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Rangi Ruru Girls' School

**Year 11 BIOLOGICAL AND PHYSICAL SCIENCE
2020**

**Course Information
for Students**

Welcome to Biological and Physical Science in 2020! 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.

This year you will

- Learn about the structure and properties of matter and investigate factors that affect chemical reactions;
- Study different chemical reactions;
- Investigate an application of physics;
- Develop an understanding of different biological issues focussing on immunisation, *in vitro* fertilisation (IVF) and the use of 1080 to control possums in New Zealand;
- Perform a practical investigation that demonstrates understanding of physics ideas related to mechanics;
- Be able to explain the physics of heat;
- Study how micro-organisms can be both helpful and harmful to humans;
- Investigate life processes in humans including digestion, circulation and respiration;
- Explore how genes control the inheritance of characteristics;
- Be able to explain the importance of genetic variation within a changing environment.

LEVEL ONE ACHIEVEMENT STANDARDS IN BIOLOGICAL SCIENCE
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Achievement Standard Number	Subject reference	Version number	Topic/Title	Mode of Assessment	Credits	Literacy or Numeracy
90926	1.2	3	Report on a biological issue	Internal	3	L1 Literacy
90925	1.1	3	Carry out a practical investigation on enzymes	Internal	4	L1 Numeracy
90927 <u>90950</u>	1.3 <u>1.1</u>	3	Micro-organisms	External <u>Internal</u>	4	L1 Literacy
90929	1.5	4	Mammals as a consumer	External	3	L1 Literacy
90948	1.9	3	Genetic Variation	External	4	L1 Literacy

Total 18 credits

LEVEL ONE ACHIEVEMENT STANDARDS IN PHYSICAL SCIENCE

Achievement Standard Number	Subject reference	Version number	Topic/Title	Mode of Assessment	Credits	Literacy or Numeracy
90936	1.2	3	Demonstrate understanding of a physics application	Internal	2	L1 Literacy
90935	1.1	3	Carry out a practical physics investigation with direction	Internal	4	L1 Numeracy
90939	1.5	3	Demonstrate understanding of heat	External	4	L1 Numeracy
90944	1.5	4	Acids and bases	External	4	
90934	1.3	4	Chemical reactions	External	4	

Total 18 credits

Literacy and Numeracy

The standards offered may allow you to gain credits in either Literacy or Numeracy as shown in the table above.

ASSESSMENT

10 Achievement Standards will be offered with a total of 36 credits.

5 Achievement Standards will be assessed by an **external** examination (23 credits).

Tests and task sheets will be given regularly throughout the year to give you practice in answering questions related to the topics being studied. After the learning for each externally assessed topic has been completed, you will sit an examination to obtain a derived grade which will be used if you cannot sit the NCEA examination at the end of the year.

Don't panic about the number of externals. You sit the examinations for the science, chemistry, physics and biology standards at different times, not all in the same examination.

5 Achievement Standards will be assessed **internally** during the year. (15 credits)

<i>Sci 1.1</i>	<i>Micro-organisms</i>	<i>Week 7</i>	<i>Term 1</i>	<i>4 credits</i>
<i>Bio 1.1</i>	<i>Enzyme investigation</i>	<i>Week 3</i>	<i>Term 2</i>	<i>4 credits</i>
<i>Phys 1.1</i>	<i>Physics investigation</i>	<i>Week 9</i>	<i>Term 2</i>	<i>4 credits</i>
<i>Bio 1.2</i>	<i>Biological Issues</i>	<i>Week 4</i>	<i>Term 3</i>	<i>3 credits</i>
<i>Phys 1.2</i>	<i>Physics application</i>	<i>Week 4</i>	<i>Term 3</i>	<i>4 credits</i>

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

Workbooks

No textbook will be issued for this course. For the external achievement standards, you will be given write-on workbooks to be used in class and for homework.

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 www.ranqilife.school.nz (Student links/Curriculum support/NCEA). Ensure you read these thoroughly and follow all guidelines. Know your rights and responsibilities.
- **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.

Good Work Habits!

- Try to make sure that you understand each concept or idea in Science from lesson to lesson. Be responsible for your own learning and ask for help from your teacher with understanding. Keep tidy notes and try to always keep up to date especially if you miss a lesson.
- Always bring the appropriate equipment/workbook to each lesson. Good self-management and time management will be very important throughout the year, particularly when internal assessments are being done.
- Make sure you understand what is required for each internal assessment.

Folder Organisation

Keep your notes together in an A4 folder or on OneNote and use clearly marked dividers/tabs. It is really important that you keep your folder/OneNote up to date, tidy and well organised so that you can quickly and easily find your work.

Divide your folder/tabs into the following main areas:

- Chemistry – acids and bases
- Biological Issues
- Carbon Chemistry
- Physics application
- Enzyme investigation
- Physics – investigation - mechanics
- Physics – heat
- Micro-organisms
- Mammals as a consumer
- Genetics

Order of Topics

	Biological Science	Physical Science
Term 1	Micro-organisms	Acids and Bases
	Enzymes	Heat
Term 2	Mammals	Physics investigation
	Biological issues	Physics application
Term 3	Biological issues continued	Physics application continued
	Genetics	Chemical reactions
Term 4	Genetics continued	Chemical reactions continued