

EP Curriculum Map

Victorian Curriculum - Science Levels 5 - 10



Levels 05 and 06

An Introduction to Science

Content Descriptors	EP Lessons in An Introduction to Science	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be based on previous experiences or general rules (VCSIS082) With guidance, plan appropriate investigation types to answer questions or solve problems and use equipment, technologies and materials safely, identifying potential risks (VCSIS083) Decide which variables should be changed, measured and controlled in fair tests and accurately observe, measure and record data (VCSIS084) Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085) Compare data with predictions and use as evidence in developing explanations (VCSIS086) Suggest improvements to the methods used to investigate a question or solve a problem (VCSIS087) Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. <i>What is Science?</i></p> <ul style="list-style-type: none"> What is Science? Careers In Science <p>2. <i>Safety in the Lab</i></p> <ul style="list-style-type: none"> Safety Equipment Safety Guidelines <p>3. <i>Science in the Lab</i></p> <ul style="list-style-type: none"> Science Equipment The Bunsen Burner Separating Substances and Other Equipment Equipment Quiz <p>4. <i>Measurement</i></p> <ul style="list-style-type: none"> Measuring in Science Reading the Meniscus <p>5. <i>Experiments</i></p> <ul style="list-style-type: none"> Accuracy Control Variables and Control Groups Fair Tests Repeatability and Reliability Sample Size Validity Variables 	<p>6. <i>Scientific Method</i></p> <ul style="list-style-type: none"> Scientific Method Questioning and Hypothesising Interpreting Data Tables Graphs in Science Interpreting Graphs in Science Observations and Inferences: Qualitative vs Quantitative Column Graphs Line Graphs Matching Tables to Graphs Evaluating in Science Lab Report Material PDF <p>7. <i>Science Investigations</i></p> <p><i>Heating Water</i></p> <ul style="list-style-type: none"> Pre-Lab Heating Water Post-Lab Heating Water Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>8. <i>Topic Tests</i></p> <ul style="list-style-type: none"> Bunsen Burner Quiz Equipment Quiz

Biological Sciences

Content Descriptor	EP Lessons in 1. Adaptations	
<p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> Living things have structural features and adaptations that help them to survive in their environment (VCSSU074) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085) Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. Adaptations for Survival</p> <ul style="list-style-type: none"> Introduction to Adaptations Adaptations in Shape or Form Adaptations Inside the Body Adaptations in Behaviour Nocturnal Activity Dune Plants Camouflage Characteristics and Adaptations of Living Things that Fly <p><i>Blubber Gloves!</i></p> <ul style="list-style-type: none"> Blubber Gloves! Student Worksheet Teacher Guide 	<p>2. Adaptations to Environments</p> <ul style="list-style-type: none"> Environments Rock Pool Environments Life in a Rock Pool Desert Environments Life in the Desert Polar Environments Life at the Poles <p>3. Definitions</p> <ul style="list-style-type: none"> Definitions List: Adaptations Definitions MCQ: Adaptations <p>4. Glossary</p> <ul style="list-style-type: none"> Spelling List: Adaptations <p>5. Topic Tests</p> <ul style="list-style-type: none"> Adaptations
Content Descriptor	EP Lessons in 2. Living Things and their Environment	
<p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> The growth and survival of living things are affected by the physical conditions of their environment (VCSSU075) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> With guidance, plan appropriate investigation types to answer questions or solve problems and use equipment, technologies and materials safely, identifying potential risks (VCSIS083) Decide which variables should be changed, measured and controlled in fair tests and accurately observe, measure and record data (VCSIS084) Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085) Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. The Environment</p> <ul style="list-style-type: none"> Living and Non-Living Things MRS GREN Environments Extreme Environments <p>2. Living Things and their Environments</p> <ul style="list-style-type: none"> Non-Living Factors Affecting Plants Living Factors Affecting Plants Non-living Factors Affecting Fungi Living Factors Affecting Fungi Non-Living Factors Affecting Animals Living Factors Affecting Animals Extreme Environments: The Scorching Deserts Extreme Environments: The Deep Dark Sea 	<ul style="list-style-type: none"> Extreme Environments: The Freezing Poles Migration Hibernation <p><i>Growing Mould</i></p> <ul style="list-style-type: none"> Growing Mould! Student Worksheet Teacher Guide <p>3. Glossary</p> <ul style="list-style-type: none"> Definitions List: Living Things and Their Environment Definitions MCQ: Living Things and Their Environments Spelling List: Living Things and their Environment <p>4. Topic Tests</p> <ul style="list-style-type: none"> Living Things and Their Environment

Chemical Sciences

Content Descriptor	EP Lessons in 1. States of Matter	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Solids, liquids and gases behave in different ways and have observable properties that help to classify them (VCSSU076) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> With guidance, plan appropriate investigation types to answer questions or solve problems and use equipment, technologies and materials safely, identifying potential risks (VCSIS083) Suggest improvements to the methods used to investigate a question or solve a problem (VCSIS087) 	<p>1. States of Matter</p> <ul style="list-style-type: none"> Introduction to Matter Solids Liquids Gases Gases have Masses? Comparing States of Water Secretive Substances Extreme Conditions <p>2. Changing States of Matter</p> <ul style="list-style-type: none"> Temperature and States of Matter Melting Freezing Boiling and Evaporation 	<ul style="list-style-type: none"> Condensation Sublimation Deposition <p>Cloud in a Jar</p> <ul style="list-style-type: none"> Cloud in a Jar Student Worksheet Teacher Guide <p>3. Glossary</p> <ul style="list-style-type: none"> Definitions List: States of Matter Definitions MCQ: States of Matter Spelling List: States of Matter <p>4. Topic Tests</p> <ul style="list-style-type: none"> States of Matter
Content Descriptor	EP Lessons in 2. Chemical Changes	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Changes to materials can be reversible, including melting, freezing, evaporating, or irreversible, including burning and rusting (VCSSU077) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> With guidance, plan appropriate investigation types to answer questions or solve problems and use equipment, technologies and materials safely, identifying potential risks (VCSIS083) Suggest improvements to the methods used to investigate a question or solve a problem (VCSIS087) 	<p>1. Materials and Mixtures</p> <ul style="list-style-type: none"> Pure and Impure Substances Mixtures Solubility Solvents and Solutes <p>Growing Sugar Crystals</p> <ul style="list-style-type: none"> Growing Sugar Crystals Student Worksheet Teacher Guide <p>2. Changes in State</p> <ul style="list-style-type: none"> States of Matter Changing States Through Heating Changing States Through Cooling <p>3. Irreversible and Reversible reactions</p> <ul style="list-style-type: none"> Irreversible Reactions Cooking and Burning Rusting 	<ul style="list-style-type: none"> Recycling Glass Recycling Metal Recycling Plastic Physical Changes and Reversible Reactions Refrigerators Melting Polar Ice <p>4. Glossary</p> <ul style="list-style-type: none"> Definitions List: Chemical Changes Definitions MCQ: Chemical Changes Spelling List: Chemical Changes <p>5. Topic Tests</p> <ul style="list-style-type: none"> Chemical Changes

Earth and Space Sciences

Content Descriptor	EP Lessons in 1. The Solar System	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Earth is part of a system of planets orbiting around a star (the Sun) (VCSSU078) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. <i>The Solar System</i></p> <ul style="list-style-type: none"> Planet Earth Introduction to the Solar System The Sun Years Days The Inner Planets The Outer Planets Sizes in Space Distances in Space 	<p>A Fruity Solar System</p> <ul style="list-style-type: none"> A Fruity Solar System Student Worksheet Teacher Guide <p>2. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: The Solar System Definitions MCQ: The Solar System Spelling List: The Solar System <p>3. <i>Topic Tests</i></p> <ul style="list-style-type: none"> The Solar System
Content Descriptor	EP Lessons in 2. Extreme Natural Events	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Sudden geological changes or extreme weather conditions can affect Earth's surface (VCSSU079) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. <i>Introduction to Earth</i></p> <ul style="list-style-type: none"> Layers of the Earth The Atmosphere The Geosphere <p>2. <i>Drought</i></p> <ul style="list-style-type: none"> Weather in the Outback Effects of Drought Coping with Drought <p>3. <i>Cyclones and Floods</i></p> <ul style="list-style-type: none"> Tropical Cyclones The Effects of Cyclones Cyclone Winston 2016 The Queensland Floods of 2011 <p>4. <i>Earthquakes and Tsunamis</i></p> <ul style="list-style-type: none"> Earthquakes Earthquake Hazards Measuring Earthquakes Tsunamis 	<p>5. <i>Volcanoes</i></p> <ul style="list-style-type: none"> Volcanic Eruptions Living with Volcanoes <p>6. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Extreme Natural Events Definitions MCQ: Extreme Natural Events Spelling List: Extreme Natural Events <p>7. <i>Topic Tests</i></p> <ul style="list-style-type: none"> Extreme Natural Events

