's work in maths. These contain: key vocabulary; models and images to support learning; a summary of the learning journey; key questions; key facts that support learning and reasoning examples. The working walls are added to on a daily basis and children are encouraged to refer to these to support their understanding.

Wherever possible planning follows a CPA approach where concrete resources are integral to the children's learning. These resources are both modelled by teachers and available for the children to access independently to expose the structure of the mathematics and support their reasoning.

The children have an overwhelmingly positive attitude towards maths and are very familiar with the lesson design. The are therefore independent in their learning. Children generally work in mixed ability pairs and there is time given for children to investigate and discuss a problem before it is modelled as a class.

Lesson design

Lessons are all based around the 5 big ideas of mastery – coherence, fluency, representation and structure, mathematical thinking and variation. Each Maths No Problem lesson is adapted to ensure that the children follow coherent steps in their learning.

Every lesson starts with retrieval practice where the children completed a grid of 4 questions (2 for year 3) that cover learning from previous lessons, weeks and units. These are identified from assessment for learning.

Each lesson follows coherent steps of learning which give children the key skills to support them through the lesson. Each lesson has an 'In Focus' problem where they are encouraged to discuss the maths involved with a mixed ability partner or as part of a group. Children are encouraged to then apply or create methods to solve the problem. Teachers at this stage use key questions to encourage the children's mathematical thinking, make connections between concepts and reason about the mathematics involved.

Each lesson has slides to support the lesson which show blue, pink and green question bubbles. Blue bubbles show key questions, pink provide support and green provide challenge. Slides also contain key vocabulary and stem sentences which support children in vocalising their ideas.

Once children have had time to discuss their ideas about the problem, teachers then model the learning involved through the use of resources and/or strong visual and abstract images which help children to understand the structure of the mathematics. Throughout this guidance children journal their learning and draw key models to support their thinking. These are modelled by the teachers throughout the main part of the lesson. At this stage the children who grasp a concept quickly, are then challenged through additional reasoning opportunities. Teachers are continuously using AFL strategies to identify these children.

Children who are identified as needing support with their learning will then complete the guided practice supported by a teacher or teaching assistant. The other children will complete independent, intelligent practice which shows a variation in the concept. Children who grasp concepts quickly will complete reasoning tasks which deepen their understanding of the mathematics.

Wherever possible teachers will provide feedback within the lesson and address misconceptions through modelling in books. They will use AFL strategies to create fluid guided groups which either support children or deepen their understanding.

Assessment

Teachers use daily assessment to identify groups of children who need support by completing guided work. Same day intervention is carried out 3 days a week in the middle of a maths lesson where children who have not grasped a concept are carefully guided by their class teacher. Children RAG rate their work during the lesson to support teachers with selecting these children. Assessment for learning strategies are used within the lesson to, wherever possible, identify, support and guide children who need additional support or additional challenge.

At the end of each block of work the children complete a White Rose end of block assessment and this data is used as a summative assessment where progress is tracked. Teachers also use these tests to highlight common questions where children have difficulties and these are then used during the retrieval practice at the beginning of each lesson to address that gap.

In years 3, 4 and 5 children complete end of term assessments at the end of each term to again track progress and attainment over a number of units. Children in Year 6 assess at the end of each half term through the use of previous KS2 assessment tests and use the gap analysis to plan their next phase of work.