PACA Maths Curriculum Intent

Why Mathematics Matters

Mathematics is a vital life skill that plays an essential role in both professional and personal contexts. It is necessary for most jobs and is fundamental to managing money effectively. Beyond practical applications, the skills developed through learning mathematics—such as logical reasoning and problem solving—are invaluable in everyday decision-making. Additionally, mathematics serves as the foundation for a wide range of academic disciplines, including science, economics, business, and computing, making it a crucial subject for students pursuing various career paths.

In addition to its practical importance, mathematics can also be a source of enjoyment and intellectual curiosity. Problem solving in maths is not only rewarding but also fun, offering a sense of achievement and engagement. As students deepen their understanding and skills, they begin to uncover the fascinating structures and patterns within numbers.

What Maths Learning Looks Like at PACA

Collaborative Practice

Students regularly engage in collaborative learning using wall-mounted whiteboards to share ideas and develop mathematical reasoning. This approach nurtures independence and curiosity, encouraging students to think and talk like mathematicians.

Structured Modelling: 'I Do, We Do, You Do'

Teachers model exemplar methods and solutions. Students then practise collaboratively using similar but varied problems, before progressing to independent work. This gradual release model builds confidence and ensures learning is accessible and supported.

Data-Driven Teaching

Teachers use assessment data and questioning to identify gaps in understanding and plan targeted support or reteaching. Tools such as exit tickets, diagnostic questions, and assessments inform both intervention and challenge. Concepts are broken into manageable steps, with prior knowledge interwoven to support retention and application.

Mastery Approach

A mastery curriculum ensures deep conceptual understanding through varied representations and carefully sequenced progression. Teachers revisit and connect prior learning to help students apply their knowledge in diverse contexts.

Adaptive and Inclusive Curriculum

Our maths curriculum is inclusive and responsive to all learners. Teachers use **chunking**, **economy of language**, and **regularly check for understanding**. Key concepts are **taught** using **dual coding** (where appropriate), and students are supported in expressing ideas through **sentence starters**.

High-attaining students can study Further Maths, while those needing support receive targeted scaffolding and intervention, through nurture groups, to build confidence and core skills.

What Progress Looks Like

As students grow in confidence and competence, we see them:

- Identifying and interpreting number patterns and relationships.
- Using a wide range of number types fluently, including integers, negatives, decimals, fractions, and surds.
- Understanding and applying scale factors, proportional reasoning, and multiplicative relationships.
- Expressing and manipulating mathematical ideas using algebra.
- Engaging in collaborative discussions to explore and refine mathematical thinking.
- Selecting and applying appropriate methods to solve a variety of problems.
- Evaluating the accuracy and reasonableness of their solutions using estimation and sense-checking.

Attributes for Success in Mathematics

Students who thrive in mathematics at PACA demonstrate:

- **Resilience and a Growth Mindset** – embracing mistakes as opportunities to learn and actively addressing misconceptions.
- **Pride in Presentation** – producing clear, well-organised work that supports revision and deepens understanding.
- **Independence and Initiative** – working confidently on their own, making use of resources, and striving for consistent effort in class and at home.
- **Preparedness and Organisation** – arriving ready to learn, equipped with the necessary tools, and able to structure their thinking logically in both written and verbal forms.