

## Mathematics at Torbanlea State School

At Torbanlea State School, Mathematics is a core learning area that empowers students to think logically, reason mathematically, solve problems, and recognise patterns and relationships in both real-world and abstract contexts. Our Mathematics program is guided by the Australian Curriculum: Mathematics Version 9.0, which provides a coherent and progressive framework for developing strong numeracy from Prep to Year 6.

Mathematics at Torbanlea builds students' confidence, accuracy, and depth of understanding while fostering their ability to reason, investigate, justify, and communicate mathematical thinking.

### Curriculum Structure and Focus

The Australian Curriculum: Mathematics (Version 9.0) organises learning into six strands, reflecting substantial mathematical sub-disciplines and emphasising the distinct ways of thinking, reasoning and working mathematically associated with each area.

The six strands are:

- **Number:** Students develop deep understanding of number concepts, place value, operations, fractions and decimals. They apply efficient computation strategies and build strong number sense to solve increasingly complex problems.
- **Algebra:** Students recognise patterns and relationships, represent mathematical situations symbolically, and develop algebraic reasoning. They explore generalisations, equations and the connections between quantities.
- **Measurement:** Students investigate attributes such as length, area, volume, capacity, mass and time. They select appropriate units and tools, apply measurement strategies, and interpret results in meaningful contexts.
- **Space:** Students develop spatial reasoning by exploring shape, location, transformation and geometric properties. They describe, represent and reason about objects and their relationships in two- and three-dimensional contexts.
- **Statistics:** Students collect, organise, represent and interpret data. They analyse patterns and trends, evaluate representations, and draw informed conclusions from evidence.
- **Probability:** Students explore chance, likelihood and uncertainty. They describe possible outcomes, assign probabilities, and use reasoning to interpret everyday situations involving randomness.

Across these content strands, students also build the mathematical proficiencies of:

- **Understanding** - building deep conceptual knowledge and recognising connections between ideas
- **Fluency** - developing accuracy, efficiency and flexibility in procedures

- Problem Solving - applying mathematics in new and unfamiliar situations
- Reasoning - explaining thinking, justifying conclusions, and evaluating solutions

These proficiencies underpin all teaching and learning experiences at Torbanlea State School.

### **Teaching and Learning in Mathematics**

In Mathematics lessons, students engage in rich investigations, explicit instruction, guided practice, collaborative problem-solving, and open-ended challenges that promote deep thinking. Teachers use concrete materials, visual representations, questioning strategies, and digital tools to strengthen conceptual understanding and support students in articulating their reasoning.

Learning experiences are designed to:

- Strengthen number sense and strategic thinking
- Develop algebraic and spatial reasoning
- Connect mathematical concepts across strands
- Connect mathematics to everyday contexts (e.g. money, measurement, time, patterns in nature)
- Develop logic and effective strategies for tackling multi-step challenges
- Build confidence in communicating mathematical ideas using appropriate language and representations
- Encourage reflection, justification and evidence-based thinking

### **Why Mathematics Matters**

Mathematics is fundamental to students' academic success and everyday decision-making. At Torbanlea State School, Mathematics enables students to:

- Make sense of numerical, spatial and data-based information
- Approach challenges systematically and creatively
- Interpret evidence and evaluate conclusions
- Transfer mathematical thinking to science, technology, finance and real-world situations

Our Mathematics program is inclusive, evidence-informed and differentiated to ensure all students can participate, progress and achieve with confidence. Students are encouraged to reflect on their thinking, justify their solutions, and apply their learning across a wide range of meaningful contexts.