Physical Sciences

Content Descriptor	EP Lessons in 1. Light	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> Light from a source forms shadows and can be absorbed, reflected and refracted (VCSSU080) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085) Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. <i>The Path of Light</i></p> <ul style="list-style-type: none"> Light How Do We See? The Movement of Light The Speed of Light Ray Diagrams Shadows Comparing Shadows <p>2. <i>Interaction with Light</i></p> <ul style="list-style-type: none"> Types of Objects The Colour of Light Absorption Mirrors Refraction Extension: Refraction and Ray Diagrams 	<p>3. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Light Definitions MCO: Light Spelling List: Light <p>4. <i>Topic Tests</i></p> <ul style="list-style-type: none"> Light
Content Descriptor	EP Lessons in 2. Electricity	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> Energy from a variety of sources can be used to generate electricity; electric circuits enable this energy to be transferred to another place and then to be transformed into another form of energy (VCSSU081) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088) 	<p>1. <i>Energy</i></p> <ul style="list-style-type: none"> Energy Types of Energy Energy Conservation <p>2. <i>Circuits</i></p> <ul style="list-style-type: none"> What is Electricity? Where Electricity Comes From Circuitry Open and Closed Circuits Circuit Diagrams Conductors Insulators 	<p>3. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Electricity Definitions MCO: Electricity Spelling List: Electricity <p>4. <i>Topic Tests</i></p> <ul style="list-style-type: none"> Electricity

Levels 07 and 08

An Introduction to Science

Content Descriptor	EP Lessons in An Introduction to Science	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none">• 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 (VCSSU089)• Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Inquiry Skills</p> <ul style="list-style-type: none">• Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107)• Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108)• In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109)• 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)• Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111)• 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 (VCSIS112)• Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113)	<p>1. What is Science?</p> <ul style="list-style-type: none">• What is Science?• Careers In Science <p>2. Safety in the Lab</p> <ul style="list-style-type: none">• Safety Equipment• Safety Guidelines <p>3. Science in the Lab</p> <ul style="list-style-type: none">• Science Equipment• The Bunsen Burner• Separating Substances and Other Equipment• Equipment Quiz• Topic Test: Equipment Quiz• Topic Test: Bunsen Burner Quiz <p>4. Measurement</p> <ul style="list-style-type: none">• Measuring in Science• Reading the Meniscus <p>5. Experiments</p> <ul style="list-style-type: none">• Accuracy• Control Variables and Control Groups• Fair Tests• Repeatability and Reliability• Sample Size• Validity• Variables	<p>6. Scientific Method</p> <ul style="list-style-type: none">• Scientific Method• Questioning and Hypothesising• Observations and Inferences; Qualitative vs Quantitative• Interpreting Data Tables• Graphs in Science• Interpreting Graphs in Science• Column Graphs• Line Graphs• Matching Tables to Graphs• Evaluating in Science• Lab Report Material PDF <p>7. Science Investigations</p> <p><i>Heating Water</i></p> <ul style="list-style-type: none">• Pre-Lab Heating Water• Post-Lab Heating Water• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx)

Biological Sciences

Content Descriptor	EP Lessons in 1. Classification	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> There are differences within and between groups of organisms; classification helps organise this diversity (VCSSU091) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. What is Classification?</p> <ul style="list-style-type: none"> Introduction to Classification Introduction to Plant Classification Identifying Species <p>2. Living or Non-Living?</p> <ul style="list-style-type: none"> MRS C GREN MRS GREN <p>3. Dichotomous Keys</p> <ul style="list-style-type: none"> Introduction to Dichotomous Keys Branching Keys Circular Keys Tabular Keys Guess Who: Animal Edition <p><i>Building Dichotomous Keys</i></p> <ul style="list-style-type: none"> Building Dichotomous Keys Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Classifying Leaves</i></p> <ul style="list-style-type: none"> Classifying Leaves Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Using Dichotomous Keys</i></p> <ul style="list-style-type: none"> Using Dichotomous Keys Student Worksheet PDF Teacher Guide PDF Editable Documents - Word (.docx) 	<p>4. Linnaean Classification</p> <ul style="list-style-type: none"> Linnaean Classification Binomial Nomenclature Species and Hybrids Carl Linnaeus <p><i>Researching Phyla</i></p> <ul style="list-style-type: none"> Researching Phyla Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Editable Documents - Word (.docx) <p>5. Examples of Classification</p> <ul style="list-style-type: none"> Dragons in the Deep The Platypus Classifying Dinosaurs Tardigrades in Parking Lots Comprehension: How Does a Jellyfish Sting? Comprehension: Tiny, Tubby, Tenacious Tardigrades STEM - Kangaroo Counter <p>6. Extension</p> <ul style="list-style-type: none"> Extension: Animal Phyla Extension: Classification of Life Extension: Vertebrates <p>7. Glossary</p> <ul style="list-style-type: none"> Definitions List: Classification Definitions MCQ: Classification Spelling List: Classification <p>8. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: Classification and Using Keys Topic Test: Linnaean Classification

Content Descriptor	EP Lessons in 2. Cells	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> Cells are the basic units of living things and have specialised structures and functions (VCSSU092) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. Introduction to Cells</p> <ul style="list-style-type: none"> An Introduction to Cells Cell Theory Size of Cells Comprehension: The Origin of Mitochondria <p><i>Jelly Cells</i></p> <ul style="list-style-type: none"> Jelly Cells Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Microscopes</p> <ul style="list-style-type: none"> Parts and Function of a Microscope Using a Microscope Magnification Types of Microscopes History of Microscopes Data Interpretation: The Size of Cells <p><i>Preparing and Observing Cells</i></p> <ul style="list-style-type: none"> Preparing and Observing Cells Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Using a Microscope</i></p> <p>1. Background Information</p> <ul style="list-style-type: none"> Parts and Function of a Microscope Magnification and Resolution How to Use a Microscope 	<p>2. Investigation: Using a Microscope</p> <ul style="list-style-type: none"> Using a Microscope Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Types of Cells</p> <ul style="list-style-type: none"> Introduction to Types of Cells: Pond Water Investigation Eukaryotic Cells Prokaryotic Cells Prokaryotic vs. Eukaryotic Animal Cell Structure Plant Cell Structure Animal vs. Plant Cells Bacterial Cell Structure Fungal Cell Structure Scientific Writing: Comparing Plant and Animal Cells <p><i>Pond Critters</i></p> <ul style="list-style-type: none"> Pond Critters Risk Assessment (in RiskAssess) Species Identification Guide PDF Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Cell Division</p> <ul style="list-style-type: none"> Cell Division in Bacteria Cell Division in Humans: Mitosis Cell Division in Humans: Meiosis

5. Levels of Organisation

- [Levels of Organisation](#)
- [Types of Tissue](#)
- [Specialised Animal Cells: Muscle and Nerve Cells](#)
- [Specialised Animal Cells: Blood Cells and Fat Cells](#)
- [Specialised Plant Cells - Photosynthetic and Guard Cells](#)
- [Specialised Plant Cells - Root Hairs and Conducting Cells](#)

6. Treating and Preventing Disease

- [Pasteur & Koch](#)
- [Antibiotics](#)
- [Vaccination](#)
- [Contagious Disease Control: Preventing the Spread](#)
- [Data Interpretation: Food Safety and Salmonella](#)

7. Extension

- [Extension: Diffusion and Cell Size](#)
- [Extension: Stem Cell Therapy](#)
- [Extension: Stem Cells](#)

8. Glossary

- [Definitions List: Cells](#)
- [Definitions MCQ: Cells](#)
- [Spelling List: Cell Organelles](#)
- [Spelling List: Cells](#)

9. Pre-Built Assessments

- [Question Bank: Animal and Plant Cells](#)
- [Question Bank: Cells](#)
- [Question Bank: Plant and Animal Cells + Cells](#)
- [Topic Test: Animal and Plant Cells](#)
- [Topic Test: Cells](#)
- [Topic Test: Plant and Animal Cells + Cells](#)

Content Descriptor	EP Lessons in 3. Interactions in Ecosystems	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity (VCSSU093) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. Ecosystems</p> <ul style="list-style-type: none"> Ecology Species vs Organism Ecosystems Biotic and Abiotic Factors Interdependent Relationships Comprehension: Sustainable Bush Tucker <p><i>Collecting Invertebrates in Quadrats</i></p> <ul style="list-style-type: none"> Collecting Invertebrates in Quadrats Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Measuring Abiotic Factors in Water</i></p> <ul style="list-style-type: none"> Measuring Abiotic Factors in Water Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Food Chains and Food Webs</p> <ul style="list-style-type: none"> Food Chains Food Webs Decomposers Consumers Predators, Prey and Competition <p><i>Build a Food Web</i></p> <ul style="list-style-type: none"> Build a Food Web Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>3. Changes in the Environment</p> <ul style="list-style-type: none"> Deforestation Introduced Species Cane Toads as an Introduced Species An Agricultural Affair Harnessing Fire in Australia Oil Pollution and Industrial Waste Pesticides The Palm Oil Predicament <p><i>Growing Plants under Different Conditions</i></p> <ul style="list-style-type: none"> Growing Plants under Different Conditions Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Organisms in Ecosystems</p> <ul style="list-style-type: none"> Adaptations Diurnal vs Nocturnal Antarctica Saving the Tasmanian Devil <p>5. Human Impacts on Ecosystems</p> <ul style="list-style-type: none"> Australian Bushfires Climate Change Introduced and Invasive Species Invasive Species in Australia What is Pollution? Pollution and Ecosystems Data Interpretation: Marine Ecosystems and Overfishing STEM: A Green Utopia STEM: Alternate Fuels STEM: Vertical Garden

