



Rangi Ruru
Girls' School

YEAR 9 PŪTAIAO - GENERAL SCIENCE 2024

Course Information for Students

*Ko te pae tawhiti arumia kia tata,
Ko te pae tata whakamaua,
Kia puta i te wheiao ki te ao mārama.*

*Seek to bring the distant horizon nearer,
Grasp it firmly once near,
And so emerge from darkness into enlightenment.*

Welcome to Science in 2024! We hope that your year will be interesting, valuable, challenging and successful.

Many of the major challenges that confront our world need to be approached from a scientific perspective. In our Science course you will study aspects of Chemistry, Physics and Biology and Earth Science.

In your Science class, your Rangī Ruru values and Rangī Graduate dispositions will be demonstrated through:

Whakaute Respect: Acknowledge and respect different perspectives.

Aroha: Take opportunities to work with others in a supportive way.

Rikarika Endeavour: Take responsibility for your own learning and give things a go.

Ngaana Enthusiasm: Have a positive attitude towards learning.

Manaakitanga - Generosity of Spirit: Listen carefully to other's opinions and be curious.

Tika Integrity: Be honest about your own work and be responsible for your own behaviours.

What will you begin to understand in Science this year?

Science helps us make sense of the world.	Biology, Chemistry, Physics and Earth Science are all interconnected and help us understand and organise the world and how we operate in it.
Science has a continuous, evolving human history.	<i>Nō ngā tupuna, tuku iho, tuku iho.</i> The human ideas that have been passed down from generation to generation over time can help people today develop their thinking.
Science is elegant, explorative, creative and powerful.	Science uses data, evidence and relationships to find out, explore and explain.
Science helps us in our everyday lives and decisions and is key to many areas of knowledge and practice.	<i>Whiria te kaha tūātinitini, whiria te kaha tūāmanomano.</i> Together we can use our strengths to achieve more. The concepts, skills and processes of Science are used in everyday practices and decisions from putting a seatbelt on, to health.
Science rewards persistence and positivity.	The interconnected nature of Biology, Physics, Chemistry and Earth Science offers multiple ways to approach and solve problems. Experimentation and failures play an important role in understanding.

What will you know and do in Science this year?

- Learn about safety in the Science laboratory and competently use the laboratory equipment to undertake practical investigations.
- Carry out a range of Fair tests. Learn to identify the independent and dependent variable, develop a method, collect, process and interpret your data.
- Investigate the difference between plant and animal cells. Explain the process of germination, fertilisation and pollination and photosynthesis and how these processes are necessary for plant life.
- Use your understanding of the particle theory of matter to explore the question “Is our water safe to drink?”.
- Predict events caused by the relative positions of the Earth, Moon and Sun. Investigate life in space and develop your research skills investigate astronomy.
- Use physics knowledge to investigate energy transfer and transformations. Explore the physics of light in our darkroom and become confident using ray boxes to investigate reflection and refraction.
- Understand how Matter is made of atoms and can be described in many different ways using different models.
- Understand that interconnectedness of all living organisms within an ecosystem. Investigate the abiotic and biotic factors at Millbrook Reserve and use these to determine the health of the river/awa.

What skills will you develop this year?

Using language, symbols and texts appropriately: You will develop knowledge of Science vocabulary, numeric and symbol systems and conventions of Science such as graphs, formulae, units and diagrams.

Critical thinking: Learning to apply our scientific knowledge in new contexts and recognise different points of view.

Gathering evidence: Science investigations are used to generate and evaluate knowledge to answer questions.

Self-management: You will learn to keep an accurate record of your learning both on OneNote and in your exercise book. If you have missed lessons – it is up to you, and not your teacher, to ensure you catch up. Having a “learning buddy” to contact can help you do this.

Effective collaboration: Collaborative tasks will allow you to focus on good communication so your group reaches a common goal.

Year Planner 2024 – Year 9 Science

Week		Date			
1	A	29 January	-	2 February	Nature of Science
2	B	5 February	-	9 February	Waitangi Day: Tues 6 th Feb
3	A	12 February	-	16 February	
4	B	19 February	-	23 February	
5	A	26 February	-	1 March	
6	B	4 March	-	8 March	
7	A	11 March	-	15 March	Particle Theory
8	B	18 March	-	22 March	Tournament week
9	A	25 March	-	29 March	Easter Fri: 29 th March
10	B	1 April	-	5 April	Easter Mon & Tues: 1 st & 2 nd April
11	A	8 April	-	12 April	
		15 April	-	19 April	
		22 April	-	26 April	Anzac Day: Thurs 25 th April
		29 April	-	3 May	
1	A	6 May	-	10 May	
2	B	13 May	-	17 May	
3	A	20 May	-	24 May	
4	B	27 May	-	31 May	Atoms
5	A	3 June	-	7 June	King's B/D: Mon 3 rd June
6	B	10 June	-	14 June	Space
7	A	17 June	-	21 June	
8	B	24 June	-	28 June	Matariki: Fri 28 th June
9	A	1 July	-	5 July	Energy
		8 July	-	12 July	
		15 July	-	19 July	
		22 July	-	26 July	
1	A	29 July	-	2 August	
2	B	5 August	-	9 August	
3	A	12 August	-	16 August	Heat
4	B	19 August	-	23 August	
5	A	26 August	-	30 August	Light
6	B	2 September	-	6 September	
7	A	9 September	-	13 September	
8	B	16 September	-	20 September	Cells and Plants
9	A	23 September	-	27 September	
		30 September	-	4 October	
		7 October	-	11 October	
1	A	14 October	-	18 October	
2	B	21 October	-	25 October	
3	A	28 October	-	1 November	Labour Day: Mon 28 th Oct
4	B	4 November	-	8 November	Ecology
5	A	11 November	-	15 November	Show Day: Fri 15 th Nov
6	B	18 November	-	22 November	
7	A	25 November	-	29 November	
8		2 December	-	6 December	

SLO's: Specific Learning Outcomes

It is important that you take responsibility for monitoring your learning. Use the 'Specific Learning Outcomes' as a revision checklist and to record your progress for the Common Assessments at the end of each topic.

Assessments

There will be regular written and practical assessments so that your progress in mastering specific learning outcomes can be assessed and recorded. Knowledge and understanding will be assessed as well as the ability to process, interpret and report on scientific information.

BYOD and Notetaking

Your teacher will have set up a Science OneNote page for your class. It is a good idea to write notes and keep other relevant information (eg. photos of diagrams from the whiteboard) on OneNote. Your teacher will also put additional information/assignments etc on OneNote. Lessons will also be supported through the use of Stile on online educational platform.

Resources

All students will be given a SCIPAD workbook at the beginning of the year. Classroom and homework activities will be completed in this book. The cost for this will be goldsheeted. In addition to this, you will have access to a textbook as a further resource. Your textbook is on loan to you for the school year. Please do not write in your textbook, or scribble on the cover or on the edges of the pages. If it is lost or badly damaged you will be charged a replacement cost.

Extension

Let your teacher know if you are interested in doing more than the regular class work. There are extension activities available such as the ICAS Science Competition. We encourage you to participate in Science competitions and also the wide variety of activities offered by your classroom teacher.

Getting Help

Reinforcing your understanding by re-read notes on OneNote and making flash cards of the key terms will help support your understanding. If you are having any difficulty with your class work you should ask your teacher for help in class. If needed extra help is available from a senior student.

