Group 1 Consultation – Phase 5

Science | Pūtaiao Years 11–13

Te Tāhuhu o te Mātauranga
Ministry of Education

This info sheet provides information about the Years 11–13 Science | Pūtaiao draft curriculum. From 15 May to 15 June 2026, we are consulting on the following subjects in this learning area:

- Year 11 Science
- Years 12–13 Agricultural and Horticultural Science | Mātai Whenua me te Ahumāra
- Years 12–13 Biology | Mātai Koiora
- Years 12–13 Chemistry | Mātai Matū
- Years 12–13 Earth and Space Science | Ao ā-nuku Ao ātea
- Years 12–13 Physics | Mātai Ahupūngao.

Subject specific information

Subject structure

- Year 11 Science is organised into five strands: Biology, Physics, Chemistry, Earth and Space Science, and Agricultural and Horticultural Science.
- Years 12–13 Agricultural and Horticultural Science | Mātai Whenua me te Ahumāra is organised into four strands in Year 12 and three strands in Year 13.
- Year 12: Physiology of Primary Production of Organisms, Production Systems and their Management, Reproduction in Agriculture or Horticulture, and Factors Influencing New Zealand's Primary Production Systems.
- Year 13: Science and Sustainability for New Zealand Primary Production, Innovation in Agricultural and Horticultural Sciences, and Allowing for Primary Production in a Changing World.
- Years 12–13 Biology | Mātai Koiora is organised into three strands: Biological Systems, Inheritance and Evolution, Ecology.
- Years 12–13 Chemistry | Mātai Matū is organised into four strands: Atomic Structure and Bonding, Enthalpy and Stoichiometry, Chemical Reactivity, and Organic Chemistry.

- Years 12–13 Earth and Space Science | Ao ā-nuku Ao ātea is organised into four strands: Dynamic Earth, The Atmosphere and Hydrosphere Interface, Stars and Planetary Systems, and Cosmic Horizons.
- Years 12–13 Physics | Mātai Ahupūngao is organised into four strands: Foundations of Physics, Mechanics, Electricity and Magnetism, and Waves and Particles, with energy concepts intentionally connecting content across these strands.

Subject content

- Year 11 Science consolidates core disciplinary knowledge and practices to prepare students for subject-specific science study in Years 12–13.
- Years 12–13 Agricultural and Horticultural Science | Mātai Whenua me te Ahumāra focuses on applying scientific knowledge to real-world production, sustainability, and management decisions.
- Years 12–13 Biology | Mātai Koiora emphasises explanation, modelling, and evidence-based reasoning about living systems across increasing levels of biological organisation.
- Years 12–13 Chemistry | Mātai Matū develops increasingly mathematical, model-based explanations of chemical structure, energy change, and reaction behaviour.
- Years 12–13 Earth and Space Science | Ao ā-nuku Ao ātea emphasises explanation of large-scale natural systems and the importance of using scientific models, data, and connecting observational evidence to understand natural phenomena.
- Years 12–13 Physics | Mātai Ahupūngao content remains familiar, with established concepts preserved and reorganised for stronger coherence and progression, alongside adjustments resulting from force and motion being taught in earlier phases.

Learning area progressions between Phases 1–5

Through the study of Phase 5 Science | Putaiao (Years 11–13) subjects' knowledge and practices in earlier phases are developed. Students bring a foundational awareness of how scientific knowledge is developed through observation, investigation, reasoning, and evidence, enabling them to ask questions, test ideas, and make sense of natural phenomena in ways that are logical, purposeful, and relevant to personal, local, and global contexts.

In Phase 5, students deepen core science knowledge and practices and can begin to specialise into different scientific disciplines. Students build on earlier learning by exploring scientific ideas in greater depth across biology, chemistry, physics, agriculture and horticulture and earth and space science. Students carry out practical investigations, collect and analyse data, and use scientific models and theories to explain what they observe. They learn to ask questions, test ideas, and evaluate evidence to make informed conclusions. Students also explore how science can be applied to issues such as sustainability and environmental change.

Learning in Phase 5 builds from prior experiences to enable students to explore the interconnected nature of learning across subjects.