	<p>6. <i>Extension</i></p> <ul style="list-style-type: none"> • Extension: Ecosystem Conservation • Extension: Scientific Methods of Conservation • Extension: Species Conservation in Australia • Extension: Water Pollution and Solutions 	<p>7. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: Interactions in Ecosystems • Definitions MCQ: Interactions in Ecosystems • Spelling List: Interactions in Ecosystems <p>8. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: Biotic and Abiotic Factors
<p>Content Descriptor</p>	<p>EP Lessons in 4. Living Systems</p>	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> • Multicellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce (VCSSU094) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) • Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) • 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) • Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) • Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. <i>Introduction to Body Systems</i></p> <ul style="list-style-type: none"> • Introduction to Body Systems • Organ Systems • Exercise and the Body • Comprehension: Ancient Anatomy <p><i>First Aid and Body Systems</i></p> <ul style="list-style-type: none"> • First Aid and Body Systems • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Editable Documents - Word (.docx) <p>2. <i>Digestive System</i></p> <ul style="list-style-type: none"> • Digestive System As A Whole • Food Groups • Mouth and Oesophagus • Stomach and Small Intestine • Large Intestine and Rectum • Comparing Digestion in Other Animals • The Microbes That Control What We Do <p>3. <i>Respiratory System</i></p> <ul style="list-style-type: none"> • Introduction to the Respiratory System • Breathing • Gas Exchange • Respiration in Cells • Comparing Respiration 	<p>4. <i>Circulatory System</i></p> <ul style="list-style-type: none"> • Introduction to the Circulatory System • The Heart • Blood Vessels • Blood • Data Interpretation: Relative Heart Size <p><i>Heart Dissection</i></p> <ul style="list-style-type: none"> • Heart Dissection • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>5. <i>Excretory System</i></p> <ul style="list-style-type: none"> • Introduction to Excretory System • Excretory Organs • The Kidneys & Urine Production • Kidney Disease <p><i>Kidney Dissection</i></p> <ul style="list-style-type: none"> • Kidney Dissection • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx)

6. Musculoskeletal System

- [Introduction to the Musculoskeletal System](#)
- [Bones & Joints](#)
- [Muscles](#)
- [Injuries](#)

7. Reproductive System

1. Reproduction in Animals

- [Sexual Reproduction](#)
- [Asexual Reproduction](#)

2. Human Reproduction

- [Puberty](#)
- [Male Reproduction](#)
- [Female Reproduction](#)
- [Pregnancy](#)
- [Labour & Birth](#)

3. Reproduction in Plants

- [Sexual Reproduction in Plants](#)
- [Pollination](#)
- [Seed Dispersal & Germination](#)
- [Asexual Reproduction in Plants](#)

8. Plant Systems

- [Photosynthesis](#)
- [Plant Systems](#)
- [Maple Syrup: Xylem and Phloem](#)

Cross Pollination

- [Cross Pollination](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Flower Dissection

- [Flower Dissection](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)
- [Revision: Using a Microscope](#)

9. Organ Transplants

- [Organ Transplants](#)
- [Ethical Issues of Organ Transplants](#)
- [Ctrl + X, Ctrl + V: Xenotransplants](#)
- [Artificial Organs](#)

10. Extension

- [Extension: Contraception](#)
- [Extension: Diffusion](#)
- [Extension: Diffusion and Body Systems](#)
- [Extension: Infertility](#)
- [Extension: Lamb in a Bag](#)
- [Extension: Plant Cloning](#)
- [Extension: Stress Effects on the Body](#)
- [Extension: Trapped in a Cave](#)

11. Glossary

- [Definitions List: Body Systems](#)
- [Definitions List: Reproductive System:](#)
- [Definitions MCQ: Body Systems](#)
- [Definitions MCQ: Reproductive System](#)
- [Spelling List: Animal Reproductive Systems](#)
- [Spelling List: Body Systems](#)

12. Pre-Built Assessments

- [Topic Test: Body Systems \(32 marks\)](#)
- [Topic Test: Digestive System](#)
- [Topic Test: Respiratory System](#)

Chemical Sciences

Content Descriptor	EP Lessons in 1. Mixtures	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none">Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none">Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (VCSSU095) <p>Science Inquiry Skills</p> <ul style="list-style-type: none">Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107)Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108)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)Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111)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 (VCSIS112)Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113)	<p>1. Mixtures and Substances</p> <ul style="list-style-type: none">Introduction to MixturesPure Substances and MixturesData Interpretation: Graphs and Tables of Mixtures <p>2. Solutions</p> <ul style="list-style-type: none">Solute and SolventConcentrationData Interpretation: Saturation and Line Graphs <p>Temperature and Dissolving</p> <ul style="list-style-type: none">Temperature and DissolvingRisk Assessment (in RiskAssess)Student Worksheet PDFLab Report Material PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx) <p>3. Suspensions</p> <ul style="list-style-type: none">SuspensionsColloidsEmulsions <p>4. Separation Techniques</p> <ul style="list-style-type: none">Introduction to SeparationEvaporationCrystallisationFiltrationDistillationChromatographyCentrifugingFirst Nation Australian Separation Techniques: Extraction and FiltrationFirst Nation Australian Separation Techniques: Sorting methodsOpen-Ended Separation Investigation	<p>Candy Crystals</p> <ul style="list-style-type: none">Candy CrystalsPost Lab: Candy CrystalsRisk Assessment (in RiskAssess)Student Worksheet PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx) <p>Chromatography: Separating Colours</p> <ul style="list-style-type: none">Chromatography: Separating ColoursPost Lab: Chromatography: Separating ColoursRisk Assessment (in RiskAssess)Student Worksheet PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx) <p>Filtration</p> <ul style="list-style-type: none">Pre Lab: FiltrationRisk Assessment (in RiskAssess)Post Lab: FiltrationStudent Worksheet PDFLab Report Material PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx) <p>Making a Solar Still</p> <ul style="list-style-type: none">Making a Solar StillRisk Assessment (in RiskAssess)Student Worksheet PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx)

Separating a Basic Mixture

- [Separating a Basic Mixture](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Lab Report Material PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

5. Mixtures Around Us

- [Indigenous Art using Mixtures](#)
- [Blood as a Mixture](#)
- [Separation in Food](#)
- [Separation in Industries](#)
- [Water Treatment](#)
- [Recycling Sewage](#)
- [STEM: The Zombie Apocalypse Water Shortage](#)

6. Extension

- [Extension: Adsorption](#)
- [Extension: Magnetic and Electrostatic Separation](#)

7. Glossary

- [Definitions List: Mixtures](#)
- [Definitions MCQ: Mixtures](#)
- [Spelling List: Mixtures](#)

8. Pre-Built Assessments

- [Topic Test: Identifying Mixtures](#)
- [Topic Test: Separating Mixtures](#)

Content Descriptor	EP Lessons in 2. Matter	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> The properties of the different states of matter can be explained in terms of the motion and arrangement of particles (VCSSU096) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. States of Matter</p> <ul style="list-style-type: none"> Introduction to Matter Introduction to Particles Particle Model of Matter Solids Liquids Gases Comprehension: What is the Matter? <p>2. Changing States</p> <ul style="list-style-type: none"> Changing States Melting and Freezing Boiling, Evaporation and Condensation Sublimation and Deposition Heating and Cooling Curves <p>Building a Steam Engine</p> <ul style="list-style-type: none"> Building a Steam Engine Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Making Ice Cream</p> <ul style="list-style-type: none"> Making Ice Cream Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Properties of Matter</p> <ul style="list-style-type: none"> Mass and Volume Pressure Density Density and Buoyancy Diffusion <p>Building a Density Tower</p> <ul style="list-style-type: none"> Building a Density Tower Risk Assessment (in RiskAssess) 	<ul style="list-style-type: none"> Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Observing Atmospheric Pressure</p> <ul style="list-style-type: none"> Observing Atmospheric Pressure Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Matter in Nature</p> <ul style="list-style-type: none"> States of Matter in Space The Water Cycle and Weather When Water Freezes <p>5. Matter in Technology</p> <ul style="list-style-type: none"> Air Conditioners Refrigerators and Refrigerants <p>6. Extension</p> <ul style="list-style-type: none"> Extension: Energy In Matter Extension: Heating and Cooling Effects on Volume Extension: Melting Polar Ice Extension: Newtonian and Non-Newtonian Fluids Extension: Pressure, Compression and Temperature Extension: Viscosity <p>7. Glossary</p> <ul style="list-style-type: none"> Definitions List: Matter Definitions MCQ: Matter Spelling List: Matter <p>8. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: Matter

