

# Muscle fatigue – Curriculum Links

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## Australian Curriculum

Year 7	Year 8	Year 9	Year 10
Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge	Cells are the basic units of living things and have specialised structures and functions	Formulate questions or hypotheses that can be investigated scientifically	Formulate questions or hypotheses that can be investigated scientifically
Science knowledge can develop through collaboration and connecting ideas across the disciplines of science	Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge	Plan, select and use appropriate <u>investigation</u> methods, including <u>field work</u> and laboratory experimentation, to collect <u>reliable data</u> ; assess risk and address ethical issues associated with these methods	Plan, select and use appropriate <u>investigation</u> methods, including <u>field work</u> and laboratory experimentation, to collect <u>reliable data</u> ; assess risk and address ethical issues associated with these methods
Collaboratively and individually plan and conduct a range of <u>investigation</u> types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed	Multi-cellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce	People can use scientific knowledge to <u>evaluate</u> whether they should accept claims, explanations or predictions	People can use scientific knowledge to <u>evaluate</u> whether they should accept claims, explanations or predictions
In fair tests, measure and control variables, and select equipment to collect <u>data</u> with accuracy appropriate to the task	Science knowledge can develop through collaboration and connecting ideas across the disciplines of science	Select and use appropriate equipment, including <u>digital technologies</u> , to systematically and accurately collect and record <u>data</u>	<u>Analyse</u> patterns and trends in <u>data</u> , including describing relationships between variables and identifying inconsistencies
Summarise <u>data</u> , from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions	Collaboratively and individually plan and conduct a range of <u>investigation</u> types, including fieldwork and experiments, ensuring safety and ethical guidelines are	Use knowledge of scientific concepts to draw conclusions that are consistent with <u>evidence</u>	<u>Evaluate</u> conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the <u>data</u>

	followed		
<u>Reflect on</u> the method used to investigate a question or solve a problem, including evaluating the quality of the <u>data</u> collected, and identify improvements to the method	In fair tests, measure and control variables, and select equipment to collect <u>data</u> with accuracy appropriate to the task	<u>Evaluate</u> conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the <u>data</u>	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate <u>scientific language</u> , <u>conventions</u> and representations
Communicate ideas, findings and solutions to problems using <u>scientific language</u> and representations using <u>digital technologies</u> as appropriate	Summarise <u>data</u> , from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate <u>scientific language</u> , <u>conventions</u> and representations	
	<u>Reflect on</u> the method used to investigate a question or solve a problem, including evaluating the quality of the <u>data</u> collected, and identify improvements to the method		
	Use scientific knowledge and findings from investigations to <u>evaluate</u> claims		
	Communicate ideas, findings and solutions to problems using <u>scientific language</u> and representations using <u>digital technologies</u> as appropriate		

### NSW syllabus

Years 7-8	Years 9-10
identifies questions and problems that can be tested or researched and makes predictions based on scientific knowledge	develops questions or hypotheses to be investigated scientifically
collaboratively and individually produces a plan to investigate questions and problems	produces a plan to investigate identified questions, hypotheses or problems, individually and

	collaboratively
follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually	undertakes first-hand investigations to collect valid and reliable data and information, individually and collaboratively
presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representations	presents science ideas and evidence for a particular purpose and to a specific audience, using appropriate scientific language, conventions and representations
	SC5-14LW analyses interactions between components and processes within biological systems

## Victorian Curriculum

Years 7-8	Years 9-10
Scientific knowledge and understanding of the world changes as new evidence becomes available; science knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science	Multicellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment
Cells are the basic units of living things and have specialised structures and functions	An animal's response to a stimulus is coordinated by its central nervous system (brain and spinal cord); neurons transmit electrical impulses and are connected by synapses
Multicellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce	The values and needs of contemporary society can influence the focus of scientific research
Chemical change involves substances reacting to form new substances	Chemical reactions, including combustion and the reactions of acids, are important in both non-living and living systems and involve energy transfer
Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy and potential energy; devices can change energy from one form to another	
Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge	Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables
Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed	Independently plan, select and use appropriate investigation types, including fieldwork and laboratory experimentation, to collect reliable data, assess risk and address ethical issues associated with these investigation types
In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task	Select and use appropriate equipment and technologies to systematically collect and record accurate and reliable data, and use repeat trials to improve accuracy, precision and reliability
Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method	Use knowledge of scientific concepts to evaluate investigation conclusions, including assessing the approaches used to solve problems, critically analysing the validity of information obtained from primary and secondary sources, suggesting possible alternative explanations and describing specific ways to improve the quality of data
	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations

	Demonstrated inquiry	Prescribed inquiry	Structured inquiry	Guided inquiry	Open inquiry
Questions	No question	Teacher provides question	Learner sharpens question	Learner selects question	Learner poses questions
Plans	No planning	Teacher provides procedure	Teacher discusses possible plans	Learner guided while planning	Learner determines plans
Conducts	Teacher conducts	Learner told how to conduct and record	Learner sharpens plan and conducts	Learner guided while conducting and recording	Learner conducts and records
Analyse	Teacher analyses	Learner told how to analyse data	Teacher discusses possible analyses	Learner guided in analysis	Learner analyses data identifying trends
Problem Solve	No problem solving	Teacher provides reasoning and links	Teacher discusses reasoning and conclusion	Learner guided in reasoning and formulate conclusion	Learner reasons to formulate conclusions
Communicate	No conclusion	Teacher writes conclusion	Learner writes conclusion	Learner guided on justifying findings and communicating	Learner justifies findings and conclusions