Science, Social Sciences and Technology - Pūtaiao, Tikanga-ā-iwi, Hangarau

Our students undertake a range of inquiry-based projects.

- *In **Science** students develop scientific knowledge, understanding and explanations as they investigate the natural and physical worlds, and the wider universe.*

- *When learning through the **Social Sciences** the students explore how societies work and how people can participate as critical, active, informed, and responsible citizens.*

- *In **Technology** students learn practical skills as they develop models, products and systems to address needs and possibilities.*

What students learn

In **Science** the students

- learn what science is and how scientists work
- develop an understanding of the diversity of life and life processes
- learn that Earth's subsystems of land, water, air and life are interdependent and that all are important
- learn about the numerous interactions of Earth's four systems with the solar system
- learn about a wide range of physical phenomena, including light, sound, heat, electricity, magnetism, waves, forces and motion
- study matter and the changes it undergoes

In the **Social Sciences** the students

- learn about society and communities and how they function, including about the diverse cultures and identities of people within those communities
- learn about how people perceive, represent, interpret, and interact with places and environments
- learn about past events, experiences, and actions and the changing ways in which these have been interpreted over time
- learn about the ways in which people participate in economic activities and about the consumption, production, and distribution of goods and services

In **Technology** the students

- develop a range of outcomes, including concepts, plans, briefs, technological models, and products or systems
- develop knowledge particular to technological enterprises and environments and understandings of how and why things work
- develop an understanding of how technology impacts on societies and the environment

How our teachers engage students in learning

Students use the **scientific method** to carry out science investigations to find the answers to their science questions. They:

- think of interesting questions
- formulate hypotheses
- gather data to test predictions
- refine, alter, expand, or reject hypotheses
- develop general theories
- make observations
- record and communicate results and findings

Using a **social inquiry** approach, students:

- ask questions, gather information and background ideas, and examine relevant current issues
- explore and analyse people's values and perspectives
- consider the ways in which people make decisions and participate in social action
- reflect on and evaluate the understandings they have developed and the responses that may be required

In undertaking **technological practice** the students:

- develop a plan that identifies the key stages and the resources required to complete an outcome
- put together a brief that explains the outcome they are developing and describing the attributes it should have
- develop the outcome
- evaluate the outcome

When undertaking an **inquiry-based project** our students use the school's **inquiry learning process**.

Our students' learning is enhanced and deepened as they explore the future-focused concepts of **sustainability** (toitu), **creativity** (auahatanga), **global connections** (hononga aowhanui) and **citizenship** (raraunga) in multiple contexts during their time at our school.

The school's **inquiry learning process** involves the students moving through the following phases:

Phase	*During this phase the students:*	*In a nutshell, the inquiry process involves:*
• **Tuning in**	• engage in and gather prior knowledge • select questions for inquiry	• planned, direct and vicarious experiences that provide opportunities for students to **pose questions** and **gather information**
• **Finding out**	• gather new information to address the compelling question • develop the research skills that are required • learn how to organise and manage the process of finding out • learn how to record information gathered in efficient ways	
• **Sorting out**	• comprehend – make meaning of the information gathered • reveal new thinking and deeper understanding • answer questions • review and revise early thinking • organise, analyse and organise the information gathered	• activities that help students **organise new information** and **use skills** in a way that assist them to **form concepts and generalisations** about their world
• **Going further**	• take the opportunity to pursue questions and interests arising from the journey so far	• opportunities for students to **demonstrate what they have learnt**
• **Drawing conclusions**	• identify avenues for action and application of findings	
• **Taking action**	• reflect on what was learned • apply their learning to other contexts - to put the learning to use • assess final understanding and growth in skills	• **applying** the knowledge, skills and values **to other contexts**