Content Descriptor	EP Lessons in 3. Elements and Compounds	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Differences between elements, compounds and mixtures can be described by using a particle model (VCSSU097) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. Introduction to Elements</p> <ul style="list-style-type: none"> Introduction to Elements, Compounds and Mixtures Atoms Elements First 10 Elements Metals, Non-Metals and Metalloids Data Interpretation: Identifying Metals, Nonmetals and Metalloids Quiz- First 10 Elements (Name to Symbol) Quiz- First 10 Elements (Symbol to Name) <p>Indirect Observations</p> <ul style="list-style-type: none"> Pre Lab: Indirect Observations Risk Assessment (in RiskAssess) Post Lab: Indirect Observation Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Compounds and Molecules</p> <ul style="list-style-type: none"> Molecules Compounds Elements and Compounds in Household Products Properties and Uses of Everyday Elements and Compounds Chemical Formulas <p>Making Models</p> <ul style="list-style-type: none"> 1a. Pre Lab: Making Models Risk Assessment (in RiskAssess) Post Lab: Making Models Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>3. Advances in Chemistry</p> <ul style="list-style-type: none"> Discovering Elements Marie Curie and Radioactivity Materials Science Carbon Chemistry Cosmetics and Chemistry: A Historical Perspective <p>Flame Test</p> <ul style="list-style-type: none"> Pre Lab: Flame Test Post Lab: Flame Test Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Extension</p> <ul style="list-style-type: none"> Extension: Chemical Bonding Extension: Constructing Molecular Models Extension: The Periodic Table <p>5. Glossary</p> <ul style="list-style-type: none"> Definitions List: Elements and Compounds Definitions MCQ: Elements and Compounds Spelling List: Elements and Compounds <p>6. Pre-Built Assessments</p> <ul style="list-style-type: none"> Quiz: First 10 Elements Topic Test: Elements, Compounds and Molecules (40 marks)

Content Descriptor	EP Lessons in 4. Introduction to Chemical Reactions	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Chemical change involves substances reacting to form new substances (VCSSU098) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p><i>1. Physical Properties and Physical Change</i></p> <ul style="list-style-type: none"> Physical Properties Physical Change Physical Properties of Metals and Non-Metals <p><i>2. Chemical Reactions and Properties</i></p> <ul style="list-style-type: none"> Chemical Changes Chemical Reactions Chemical Properties Using Substances Based on their Properties Writing Word Reactions Comprehension: By Our Powers Combined Comprehension: Watching Paint Dry Data Interpretation: Turning Observations Into Facts <p><i>Fire and Reactions</i></p> <ul style="list-style-type: none"> Combustion Reactions Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Identifying Chemical Reactions</i></p> <ul style="list-style-type: none"> Identifying Chemical Reactions Risk Assessment (in RiskAssess) Student Worksheet PDF Laboratory Technician Guide PDF Teacher Guide PDF Editable Docs - Word (.docx) <p><i>Observing Chemical Reactions</i></p> <ul style="list-style-type: none"> Observing Chemical Reactions Risk Assessment (in RiskAssess) Student Worksheet PDF 	<ul style="list-style-type: none"> Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Rusting In Different Environments</i></p> <ul style="list-style-type: none"> Rusting in Different Environments Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>3. Transformations of Chemicals</i></p> <ul style="list-style-type: none"> Alchemy Recycling Synthetic Materials Working In Chemistry <p><i>Making Recycled Paper</i></p> <ul style="list-style-type: none"> Making Recycled Paper Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>4. Extension</i></p> <ul style="list-style-type: none"> Extension: Writing Symbol Equations <p><i>5. Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Introduction to Chemical Reactions Definitions MCQ: Introduction to Chemical Reactions Spelling List: Introduction to Chemical Reactions <p><i>6. Pre-Built Assessments</i></p> <ul style="list-style-type: none"> Topic Test: Physical and Chemical Changes

Earth and Space Sciences

Content Descriptor	EP Lessons in 1. Earth, Moon and Sun	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the Sun, Earth and the Moon (VCSSU099) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. The Universe</p> <ul style="list-style-type: none"> The Universe Gravity and Orbits Comets Asteroids and Meteoroids Comprehension: Pluto - The Big Little Planet <p>2. The Earth and Sun</p> <ul style="list-style-type: none"> Planet Earth Earth, Moon and Sun Day and Night Seasons Time Zones Comprehension: Why Doesn't Earth Have Rings? <p>Making a Sundial</p> <ul style="list-style-type: none"> Making a Sundial Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Modelling The Earth, Moon and Sun</p> <ul style="list-style-type: none"> Modelling The Earth, Moon and Sun Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>Pinhole Camera</p> <p>1. Making a Pinhole Camera</p> <ul style="list-style-type: none"> Making a Pinhole Camera Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Using a Pinhole Camera</p> <ul style="list-style-type: none"> Using a Pinhole Camera to Calculate Diameter of the Sun Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Seasons and the Angle of the Sun</p> <ul style="list-style-type: none"> Seasons and the Angle of the Sun Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. The Moon</p> <ul style="list-style-type: none"> Phases of the Moon Tides Data Interpretation: Space Travel: Weight and Gravitation in the Solar System Data Interpretation: Tides and the Moon

Modelling Gravity

- [Modelling Gravity](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

4. Eclipses

- [Lunar Eclipse](#)
- [Solar Eclipse](#)

5. Astronomy

- [Models of the Solar System](#)
- [Calendars and the Solar Year](#)
- [Astronomical Observations of First Nations Australians](#)
- [Indigenous Australian Constellations](#)
- [Exploring the Moon, Mars and Beyond](#)
- [Exploring Space](#)
- [Satellites](#)
- [Telescopes](#)
- [Effects of Seasonal Change](#)

6. Extension

- [Extension: Earth's Magnetic Field](#)
- [Extension: Planetary Motion](#)

7. Glossary

- [Definitions List: Earth, Moon and Sun](#)
- [Definitions MCQ: Earth, Moon and Sun](#)
- [Spelling List: Earth, Moon and Sun](#)

8. Pre-Built Assessments

- [Topic Test: Days, Seasons and Time](#)

Content Descriptor	EP Lessons in 2. Earth's Resources	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Some of Earth's resources are renewable, but others are non-renewable (VCSSU100) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. <i>Introduction to Earth's Resources</i></p> <ul style="list-style-type: none"> Introduction to Earth's Resources Renewable and Non-Renewable Energy Sources <p>2. <i>Non-Renewable Resources</i></p> <ul style="list-style-type: none"> Fossil Fuels as a Resource Soil as a Resource Minerals and Ores as Resources Mining Nuclear Fuel as a Resource <p>3. <i>Renewable Resources</i></p> <ul style="list-style-type: none"> Living Things as a Resource Air as a Resource Wind as a Resource Wind Turbines Solar Energy Water Power Geothermal Energy Comprehension: The Power of Sunshine Data Interpretation: Choosing Renewables <p><i>Solar Oven</i></p> <ul style="list-style-type: none"> Solar Oven Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Turbine Power</i></p> <ul style="list-style-type: none"> Turbine Power Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>4. <i>Ecological Energy</i></p> <ul style="list-style-type: none"> Renewable Energy Antarctica, a Shared Continent Changing Seasons STEM: A Limitless Source Of Energy <p>5. <i>Extension</i></p> <ul style="list-style-type: none"> Extension: Investigation: Coal vs. Solar for Australia's Future <p>6. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Earth's Resources Definitions MCQ: Earth's Resources Spelling List: Earth's Resources <p>7. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> Topic Test: Types of Resources

Content Descriptor	EP Lessons in 3. The Water Cycle	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Water is an important resource that cycles through the environment (VCSSU101) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. The Water Cycle</p> <ul style="list-style-type: none"> Water on Earth Water Cycle States of Water The Water Cycle as a Closed System Influences on the Water Cycle <p><i>Evaporation</i></p> <ul style="list-style-type: none"> Evaporation Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Weather in a Jar</i></p> <ul style="list-style-type: none"> Weather in a Jar Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Water Management</p> <ul style="list-style-type: none"> Water Management Water Conservation Hydroelectricity Irrigation Science, Tradition and Modern Medicine Comprehension: The Great Artesian Basin Data interpretation: Our Water Use <p><i>Purifying Saltwater</i></p> <ul style="list-style-type: none"> Purifying Saltwater Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>3. Extension</p> <ul style="list-style-type: none"> Data interpretation: Reading a Weather Map Extension: Aquifers Extension: Cloudy with a Chance of Hamburgers <p><i>Make Your Own Aquifer</i></p> <ul style="list-style-type: none"> Make Your Own Aquifer Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Glossary</p> <ul style="list-style-type: none"> Definitions List: The Water Cycle Definitions MCQ : The Water Cycle Spelling List: The Water Cycle <p>5. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: The Water Cycle Topic Test: Water on Earth

