Year Level: 7	**Subject: Science**		
Week	**Unit**	**Learning Focus**	**Victorian Curriculum**
1 – 4	Introduction to science, lab safety, apparatus, science reports	• Know safe and unsafe laboratory practises • Use a Bunsen burner safely • Identify laboratory equipment • Understand how to use laboratory equipment • Draw scientifically correct diagrams of laboratory equipment • Identify different types of dangerous chemicals and their symbols • Measure temperature with a thermometer • Use tables and graphs to record results • Write a laboratory report	In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task VCSIS109 Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations VCSIS113
5 – 7	Chemistry - The Particle Model	• explore changes in matter at a particle level, and distinguish between chemical and physical change • describe the three states of matter • provide examples of substances in the three states of matter • identify processes which change substances from one state to another (evaporation, condensation, freezing, melting & sublimation) • identify the melting point and boiling point of water • define matter, mass, volume, physical properties and chemical properties • explain the importance of understanding the properties of a substance.	The properties of the different states of matter can be explained in terms of the motion and arrangement of particles VCSSU096 Differences between elements, compounds and mixtures can be described by using a particle model VCSSU097 Construct and use a range of representations including graphs, keys and models to record and summarise data from students' own investigations and secondary sources, and to represent and analyse patterns and relationships VCSIS110

8 - 10	Chemistry - Separating mixtures	• Define a solution, suspension & colloid and give examples of each
		• Distinguish between substances that are soluble and insoluble in water
		• Explain what mixtures are.
		• Identify the properties of substances that allow simple mixtures to be separated
		• Use the following techniques to separate mixtures:
		  • Filtering, decanting, crystallization, distillation, chromatography, magnetism
		  • Describe how to carry out these techniques, give examples of when they are used, name the apparatus required and draw the apparatus as it is set up for the technique.
		• Fold a filter paper
		• Explain how centrifuging separates parts of a mixture
		• Explain how sewage travels from a home to a treatment plant
		• Understand the different separating methods used with sewage.
		• Work in groups to design their own experiment to separate a mixture of muddy water, sand, salt, iron filings and copper turnings using appropriate techniques.
			Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques VCSSU095
			
			Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed VCSIS108

1-5	Biology - Classification	• Explain the role of classification in ordering and organising information describe the eight characteristics shared by all living things • Construct and read dichotomous keys • Explain the Five Kingdom classification system • State the Hierarchy of classification • Use scientific conventions for naming species • Explain the difference between a vertebrate and an invertebrate	There are differences within and between groups of organisms; classification helps organise this diversity VCSSU091

		• Explain that vertebrates are sorted into five Classes – mammals, fish, birds, reptiles and amphibians • Dissect a trout • Identify the six main phyla of invertebrates • Classify plants into groups using a key	
16 – 20	Biology - Ecosystems	• Construct food chains to show feeding relationships in a habitat • constructing and interpreting food webs to show relationships between organisms in an environment • Classify organisms of an environment according to their position in a food chain. • Recognise the role of microorganisms within food chains and food webs and investigate the effect of human activity on local habitats, such as deforestation, agriculture or the introduction of new species. • Explore how living things can cause changes to their environment and impact other living things, such as the effect of cane toads	Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity VCSSU093
Optional Activity Term 1/Term 2 Science Talent Search Game Changers and Change Makers			