Rangi Ruru Girls' School

Year 11 BIOLOGICAL AND PHYSICAL SCIENCE 2025

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 Biological and Physical Science in 2025! 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. By choosing to do this Biological and Physical Science course you will study a broad range of aspects of Chemistry, Physics and Biology.

In your Science classes, your Rangi Ruru values and Rangi 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 Biological and Physical Science this year?

Science helps us make sense of the world.	Biology, Chemistry and Physics are all interconnected and help us understand and organise the world and how we operate in it.
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.	*Whiria te kaha tūātinitini, whiria te kaha tūāmanomano.* 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.
Chemistry and Biology are dynamic bodies of knowledge that use unique models and language to explain the material and living environment	Experiments performed in class model phenomenon observed in the real world. Science has specific vocabulary and conventions.
Matter and energy are conserved in chemical change and in biological systems	Atoms are not gained or lost during chemical reactions – they are rearranged.
All living things are related and live as part of interconnected systems	Living things are connected via genes and DNA is the universal molecule of inheritance.
Physical phenomena can be explained through physics concepts and communicated using physics conventions	Physics concepts help explain physical phenomena and underpin our understanding of the universe.

What will you know and do in Biological and Physical Science this year?

- Understand that there are different types of chemical reactions and that atoms are re-arranged but matter is conserved.
- Study how micro-organisms can be both helpful and harmful to humans;
- Investigate different real-world examples in Physics and explain these using physics concepts.
- Learn about the importance of evaluating different perspectives on Science issues
- Study physics concepts and energy transfer.
- Understand that genes can be tracked from generation to generation and the importance of genetic variation in organisms.

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: Grasp increasingly complex science concepts and apply them to an ever-growing range of contexts.

Gathering evidence: Science investigations will be used to generate and evaluate knowledge to answer questions

Self-management: If you have missed lessons – it is up to you, and not your teacher, to ensure you catch up.

Effective collaboration: You will engage in scientific conversations about your science experiences, the quality of the evidence you have gathered and the evidence of others.

LEVEL ONE ACHIEVEMENT STANDARDS IN BIOLOGICAL SCIENCE

Achievement Standard Number	Subject reference	Version number	Topic/Title	Mode of Assessment	Credits
92020	CB1.1	3	Demonstrate understanding of the relationship between a micro-organism and the environment	Internal	5
91920	Sci1.1	3	Demonstrate understanding of a science-informed response to a local issue	Internal	5
92022	CB1.3	3	Demonstrate understanding of genetic variation in relation to an identified characteristic	External	5

Total 15 credits

LEVEL ONE ACHIEVEMENT STANDARDS IN PHYSICAL SCIENCE

Achievement Standard Number	Subject reference	Version number	Topic/Title	Mode of Assessment	Credits
92021	CB1.2	3	Demonstrate understanding of chemical reactions in context	Internal	6
92045	PESS1.2	3	Demonstrate understanding of a physical phenomenon through investigation	Internal	5
92047	PESS1.4	3	Demonstrate understanding of a physical system using energy concepts	External	5

Total 16 credits

ASSESSMENT

6 Achievement Standards will be offered with a total of 31 credits.

There are 2 external assessments which are assessed during the NCEA examinations at the end of the year. The Genetics external assessment (92022) is on Tuesday 25th November. The Physics external assessment (92047) is on Thursday 20th November. You will complete a practice examination for both of these to help prepare you for the final examinations.

Timing of assessments

92021	*Chemical reactions*	*`Week 1/2*	*Term 2*	*6 credits*
92020	*Micro-organisms*	*Week 8*	*Term 1*	*5 credits*
92045	*Physics investigations*	*Week 1/2*	*Term 3*	*5 credits*
91920	*Science responses and perspectives*	*Week 8*	*Term 2*	*5 credits*
92022	*Genetics*	*Week 3*	*Term 4*	*5 credits*
92047	*Energy*	*Week 2*	*Term 4*	*5 credits*

All Achievement Standard tasks will have a checklist of what is required to attain an Achieved, Achieved with Merit or Achieved with Excellence.

Workbooks and On-line learning

Scipads and Education Perfect will be used for all three achievement standards.

Important Information for Internal Assessments

- **Absences –** It is important that you do not miss any assessments (Internal or External) except for genuine reasons of sickness, accident or other extreme emergency. Providing a Medical Certificate from your Doctor must cover absence during an assessment. On your return to school you will be given the opportunity to do the task for the particular Achievement Standard. This will NOT be possible if you choose to go on a family holiday, or similar non-school related event, at the time of assessment.