Content Descriptor	EP Lessons in 4. Rocks	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (VCSSU102) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) 	<p>1. Structure of the Earth</p> <ul style="list-style-type: none"> Earth's Structure Mechanical Layers of the Earth <p>2. Earth's Processes</p> <ul style="list-style-type: none"> The Geological Timescale Developing the Geological Timescale Erosion and Sedimentation Weathering Australian Landforms formed by Physical Weathering, Erosion and Sedimentation Australian Landforms formed by Volcanism and Chemical Weathering <p>Build a Geological Timescale</p> <ul style="list-style-type: none"> Build a Geological Timescale Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Simulating Erosion</p> <ul style="list-style-type: none"> Simulating Erosion Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Minerals</p> <ul style="list-style-type: none"> Introduction to Minerals Identifying Minerals Minerals and Rocks as Resources Mining and Mineral Exploration Comprehension: Zircons are Forever Data Interpretation: Comparing Minerals 	<p>Cooling Crystals</p> <ul style="list-style-type: none"> Cooling Crystals Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Rock Types</p> <ul style="list-style-type: none"> The Rock Cycle Igneous Rocks Metamorphic Rocks Sedimentary Rocks Comprehension: Baked Rocks in the Lachlan Fold Belt Comprehension: Hot Rocks of the Cosgrove Hotspot Track Data Interpretation: Rock Density <p>5. Fossils</p> <ul style="list-style-type: none"> Fossils Australian Fossils Feathery Dinosaurs <p>Build a Stratigraphic Column</p> <ul style="list-style-type: none"> Build a Stratigraphic Column Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>6. Exploring Earth and Beyond</p> <ul style="list-style-type: none"> Martian Geology Volcanology <p>7. Extension</p> <ul style="list-style-type: none"> Extension: Dissecting the Earth

8. Glossary

- [Definitions MCQ: Introduction to Geology](#)
- [Definitions MCQ: Rocks](#)
- [Spelling List: Introduction to Geology](#)
- [Spelling List: Rocks](#)

9. Pre-Built Assessments

- [Topic Test: Earth Processes](#)
- [Topic Test: Minerals and Rocks](#)

Physical Sciences

Content Descriptor	EP Lessons in 1. Forces	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> Change to an object's motion is caused by unbalanced forces acting on the object; Earth's gravity pulls objects towards the centre of Earth (VCSSU103) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and 	<p>1. Introduction to Forces</p> <ul style="list-style-type: none"> What are Forces? Balanced and Unbalanced Forces Drawing Forces Measuring Force <p>2. Types of Forces</p> <ul style="list-style-type: none"> Contact and Non-Contact Forces Gravity Magnetism Weight and Mass <p>Friction and Mass</p> <ul style="list-style-type: none"> Investigating Friction and Mass Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Friction and Surfaces</p> <ul style="list-style-type: none"> Investigating Friction and Surfaces Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Mapping Magnetic Fields</p> <ul style="list-style-type: none"> Mapping Magnetic Fields Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>3. Simple Machines</p> <ul style="list-style-type: none"> Levers Inclined Planes Wheels, Axles and Pulleys Gears Optional: Bicycle Investigation <p>A Ramp as a Simple Machine</p> <ul style="list-style-type: none"> Pre Lab: A Ramp as a Simple Machine Post Lab: A Ramp as a Simple Machine Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents (.docx) <p>Levers</p> <ul style="list-style-type: none"> Levers Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Forces in Everyday Life</p> <ul style="list-style-type: none"> Friction Ancient Tools and Weapons Safety Systems Sports Science Comparing Robots How Planes Stay Up Comprehension: How Planes Stay Up

using appropriate scientific language and representations
(VCSIS113)

Build a Marshmallow Blaster

- [Build a Marshmallow Blaster](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Lab Report Material PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

5. Extension

- [Extension: Calculating Net Force](#)
- [Extension: Electrostatic Force](#)
- [Extension: Planetary Motion](#)
- [Extension: Tides](#)
- [Extension: Gear Ratio](#)

Newton's Laws

- [Newton's First Law](#)
- [Newton's Second Law](#)
- [Newton's Third Law](#)

6. Glossary

- [Definitions List: Forces](#)
- [Definitions MCQ: Forces](#)
- [Spelling List: Forces](#)

7. Pre-Built Assessments

- [Topic Test: Forces](#)

Content Descriptor	EP Lessons in 2. Energy	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> 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 (VCSSU104) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) 	<p>1. Introduction to Energy</p> <ul style="list-style-type: none"> What is Energy? Kinetic Energy Potential Energy Identifying KE or PE Units of Energy Converting between Joules (J) & Kilojoules (kJ) Converting between Kilojoules (kJ) & Megajoules (MJ) <p>Rube Goldberg Machines</p> <ul style="list-style-type: none"> Rube Goldberg Machines Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Energy Conservation</p> <ul style="list-style-type: none"> Law of Conservation of Energy Useful and Wasted Energy Reducing Energy Consumption Comprehension: Energy Efficiency <p>Bouncy Balls and Energy Efficiency</p> <ul style="list-style-type: none"> Bouncy Balls and Energy Efficiency Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Energy Transfer</p> <ul style="list-style-type: none"> What is Heat? Heat Transfer Conduction Convection 	<ul style="list-style-type: none"> Radiation Conductors and Insulators Heat Production <p>Investigating Heat Energy</p> <ul style="list-style-type: none"> Investigating Heat Energy Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Radiation</p> <ul style="list-style-type: none"> Radiation Investigation <p>4. Energy Transformations</p> <ul style="list-style-type: none"> Energy Transformations Energy Transformation and Food Displaying Energy Transformations <p>Energy Transformations</p> <ul style="list-style-type: none"> Energy Transformations Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>5. Electrical Energy</p> <ul style="list-style-type: none"> Electricity Electric Circuits Current Voltage Resistance Introduction to Ohm's Law Batteries Electrical Conductors and Insulators Circuits in Series Circuits in Parallel Comparing Circuits Comprehension: A Bright Idea

Battery Voltages

- [Battery Voltages](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Building Circuits

- [Building Circuits](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Ohm's Law

- [Ohm's Law](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Lab Report Material PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Resistance

- [Resistance](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Lab Report Material PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Static Electricity

- [Static Electricity](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

6. Energy Around Us

- [The Development of Flight](#)
- [Cars of the Future](#)
- [Energy Efficient Houses](#)
- [Housing Insulation](#)
- [The Power Grid and You](#)

Building a Solar Oven

- [Building a Solar Oven](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

7. Extension

- [Extension: Cogeneration and Engines](#)
- [Extension: Energy Calculations](#)

Energy in Skate Parks

- [Energy in Skate Parks](#)
- [Student Worksheet PDF](#)
- [Lab Report Material PDF](#)
- [Teacher Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

8. Glossary

- [Definitions List: Energy](#)
- [Definitions List: Energy](#)
- [Spelling List: Energy](#)

9. Pre-Built Assessments

- [Topic Test: Types of Energy](#)

Content Descriptor	EP Lessons in 3. Light	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> Light can form images using the reflective feature of curved mirrors and the refractive feature of lenses, and can disperse to produce a spectrum which is part of a larger spectrum of radiation (VCSSU105) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 	<p>1. Light as a Wave</p> <ul style="list-style-type: none"> Light as a Wave Colour Materials Reflection Refraction Refractive Index Total Internal Reflection Lenses Drawing Ray Diagrams Light: Summary <p>Colourful Candy</p> <ul style="list-style-type: none"> Colourful Candy Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Lab Report Material PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Law of Reflection</p> <ul style="list-style-type: none"> Law of Reflection Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Lenses</p> <ul style="list-style-type: none"> Lenses Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>Refraction</p> <ul style="list-style-type: none"> Refraction Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Optical Instruments</p> <ul style="list-style-type: none"> The History of Lenses Bionic Eyes <p>Build a Periscope</p> <ul style="list-style-type: none"> Build a Periscope Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Electromagnetic Radiation</p> <ul style="list-style-type: none"> The Electromagnetic Spectrum Electromagnetic Radiation and Medicine You, Me and UV <p>4. Extension</p> <ul style="list-style-type: none"> Extension: Curved Mirrors Extension: Plane Mirrors and Reflection Extension: Snell's Law <p>5. Glossary</p> <ul style="list-style-type: none"> Definitions List: Light Definitions MCQ: Light Spelling List: Light <p>6. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: Light

Content Descriptor	EP Lessons in 4. Sound	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> 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 (VCSSU089) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> The properties of sound can be explained by a wave model (VCSSU106) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) 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) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) 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 (VCSIS112) 	<p>1. Sound Production</p> <ul style="list-style-type: none"> Sound Waves Sound Formation Pitch and Loudness Comprehension: Ultrasound <p><i>Slinky Waves</i></p> <ul style="list-style-type: none"> Slinky Waves Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Speed of Sound</i></p> <ul style="list-style-type: none"> Speed of Sound Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Hearing</p> <ul style="list-style-type: none"> Hearing Sound Bionic Ears Turned Down for What: Workplace Noise The Tiny Toadlet's Conundrum <p>3. Music</p> <ul style="list-style-type: none"> Australian Aboriginal Music <p><i>Musical Bottles</i></p> <ul style="list-style-type: none"> Musical Bottles Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p><i>Straw Instruments</i></p> <ul style="list-style-type: none"> Straw Instruments Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Glossary</p> <ul style="list-style-type: none"> Definitions List: Sound Definitions MCQ: Sound Spelling List: Sound

