



Little River School: Mathematics Curriculum

The school follows the New Zealand mathematics curriculum developing confident problem-solvers who can think logically, work creatively, and apply mathematical ideas to everyday life.

Our Goal

By the time students leave Little River School, they will:

- Be confident and capable using mathematics in everyday life.
- Have strong number sense and problem-solving skills.
- See themselves as successful mathematicians who can think logically, creatively, and critically.

Foundational Principles

Little River School's approach to mathematics is guided by several key principles. These are reflected in the mathematics program which aims to:

- Foster a positive relationship with mathematics: Teachers at the school strive to create an inclusive and supportive environment where students feel safe to take risks, ask questions, and explore mathematical ideas. This is crucial for reducing maths anxiety and encouraging a belief in one's own ability.
- Connect learning to real-world contexts.
- Develop a deep conceptual understanding: we focus on helping students understand *why* mathematical processes work, enabling them to apply their knowledge flexibly to a variety of problems.
- The school's curriculum incorporates Te Reo Māori.

The mathematics curriculum at Little River School follows the structure of the New Zealand Curriculum, which is organised into three main strands:

1. **Number and Algebra:** This is the foundational strand and is given a significant amount of teaching time, particularly in the junior years. We use a balanced approach, combining basic facts fluency (automatic recall of multiplication and division facts) with problem-solving and reasoning skills.
 - Years 1-3: Students begin by developing a strong sense of numbers up to 100. They learn to count, read, and write numbers, and use objects to develop early addition, subtraction, multiplication, and division skills. They explore place value. They also begin to explore simple patterns and number relationships.

- Years 4-6: Students build on their foundational number knowledge, moving on to working with larger numbers and a greater range of strategies for addition, subtraction, multiplication, and division. They start to work with fractions, decimals, and ratios. They also delve deeper into algebraic thinking, exploring and describing patterns using tables and graphs.
 - Years 7-8: In these senior years, students become more flexible and strategic in their use of number and algebra. They apply multiplicative strategies to whole numbers, ratios, and fractions, and begin to work with positive and negative numbers. They learn to solve more complex equations and use algebraic expressions to represent real-world problems.
2. **Geometry and Measurement:** This strand focuses on spatial awareness and understanding the world through measurement.
- Years 1-3: Students compare objects based on their size, weight, and capacity using direct comparison and non-standard units. They learn to name and sort 2D and 3D shapes and begin to understand concepts like position, direction, and time.
 - Years 4-6: Students move towards using standard units of measurement and learn to read scales on measuring devices. They explore geometric concepts such as perimeter, area, and volume, and investigate the properties of shapes. They also learn about transformations like reflection, rotation, and translation.
 - Years 7-8: Students calculate the area and volume of shapes and develop an understanding of geometric concepts like angles and coordinates. They can use maps and grid references to describe locations and give directions.
3. **Statistics:** This strand helps students learn to investigate and interpret data to make sense of the world.
- Years 1-3: Students begin by asking simple questions, collecting and sorting data, and presenting their findings using tallies, tables, and picture graphs. They learn to interpret simple data and make predictions about chance events.
 - Years 4-6: Students become more involved in the statistical inquiry cycle. They learn to formulate questions, collect data, and represent it in various graph types. They begin to analyse and interpret data to answer their questions and consider the likelihood of outcomes in chance-based situations.
 - Years 7-8: Students conduct more complex statistical investigations, working with different types of data and a wider range of display methods. They learn to evaluate the validity of statements made by others based on statistical evidence, and deepen their understanding of probability.

Our Teaching Approach

At Little River School, mathematics teaching is:

- **Explicit and deliberate:** We teach strategies and concepts step-by-step, ensuring all learners have the tools they need to progress.
- **Hands-on and practical:** We use materials, games, and real-world problems to make learning meaningful. Financial literacy is an important part of this particularly in the senior school with use of the Banquer programme.
- **Culturally responsive:** We incorporate local contexts, Māori number systems, and connections to the environment and community.
- **Supportive and challenging:** We use flexible grouping, targeted teaching, and extension tasks to meet the needs of all learners.

Assessment and Progress

We monitor progress using a combination of:

- Classroom observations and student work samples.
- Formative assessments to guide next learning steps.
- Standardised tools (e.g., easTTLe Maths, termly Basic Facts testing, PR1ME reviews) to track achievement against curriculum levels.

Teachers share progress with students and whānau, and work together to set learning goals.