- **Assessment Policies** – Information regarding the school policy on assessment, authenticity and appeal procedures is found on https://hub.rangiruru.school.nz/assessment/. Ensure you read these thoroughly and follow all guidelines. Know your rights and responsibilities.

- **Authenticity of your assessments**

  You will be asked to sign a declaration at the beginning of the year that all work completed for assessment for qualification is your own. If evidence of plagiarism is found in an assessment, the grade of "Not Achieved" will be presented.

  Authenticity means that you will:

  - Produce your best work independently and have a trail of evidence to show the development of the work
  - Meet the check-points for feedback to show evidence of your learning
  - Integrate, acknowledge, and footnote your research appropriately
  - Provide oral clarification, if necessary, to show the depth of your understanding

- Use AI with integrity by disclosing when, where, and how you have used AI. AI use should be consistent with the *AI Acceptable Use Policy*

Authenticity means that the teacher will:

- Monitor your progress by checking drafts, version histories, arrange checkpoints and give feedback.
- Communicate the authenticity expectations for each assignment task.
- Seek oral clarification if required.

- **Filing –** When an Internal assessment task has been marked you will be asked to **verify the sighting and acceptance of the grade awarded by signing the cover sheet.** All assessed work will then be filed at school for security and for moderation by NZQA, if required.
- **Assessment –** If a **'Not Achieved'** grade is awarded for an **internally** assessed Achievement Standard, there will be no further assessment opportunities in that Achievement Standard.

- You **may be** offered the opportunity of a **resubmission** if your work requires a minor corrections or change that you may have overlooked and should be able to identify within a few minutes. Your teacher will approach you prior to the task being handed back to the class as a whole if this is relevant for you. You will be required to identify and make any changes immediately. Your teacher is **not** able to tell you of the specific change required; you must be able to identify the required change yourself.

Rangi Ruru Girls' School
BE YOU. BELONG.

Year 11 Biological and Physical Science Year Planner 2025

Week		Date From		Date To	
1	A	27 January	-	2 February	Chemical Reactions 92021 TERM ONE Micro-organisms 92020
2	B	3 February	-	9 February	Waitangi Day 6th Feb
3	A	10 February	-	16 February	
4	B	17 February	-	23 February	
5	A	24 February	-	2 March	
6	B	3 March	-	9 March	
7	A	10 March	-	16 March	
8	B	17 March	-	23 March	Micro-organisms Summative assessment
9	A	24 March	-	30 March	
10	B	31 March	-	6 April	
		7 April	-	13 April	
		14 April	-	20 April	
		21 April	-	27 April	
1	A	28 April	-	4 May	TERM TWO Chemical Reactions Summative assessment end of week Science Response and Perspectives 91920
	B	5 May	-	11 May	Physics Investigations 92045
3	A	12 May	-	18 May	
4	B	19 May	-	25 May	
5	A	26 May	-	1 June	
6	B	2 June	-	8 June	King's Birthday Monday 2nd June
7	A	9 June	-	15 June	
8	B	16 June	-	22 June	Matariki Friday 20th June
9	A	23 June	-	29 June	TERM TWO ends Friday 27th June
		30 June	-	6 July	
		7 July	-	13 July	
		14 July	-	20 July	
1	B	21 July	-	27 July	TERM 3 Physics summative assessment end of week
2	A	28 July	-	3 August	Physics summative
3	B	4 August	-	10 August	Energy 92047 Genetics 92022
4	A	11 August	-	17 August	
5	B	18 August	-	24 August	
6	A	25 August	-	31 August	
7	B	1 September	-	7 September	
8	A	8 September	-	14 September	
9	B	15 September	-	21 September	TERM THREE ends Friday 19th September
		22 September	-	28 September	
		29 September	-	5 October	
1	A	6 October	-	12 October	TERM FOUR
2	B	13 October	-	19 October	Energy Practice exam
3	A	20 October	-	26 October	Genetics Practice exam
4	B	27 October	-	2 November	Labour Day Monday 27th October
5	A	3 November	-	9 November	
6	B	10 November	-	16 November	Teacher Only Day Thursday 13th (TBC), Show Day Friday 14th November
7	A	17 November	-	23 November	Energy NCEA exam 20th November
8	B	24 November	-	30 November	Genetics NCEA exam 25th November

9	**A**	**1 December**	**-**	**7 December**	**TERM FOUR ends Wed 3rd Dec - 11.00am finish** **Prizegiving Wed 3rd Dec** **Leavers' Ball – 4th December**