Ethical Capability

Content Descriptor	EP Lessons in Ethical Capability
	<p>1. Introduction to Ethics Introduction to Ethics Ethics Around the World</p> <p>2. Ethics Animal Ethics Different Views Ethical Issues of Organ Transplants The Ethics of Genetics</p> <p>3. Definitions Definitions List: Different Views Definitions List: Ethics Around the World Definitions List: Introduction to Ethics</p>

Levels 09 and 10

Biological Sciences

Content Descriptor	EP Lessons in 1. Homeostasis and Disease	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none">Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114)Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115)The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none">Multicellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment (VCSSU117) <p>Science Inquiry Skills</p> <ul style="list-style-type: none">Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137)Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138)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 (VCSIS139)Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments	<p>1. Homeostasis</p> <ul style="list-style-type: none">Basics of HomeostasisHomeostatic TermsStimulus-Response ModelNegative and Positive FeedbackModelling Human ThermoregulationControl Systems - Nervous vs EndocrineAdapting to Extreme ClimatesData Interpretation: Body TemperatureData Interpretation: Regulating Blood Glucose Levels <p>2. Endocrine System</p> <ul style="list-style-type: none">Introduction to the Endocrine SystemGlands of the Endocrine SystemHormones of the Endocrine SystemRegulating Blood Sugar <p>3. Homeostasis in Industry</p> <ul style="list-style-type: none">Use of Hormones in the Dairy IndustrySnake Antivenom Production <p>4. Disease</p> <ul style="list-style-type: none">Introduction to DiseasesBacterial DiseasesViral DiseasesViral Infection: ChickenpoxParasitic DiseasesParasitic Infection: MalariaFungal DiseasesDisease TransmissionModelling Disease Outbreak and SpreadAntibioticsSuperbugs are the Real Super Villains	<ul style="list-style-type: none">VaccinationsSmelly Socks and Malaria TransmissionEpidemiology: Studying the Spread of Infectious DiseasePaleopathology and The Identification of a Mystery DiseaseManaging Pandemics in the Asia RegionComprehension: The History of Disease <p>5. Immune System</p> <ul style="list-style-type: none">Introduction to the Immune SystemImmune System: The Body's First and Second Lines of DefenceThe Third Line of Defence (Lymphatic System) <p>6. Immune Response and Defence Against Disease</p> <ul style="list-style-type: none">Introduction to the Immune ResponseActive & Passive ImmunityInnate Immune Response IInnate Immune Response IIAdaptive Immune Response IAdaptive Immune Response IIPlant Defence Systems <p>7. Extension</p> <ul style="list-style-type: none">Extension: Degenerative DiseasesExtension: Endocrine Diseases

<p>and using appropriate scientific language, conventions and representations (VCSIS140)</p>	<p>8. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: Disease • Definitions List: Homeostasis • Definitions MCQ: Disease • Definitions MCQ: Homeostasis • Spelling List: Disease • Spelling List: Homeostasis 	<p>9. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: Homeostatic Concepts
<p>Content Descriptor EP Lessons in 2. The Nervous System</p>		
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> • 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 (VCSSU118) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • 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 (VCSIS135) 	<p>1. <i>The Nervous System</i></p> <ul style="list-style-type: none"> • Introduction To The Nervous System • Nerves and Neurons • Central and Peripheral Nervous System • Sympathetic and Parasympathetic Nervous System • Nerve Pathways • Sensory Organs • The Eye • Components of Neural Pathways • Passage of Nerve Impulses <p><i>Eye Dissection</i></p> <ul style="list-style-type: none"> • Eye Dissection • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p><i>Testing Reflexes</i></p> <ul style="list-style-type: none"> • Testing Reflexes • Student Worksheet PDF • Teacher Guide PDF • Editable Documents - Word (.docx) 	<p>2. <i>Invertebrate Nervous Systems</i></p> <ul style="list-style-type: none"> • From Zero to Hero! Honey Bee Mathematicians • Starfish Nervous System <p>3. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: The Nervous System

Content Descriptor	EP Lessons in 3. Genetics	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> The transmission of heritable characteristics from one generation to the next involves DNA and genes (VCSSU119) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> 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 (VCSIS135) 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 (VCSIS139) Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) 	<p>1. DNA the Molecule</p> <ul style="list-style-type: none"> Basics of DNA Structure of DNA Nitrogenous Bases Data Interpretation: DNA Fingerprinting example: Thirsty Thievery <p><i>Extracting DNA</i></p> <ul style="list-style-type: none"> Extracting DNA Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Genes and Chromosomes</p> <ul style="list-style-type: none"> Genes and Genetic Information Homologous Chromosomes Sex Chromosomes <p>3. Cell Division</p> <ul style="list-style-type: none"> Mitosis Meiosis Mitosis vs. Meiosis DNA Replication Gametes and Fertilisation <p><i>Observing Mitosis</i></p> <ul style="list-style-type: none"> Observing Mitosis Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>4. Inheritance</p> <ul style="list-style-type: none"> Mendel Alleles Dominant/Recessive Interactions Inheriting Alleles and Punnett Squares Making Punnett Squares Incomplete Dominance Codominance Pedigrees Sex Linkage Sex Linkage, Punnett Squares and Pedigrees Data Interpretation: The Blue People of Troublesome Creek <p><i>Modelling Inheritance of Alleles</i></p> <ul style="list-style-type: none"> Modelling Inheritance of Alleles Risk Assessment (in RiskAssess) Allele Card Handout PDF Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Researching Inbreeding in Dogs</i></p> <ul style="list-style-type: none"> Background Information - The Consequences of Inbreeding Research Project - Inbreeding in Dogs Student Worksheet PDF Teacher Guide PDF Editable Documents - Word (.docx)

5. *Genetics Through History*

- [The History of Genetic Thought](#)
- [The Knotty New DNA Structure!](#)
- [Genomics](#)
- [Discovering the Double Helix](#)
- [Comprehension: Attraction: It's all in the Armpits](#)
- [Comprehension: Epigenetics: Inheritance is Strange](#)

6. *The Ethics of Genetics*

- [The Ethics of Genetics](#)

7. *Extension*

- [Extension: Asexual and Sexual Reproduction](#)
- [Extension: Chromosomal Abnormalities](#)
- [Extension: Proteins](#)

8. *Glossary*

- [Definitions List: Genetics](#)
- [Definitions MCQ: Genetics](#)
- [Spelling List: Genetics](#)

9. *Pre-Built Assessments*

- [Topic Test: Cell Division](#)
- [Topic Test: DNA, Genes, and Chromosomes](#)

Content Descriptor	EP Lessons in 4. Evolution	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence (VCSSU120) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) 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 (VCSIS139) Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) 	<p>1. Evidence for Evolution</p> <ul style="list-style-type: none"> Theories and Evidence Fossils and the Fossil Record Evidence from Living Species Geographical Distribution Geological Time <p><i>Building an Evolutionary Timeline</i></p> <ul style="list-style-type: none"> Building an Evolutionary Timeline Risk Assessment (in RiskAssess) Timeline Guide PDF Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Biodiversity</p> <ul style="list-style-type: none"> Biodiversity Extinction Data Interpretation: The Biodiversity Gradient <p><i>Assessing Biodiversity</i></p> <ul style="list-style-type: none"> Assessing Biodiversity Risk Assessment (in RiskAssess) Lab Report Material PDF Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Explaining Evolution</p> <ul style="list-style-type: none"> Darwin's Theory of Evolution Mechanisms of Evolution Natural Selection Artificial Selection The Science of Puppy Dog Eyes Comprehension: Evolution and Extinction Comprehension: The Ancestor of All Things 	<ul style="list-style-type: none"> Data Interpretation: Natural Selection in Action! <p><i>Survival of the Mutants</i></p> <ul style="list-style-type: none"> Survival of the Mutants Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Human Evolution</p> <ul style="list-style-type: none"> Our Evolution Rewriting Human History <p><i>Great Ape Genealogy</i></p> <ul style="list-style-type: none"> Great Ape Genealogy Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>5. The Evolutionary Path</p> <ul style="list-style-type: none"> The Wallace Line Evolution in context: Cetacean Evolution Artificial Selection: The Good, the Bad and the Downright Strange Feathery Dinosaurs <p>6. Extension</p> <ul style="list-style-type: none"> Extension: Bacterial Resistance Extension: Coevolution Extension: Mimicry Extension: Sexual Selection Extension: The History of Evolutionary Thought <p>7. Glossary</p> <ul style="list-style-type: none"> Definitions List: Evolution Definitions MCQ: Evolution Spelling List: Evolution

