

# Year 10 Science Intensive – Biology Unit

## Work rate calendar (WRC) 2025

Term 1

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.

Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment				
<b>Supervised assessment</b>		Summative exams are to be supervised by the student's official exam supervisor.		
<b>Non-supervised assessment</b>		Students must sign declaration of academic integrity.		
Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	27 Jan – 31 Jan	Unit: Year 10 Biology	Monday 27 January — Australia Day Holiday	Session Notes
			<b>Orientation to the Science Subject</b> List topics for study during the Term	
2	3 Feb – 7 Feb		<b>DNA (DeoxyriboNucleic Acid) and Genes</b> What can be inherited? Genes in DNA contain the genetic code for all inherited traits. (optional) Practical demo (video): Extract DNA The genome is cut into chromosomes each including many genes	Supervisor Safety Declaration signed by Student and Supervisor, uploaded to QLearn
3	10 Feb – 14 Feb		<b>Alleles</b> Mutation Alleles on Chromosomes Mitosis (identical cell division with same number of chromosomes)	
4	17 Feb – 21 Feb		Friday 14 February — Senior orientation day: Years 10–12	
			<b>Genetic Manipulation</b> Selective Breeding Genetic manipulation techniques <b>SA1 – Research Skills Development</b>	Biology Mandatory Quiz
5	24 Feb – 28 Feb		<b>SA1 Planning</b> Class Time – SA1 Research Proposal	SA1 Proposal
6	3 Mar – 7 Mar		<b>Chromosome Assortment</b> Sexual Vs Asexual reproduction Meiosis Inheritance (genetic transmission of characteristics from parents) Punnett squares (diagram for predicting a genetic cross)	
7	10 Mar – 14 Mar		<b>SA1 Draft</b> Pedigree Diagrams (the family tree) Complete and submit the SA1 Draft	SA1 Draft
8	17 Mar – 21 Mar		<b>Chromosome Sorting</b> Sex linked traits Practical: Drosophila Simulation located in in Stile Natural Selection (survival of the fittest)	Practical involving Drosophila simulation
9	24 Mar – 28 Mar	Monday 24 March – Wednesday 26 March — School camp: Years 7–8		
		<b>SA1 Report - Final</b> Practical Simulation: Rabbit Selection in Stile SA1 Report submission	Practical involving Rabbit simulation SA1: Report (final)	
10	31 Mar – 4 Apr	<b>Evolution</b> Evidence for Evolution Microevolution		
			Thursday 3 April — Cross country / Fun run: Prep – Year 12	

Disclaimer: Information contained in this document is correct at time of publishing.

# Year 10 Science Intensive – Chemistry Unit

## Work rate calendar (WRC) 2025

Term 2

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.

Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment				
Supervised assessment		Summative exams are to be supervised by the student's official exam supervisor.		
Non-supervised assessment		Students must sign declaration of academic integrity.		
Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	21 Apr – 25 Apr	Unit: Year 10 Chemistry	Monday 21 April — Easter Monday <b>Atoms, Elements and the Periodic Table</b> Investigate the structure of atoms and their organisation into the periodic table of elements. Friday 25 April — Anzac Day	
2	28 Apr – 2 May		<b>Electron Configuration and Ions</b> Investigate ions and the bonds they can form.	
3	5 May – 9 May		Monday 5 May — Labour Day <b>Periodic Trends</b> Investigate the trends in chemical properties found across the elements of the periodic table.	
4	12 May – 16 May		<b>Types of Chemical Reactions</b> Investigate chemical change as described by chemical reactions	Chemistry Quiz
5	19 May – 23 May		<b>Conservation of Mass and Balancing Equations</b> Investigate the law of conservation of mass.	
6	26 May – 30 May		<b>Rates of Chemical Reactions</b> Investigate the rate of chemical reactions.	SA2 Practice Data test
7	2 Jun – 6 Jun		<b>Mandatory Practical 3 – Reaction Rate</b> Conduct a given student experiment and write up the results in a report	
Complete assessment in QLearn.	9 Jun – 13 Jun		<b>SA2 Data Test</b> Complete the assessment in "QLearn"	SA2 Data test
9	16 Jun – 20 Jun		<b>Mandatory Practical 4 – Reaction Rate (Modified)</b> Students to Research and Plan a modified student experiment (Scientific Method)	
10	23 Jun – 27 Jun		<b>Mandatory Practical 4 – Reaction Rate (Modified)</b> Students to conduct a modified student experiment and report Submit completed report into QLearn Friday 27 June — Athletics carnival / Sports day: Prep – Year 12	Student experiment

# Year 10 Science Intensive – Physics Unit

## Work rate calendar (WRC) 2025

Term 3

 All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.

Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment				
<b>Supervised assessment</b>		Summative exams are to be supervised by the student's official exam supervisor.		
<b>Non-supervised assessment</b>		Students must sign declaration of academic integrity.		
Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	14 Jul – 18 Jul	Unit <x>: <Title>	<b>Introduction to Energy</b> <b>Types of Forces</b> , a push or pull on an object <b>Energy</b> and the capacity to do work or cause change, kinetic, potential, elastic, mechanical, chemical, thermal, electrical, radiant and nuclear. <b>Energy transfers</b> , the process of moving energy from one object or system to another <b>Energy transformations</b> , changes in the form of energy within a system.	
2	21 Jul – 25 Jul		<b>Speed and Velocity</b> <b>Explore the concepts of speed</b> : a measure of how fast an object is moving, defined as the distance moved over a given period of time. <b>Explore the concepts of velocity</b> : is a measure of an object's speed in a specific direction.	
3	28 Jul – 1 Aug		<b>Acceleration</b> Investigate the acceleration of a range of objects and transportation devices. Wednesday 30 July — SET plan meetings: Year 10	
4	4 Aug – 8 Aug		<b>Mandatory Practical 5 - Acceleration</b> Student activity in researching and planning to investigate an example of acceleration, and provide the results in the Scientific form.	Physics Mandatory Quiz
5	11 Aug – 15 Aug		<b>Kinetic and Gravitational potential energy</b> Investigate examples of Kinetic and Gravitational potential energy. Wednesday 13 August — Royal Queensland (Ekka) Show Holiday	
6	18 Aug – 22 Aug	Unit <x>: <Title>	<b>Mandatory Practical 6 – Acceleration (modified)</b> Research, plan and conduct a modified student experiment	SA3 Student Experiment – Planning
7	25 Aug – 29 Aug		<b>Mandatory Practical 6 – Acceleration (modified)</b> Prepare a Draft version of the SA3 modified student experiment	SA3 Student Experiment – Draft Submission Due 29th August
8	1 Sept – 5 Sept		Friday 5 September — Student free day <b>Isaac Newton's First and Second Laws of motion</b> Investigate Isaac Newton's first and second Laws of motion: <b>First Law</b> also known as the <b>Law of Inertia</b> , involves the concept that objects will not stay at rest or move without and external force <b>Second Law</b> states that <b>Force = mass x acceleration (F=ma)</b>	
9	8 Sept – 12 Sept		<b>SA3 Completion and submission of assessment</b> SA3 assessment to be submitted into QLearn. Friday 12 September — Connect day: Years 7–8	SA3 Student Experiment – Final Due Due 12th September
10	15 Sept – 19 Sept		<b>Issac Newtons Third Law of motion</b> <b>The third Law</b> states that for every action, there is an equal and opposite reaction. These forces are equal in magnitude. Wednesday 17 September — Connect day: Years 9–10	

# Year 10 Science Intensive – Earth Science Unit

## Work rate calendar (WRC) 2025

### Term 4

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Assessment				
Supervised assessment		Summative exams are to be supervised by the student's official exam supervisor.		
Non-supervised assessment		Students must sign declaration of academic integrity.		
Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	6 Oct – 10 Oct	Unit <x>: <Title>	Monday 6 October — King's Birthday Holiday <b>Global Systems</b> Investigate and define Earth's four main global systems, namely the: <b>Geosphere:</b> refers to the solid, rocky part of the Earth, including the crust, mantle, and core. <b>Hydrosphere:</b> refers to all the water found on, under, and above the Earth's surface. <b>Atmosphere:</b> this is the layer of gases that surrounds the Earth, held in place by the planet's gravity. <b>Biosphere:</b> refers to the part of Earth where life exists, including all living organisms (plants, animals, microbes) and their interactions with the non-living components of the environment,	
2	13 Oct – 17 Oct		<b>Energy and Ecosystems</b> Investigate ecosystems and how energy flows through the <b>Biosphere</b> . Ecosystems are dynamic environments made up of living organisms (biota) and their physical surroundings (abiotic components). Biotic factors and Abiotic factors. The common source of energy for ecosystems is the <b>Sun</b> .	
3	20 Oct – 24 Oct		<b>The Carbon Cycle and the Greenhouse Effect</b> <b>The Carbon Cycle:</b> Discuss how carbon atoms are taken from the atmosphere by plants through photosynthesis, incorporated into the bodies of organisms as they are consumed, and eventually returned to the atmosphere through respiration, decomposition, and combustion of organic matter. <b>The Greenhouse Effect</b> discuss how it is a natural process that warms the Earth's surface. Explain that It occurs when certain gases in the Earth's atmosphere, known as <b>greenhouse gases</b> , trap heat from the sun.	
4	27 Oct – 31 Oct		<b>Climate Change and Global Warming</b> Investigate the Earth's Climate Changes and the effect of Global warming	Earth Science Mandatory Quiz
5	3 Nov – 7 Nov		<b>The Scientific Beginning – The "Big Bang" Theory</b> Investigate the "Big Bang" theory, as the theoretical scientific explanation for the origin of the universe.	
6	10 Nov – 14 Nov	Unit <x>: <Title>	<b>The Life Cycle of Stars</b> Investigate the life cycle of stars	SA4 Practice Exam
7	17 Nov – 21 Nov		Friday 21 November — Aquatic carnival: Prep – Year 11 <b>SA4 Final Exam</b> Complete the SA4 assessment in QLearn.	SA4 Final Exam
8	24 Nov – 28 Nov		Friday 28 November — STEM Connect day: Years 5–9 Friday 28 November — Final day: Years 10–11 <b>The Sun and Beyond</b> Investigate the Sun, model ecosystems and the concept of "Terraforming an Exoplanet"	
9	1 Dec – 5 Dec		Non attendance for Year 10	
10	8 Dec – 12 Dec		Non attendance for Year 10	

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