Tahakopa School Science Statement

"Science is not belief, but the will to find out." (Anon)

The New Zealand Curriculum

What is Science about?
Science is the way of investigating, understanding, and explaining our natural, physical world and the wider universe. It involves generating and testing ideas, gathering evidence - including by making observations, carrying out investigations and modeling, and communicating and debating with others - or order to develop scientific knowledge, understanding, and explanations.

Why study Science?
Science is able to inform problem solving and decision making in many areas of life. Many of the major challenges and opportunities that confront our world need to be approached from a scientific perspective, taking into account social and ethical considerations.

How is the learning area structured?
The fundamental aims of science education are expressed as a series of achievement aims, grouped by strand. The achievement objectives at each level are derived from the aims and are similarly grouped by strand.
The ***Nature of Science*** strand is the overarching unifying strand. Through it, students learn what science is and how scientists work. They develop the skills, attitudes, and values to build a foundation for understanding the world.
The ***Living World*** strand is about living things and how they interact with each other and the environment.
The ***Planet Earth and Beyond*** strand is about the interconnecting systems and processes of the Earth, the other parts of the solar system, and the universe beyond.
The ***Physical World*** strand provides explanations for a wide range of physical phenomena, including light, sound, heat, electricity, magnetism, waves, forces, and motion, united by the concept of energy, which is transformed from one form to another without loss.
The ***Material World*** strand involves the study of matter and the changes it undergoes. In their study of chemistry, students develop understandings of the composition and properties of matter, the changes it undergoes, and the energy involved.

What is important to us

Nature of Science

Understanding about Science and Investigating in science	Communicating in Science	Participating and Contributing
• Carrying out investigations and making careful accurate observations. • Learning about science and the process involved to develop scientific knowledge	Being able to read, write and speak using scientific vocabulary.	Being able to participate and contribute ideas to decision making and actions.

Science Capabilities

Gathering and interpret data	Use evidence	Critique evidence	Interpret representations	Engage with science
Students make careful observation and differentiate between observation and inference	Students support their ideas with evidence and look for evidence supporting others' explanations	Not all questions can be answered by science	Scientists represent their ideas in a variety of ways, including models, graphs, charts, diagrams and written texts	This capability requires students to use the other capabilities to engage with science in "real life" contexts.

Material World	Living World	Planet Earth and Beyond	Physical World
Students will understand that: • Environmental sustainability is the responsibility of all communities. • Changes occur when elements/materials, interact. • Changes can occur naturally or can be manipulated. • Interaction between materials may cause or affect change. • Energy can change matter.	Students will understand that: • All living things are independent and that their choices and our actions will have an impact. • All living things need energy to survive. • Changes occur naturally in living things. • Positive and negative changes impact on living things. • Living things interact and communicate.	Students will understand that: • Our decisions will have an impact on environments now and in the future. • The sun is our main source of energy and we need it to survive. • Planet Earth creates its own energy and we need to sustain it • All changes will have an impact on environments. • Interactions have an impact on environments.	Students will understand that: • Physical phenomena can have an impact on sustainability • Energy sources create change • Physical phenomena interact in a variety of different ways. • Energy is a force or movement and can be stored or transferred.