	<p>8. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: The Evidence for Evolution • Topic Test: The Mechanisms of Evolution 	
<p>Content Descriptor</p>	<p>EP Lessons in 5. Ecosystems</p>	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) • Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) • The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Biological Sciences</p> <ul style="list-style-type: none"> • Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (VCSSU121) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) • 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 (VCSIS135) • 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 (VCSIS136) • Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) • Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in 	<p>1. <i>Exploring Ecosystems</i></p> <ul style="list-style-type: none"> • Introduction to Ecology • The Biosphere and Biomes • Species and Organisms <p><i>Sampling a Leaf Litter Ecosystem</i></p> <ul style="list-style-type: none"> • Sampling a Leaf Litter Ecosystem • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Lab Report Material PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>2. <i>Components of Ecosystems</i></p> <ul style="list-style-type: none"> • Parts of an Ecosystem • Abiotic Factors • Biotic Factors and Competition • Adaptations • Symbiosis • Data Interpretation: Taking a Lichen to Moss • Data Interpretation: Predator-Prey Dynamics <p>3. <i>Energy in Ecosystems</i></p> <ul style="list-style-type: none"> • Producers • Consumers and Decomposers • Food Chains and Food Webs • Trophic Levels • The Carbon Cycle 	<p><i>Photosynthesis and Starch</i></p> <ul style="list-style-type: none"> • Photosynthesis and Starch • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Lab Report Material PDF • Teacher Worksheet PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>4. <i>Changes in Ecosystems</i></p> <ul style="list-style-type: none"> • Biodiversity • Australian Bushfires • Drought • Flooding • Will I Stay or Will I Go? • Comprehension: Adapting for Survival • Comprehension: Bee Kind • STEM: Kangaroo Counter <p><i>Designing Experiments on Pollution</i></p> <p>1. <i>Designing Experiments on Pollution</i></p> <ul style="list-style-type: none"> • Designing Experiments on Pollution • Student Worksheet PDF • Teacher Guide PDF • Editable Documents - Word (.docx) <p>2. <i>Writing a Scientific Report</i></p> <ul style="list-style-type: none"> • Writing a Scientific Report • Scientific Report Outline PDF • Student Worksheet PDF • Teacher Guide PDF • Editable Documents - Word (.docx)

data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138)

- 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 (VCSIS139)
- Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140)

5. *Impacts on Ecosystems*

- [Human Impacts](#)
- [Invasive Species](#)
- [Oil Spills](#)
- [Pesticides](#)
- [Natural Disasters of September, 2017](#)

Researching the Carmichael Coal Mine

- [Background Information: Different Perspectives on Mining](#)
- [Research Project: The Carmichael Coal Mine](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

6. *Conservation in Context*

- [History of Conservation](#)
- [Predicting Population Changes](#)
- [STEM: Life on Mars](#)
- [Scientific Writing: Saving Australia's Wildlife](#)

7. *Extension*

- [Extension: The Greenhouse Effect](#)
- [Extension: The Nitrogen Cycle](#)

8. *Glossary*

- [Definitions List: Ecosystems](#)
- [Definitions MCQ: Ecosystems](#)
- [Spelling List: Ecosystems](#)

9. *Pre-Built Assessments*

- [Topic Test: Biotic and Abiotic Factors](#)
- [Topic Test: Interactions Between Organisms](#)
- [Topic Test: Interactions in Ecosystems \(40 marks\)](#)
- [Topic Test: Producers, Consumers and Decomposers](#)

Chemical Sciences

Content Descriptor	EP Lessons in 1. Atoms and Radioactivity	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none">Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115)The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none">All matter is made of atoms which are composed of protons, neutrons and electrons; natural radioactivity arises from the decay of nuclei in atoms (VCSSU122) <p>Science Inquiry Skills</p> <ul style="list-style-type: none">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 (VCSIS139)Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140)	<p>1. Atomic Structure</p> <ul style="list-style-type: none">Atoms, Pure Substances and MixturesThe Structure of an Atom <p>Build an Atom</p> <ul style="list-style-type: none">Build an AtomRisk Assessment (in RiskAssess)Student Worksheet PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx) <p>2. Ions</p> <ul style="list-style-type: none">Ionic CompoundsIons in SolutionNaming Ionic Compounds <p>3. Isotopes and Radioactivity</p> <ul style="list-style-type: none">What are Isotopes?What is Radioactivity?Half-LivesRadioactivity in IndustryRadioactivity in MedicineEffects of Radiation on HumansMarie Curie and RadioactivityData Interpretation: Effects of Radiation on HumansData Interpretation: Name That Radiation! <p>Skittle Half Lives</p> <ul style="list-style-type: none">Skittle Half-LivesRisk Assessment (in RiskAssess)Student Worksheet PDFTeacher Guide PDFLaboratory Technician Guide PDFEditable Documents - Word (.docx)	<p>4. Extension</p> <ul style="list-style-type: none">Extension: Nuclear BombsExtension: Nuclear FissionExtension: Nuclear PowerExtension: Properties of RadiationExtension: Types of RadiationExtension: Writing Nuclear Equations <p>5. Glossary</p> <ul style="list-style-type: none">Definitions List: Atoms and RadioactivityDefinitions MCQ: Atoms and RadioactivitySpelling List: Atoms and Radioactivity <p>6. Pre-Built Assessments</p> <ul style="list-style-type: none">Topic Test: Atoms & The Periodic TableTopic Test: Atoms & The Periodic Table with Radioactivity

Content Descriptor	EP Lessons in 2. Atomic Structure and Properties of Elements	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> The atomic structure and properties of elements are used to organise them in the periodic table (VCSSU123) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> 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 (VCSIS135) 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 (VCSIS139) 	<p>1. Structure of Atoms and the Periodic Table</p> <ul style="list-style-type: none"> Atoms, Pure Substances and Mixtures Question Bank: Element Symbols and Names The Structure of an Atom Atomic Symbols History of the Atomic Model Electron Arrangements of Atoms The Periodic Table Organisation of the Periodic Table Quiz- First 20 Elements (Name to Symbol) Quiz- First 20 Elements (Symbol to Name) Comprehension: Helium: More Than a Bit of Squeaky Fun Comprehension: Metallic Hydrogen or: How I Learned to Stop Worrying and Love the Scientific Process <p>Flame Test</p> <ul style="list-style-type: none"> Pre Lab: Flame Test Post Lab: Flame Test Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Patterns in the Periodic Table</p> <ul style="list-style-type: none"> The Periodic Table Trends in the Periodic Table Group 1 - The Alkali Metals & Group 2 - The Alkaline Earth Metals Group 14 - The Carbon Group Group 15 - The Nitrogen Group & Group 16 - The Oxygen Group 	<ul style="list-style-type: none"> Group 17 - The Halogens Group 18 - The Noble Gases What's with the middle and bottom of the Periodic Table? Designing the Periodic Table Data Interpretation: Understanding the Periodic Table <p>3. Metals</p> <ul style="list-style-type: none"> Physical Properties of Metals Alloys and Their Uses Chemical Properties of Metals Metal Reactions with Oxygen Metal Reactions with Water Metal Reactions with Acid Metal Displacement Reactions <p>4. Bonding</p> <ul style="list-style-type: none"> Introduction to Bonding Introduction to Ions Ionic Bonding Ionic Compounds Naming Ionic Compounds Ions in Solution Electron Arrangement of Ions Polyatomic Ions and Compounds Metallic Bonding Covalent Bonding <p>Ionic Bonding Card Game</p> <ul style="list-style-type: none"> Ionic Bonding Card Game Risk Assessment (in RiskAssess) Ion Card Handout PDF Student Worksheet PDF Teacher Guide PDF Editable Documents - Word (.docx)

	<p><i>Modelling Bonding using Tennis Balls</i></p> <ul style="list-style-type: none"> • Modelling Bonding using Tennis Balls • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>5. Spectroscopy</p> <ul style="list-style-type: none"> • Spectroscopy • Analysing the Structure of Materials 	<p>6. Glossary</p> <ul style="list-style-type: none"> • Definitions List: Atomic Structure and Properties of Elements • Definitions MCQ: Atomic Structure and Properties of Elements • Spelling List: Atomic Structure and Properties of Elements <p>7. Pre-Built Assessments</p> <ul style="list-style-type: none"> • Topic Test: Types of Bonding
<p>Content Descriptor</p>	<p>EP Lessons in 3. Chemical Reactions: Types of Chemical Reactions</p>	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) • Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) • The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> • Chemical reactions involve rearranging atoms to form new substances; during a chemical reaction mass is not created or destroyed (VCSSU124) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) • 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 (VCSIS135) • 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 (VCSIS136) • Construct and use a range of representations, including graphs, 	<p>1. Chemical Reactions</p> <ul style="list-style-type: none"> • Introduction to Chemical Reactions • Reactants and Products • Data Interpretation: Identifying Chemical Reactions <p><i>Identifying Chemical Reactions</i></p> <ul style="list-style-type: none"> • Identifying Chemical Reactions • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Lab Report Material PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Docs - Word (.docx) <p>2. Types of Reactions</p> <ul style="list-style-type: none"> • Chemical vs. Physical • Chemical Reactions • Combination and Decomposition Reactions • Acid Reactions • Precipitation Reactions • Oxidation and Reduction <p>3. Combustion</p> <ul style="list-style-type: none"> • Endothermic and Exothermic Reactions • Combustion Reactions • Oxidation Reactions • Combustion and the Environment 	<p>4. Acids and Bases</p> <ul style="list-style-type: none"> • Acids • Bases • pH and Indicators • Acid-Metal Reactions • Neutralisation Reactions • Reaction in Action: Baking Soda and Vinegar • Acid Rain • Comprehension: Acids and Bases <p><i>Acids and Metals</i></p> <ul style="list-style-type: none"> • Acids and Metals • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>5. Polymers, Fuels and Pharmaceuticals</p> <ul style="list-style-type: none"> • Polymers • Fuels and Pharmaceuticals • Analytical Chemistry • STEM: Alternate Fuels

keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137)

- Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138)
- 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 (VCSIS139)

Milk Plastic

- [Milk Plastic](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

6. Reactions Around Us

- [Photosynthesis](#)
- [Respiration](#)
- [Fermentation](#)
- [Waste Management](#)
- [The Father of Modern Chemistry](#)
- [Analysing Chemical Reactions in Production Processes](#)
- [Chemicals: Friend or Foe?](#)
- [Comprehension: Chemistry: Glorified Baking?](#)

Make Your Own Forge

- [Make Your Own Forge](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Lab Report Material PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Docs - Word \(.docx\)](#)

7. Extension

- [Extension: A Day in the Life of an Industrial Chemist](#)
- [Extension: Types of Chemical Reactions](#)

8. Glossary

- [Definitions List: Types of Chemical Reactions I](#)
- [Definitions List: Types of Chemical Reactions II](#)
- [Definitions MCQ: Types of Chemical Reactions I](#)
- [Definitions MCQ: Types of Chemical Reactions II](#)
- [Spelling List: Chemical Reactions](#)
- [Spelling List: Types of Chemical Reaction](#)

9. Pre-Built Assessments

- [Topic Test: Acids and Bases](#)
- [Topic Test: Chemical Reactions Basics](#)
- [Topic Test: Writing Chemical Equations](#)

Content Descriptor	EP Lessons in 4. Chemical Reactions: Conservation of Mass	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Different types of chemical reactions are used to produce a range of products and can occur at different rates; chemical reactions may be represented by balanced chemical equations (VCSSU125) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> 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 (VCSIS136) Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) 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 (VCSIS139) 	<p>1. <i>The Law of Conservation of Mass</i></p> <ul style="list-style-type: none"> Conservation of Mass Breaking the Law (of Conservation of Mass)? Constructing Molecular Models Data interpretation: Breaking the Law (of Conservation of Mass)? <p><i>Conservation of Mass</i></p> <ul style="list-style-type: none"> Conservation of Mass Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Docs - Word (.docx) <p><i>Marshmolecules</i></p> <ul style="list-style-type: none"> Marshmolecules - Conservation of Mass Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Docs - Word (.docx) <p>2. <i>Glossary</i></p> <ul style="list-style-type: none"> Definitions List: Chemical Reactions: Balancing Equations Definitions MCQ: Chemical Reactions: Balancing Equations Spelling List: Chemical Reactions: Balancing Equations <p>3. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> Topic Test: Chemical Reactions Basics Topic Test: Writing Chemical Equations 	

Content Descriptor	EP Lessons in 5. Chemical Reactions: Rates of Reactions	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) <p>Science Understanding - Chemical Sciences</p> <ul style="list-style-type: none"> Chemical reactions, including combustion and the reactions of acids, are important in both non-living and living systems and involve energy transfer (VCSSU126) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) 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 (VCSIS135) 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 (VCSIS136) Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138) 	<p>1. Rates of Reaction</p> <ul style="list-style-type: none"> Rate of Reaction Agitation, Concentration and Surface Area Activation Energy, Temperature and Catalysts Comprehension: Chemical Clocks Data Interpretation: Graphing Rate of Reaction <p><i>Modelling Rate of Reaction: Concentration</i></p> <ul style="list-style-type: none"> Modelling Rate of Reaction: Concentration Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Modelling Rate of Reaction: Temperature</i></p> <ul style="list-style-type: none"> Modelling Rate of Reaction: Temperature Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Balancing Equations</p> <ul style="list-style-type: none"> Chemical Reactions and Equations Reactants and Products Reaction Equations Writing Chemical Equations 1 Writing Chemical Equations 2 Balancing Chemical Equations Comprehension: Chemistry: Glorified Baking? 	<p>3. Extension</p> <ul style="list-style-type: none"> Collision Theory Rate of Reaction Equations Factors Affecting Reaction Rates Collision Theory and Rate of Reaction <p><i>Stoichiometry</i></p> <ul style="list-style-type: none"> Reaction Equations The Mole Empirical and Molecular Formulae Moles and Equations <p>4. Glossary</p> <ul style="list-style-type: none"> Definitions List: Chemical Reactions: Rates of Reaction Definitions MCQ: Chemical Reactions: Rates of Reaction Spelling List: Chemical Reactions and Rates of Reaction <p>5. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: Chemical Reactions Basics Topic Test: Types of Chemical Reaction

Earth and Space Sciences

Content Descriptor	EP Lessons in 1. Plate Tectonics	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> The theory of plate tectonics explains global patterns of geological activity and continental movement (VCSSU127) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) 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 (VCSIS139) Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) 	<p>1. Structure of the Earth</p> <ul style="list-style-type: none"> Earth's Structure Mechanical Layers of the Earth Evidence for the Earth's Structure Volcano Exploration Robots <p>2. Plate Tectonics</p> <ul style="list-style-type: none"> Wegener's Theory of Continental Drift Seafloor Spreading & Magnetic Striping Plate Tectonics Plate Boundaries Faults Comprehension: Ice Tectonics on Europa Comprehension: Subduction Zones and Ophiolite Belts <p>Deep Time and Plate Tectonics</p> <ul style="list-style-type: none"> Deep Time and Plate Tectonics Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>The Hotspot Debate</p> <ul style="list-style-type: none"> The Hotspot Debate Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Tectonic Events</p> <ul style="list-style-type: none"> Volcano Formation Types of Lava Volcanic Hazards Volcanic Eruptions Earthquakes Earthquake Hazards 	<ul style="list-style-type: none"> Measuring Earthquakes Causes of Tsunamis Data Interpretation: Understanding Megaquakes <p>Build a Seismometer</p> <ul style="list-style-type: none"> Build a Seismometer Risk Assessment (in RiskAssess) Student Worksheet PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Geological History</p> <ul style="list-style-type: none"> The Geological Timescale Developing the Geological Timescale Supercontinents Scientific Writing: The Time Traveller's Holiday Guide! <p>5. Extension</p> <ul style="list-style-type: none"> Extension: Earth's Magnetic Field <p>6. Glossary</p> <ul style="list-style-type: none"> Definitions List: Plate Tectonics Definitions MCQ: Plate Tectonics Spelling List: Plate Tectonics <p>7. Pre-Built Assessments</p> <ul style="list-style-type: none"> Topic Test: Plate Tectonics Topic Test: Volcanoes and Earthquakes

Content Descriptor	EP Lessons in 2. Global Systems	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> Global systems, including the carbon cycle, rely on interactions involving the atmosphere, biosphere, hydrosphere and lithosphere (VCSSU128) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) 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 (VCSIS136) Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) 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 (VCSIS139) Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) 	<p>1. Spheres and Global Cycles</p> <ul style="list-style-type: none"> Spheres Water Cycle The Carbon Cycle The Nitrogen Cycle Phosphorus Cycle <p>2. A Changing Climate</p> <ul style="list-style-type: none"> Climate and Weather Ocean Currents El Nino and La Nina The Greenhouse Effect The Enhanced Greenhouse Effect Human Influences on Climate Comprehension: If Climate Change is Real, How Come? Data Interpretation: Examining Past Climate STEM: Reclaiming our Climate Scientific Writing: Arguing For or Against Climate Change <p>Climate Change</p> <ul style="list-style-type: none"> Climate Change Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>The Greenhouse Effect</p> <ul style="list-style-type: none"> The Greenhouse Effect Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>3. Effects of Climate Change</p> <ul style="list-style-type: none"> Effects of Climate Change on Biodiversity Disappearing Polar Ice Effects of Temperature on Permafrost Apocalypse Now: Natural Disasters Comprehension: Troubled Waters <p>Convection Currents</p> <ul style="list-style-type: none"> Convection Currents Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Polar Ice</p> <ul style="list-style-type: none"> Polar Ice Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Climate Technology</p> <ul style="list-style-type: none"> Computer Modeling and the Environment Carbon Footprints CFCs and the Ozone Layer Carbon Capture Save the Great Barrier Reef! STEM: Cleaning Up Our Litter STEM: Cool Robots <p>5. Extension</p> <ul style="list-style-type: none"> Extension: Pollution Extension: Where Have all the Turtles Gone?

	<p>6. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: Global Systems • Definitions MCQ: Global Systems • Spelling List: Global Systems 	<p>7. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: Climate Change • Topic Test: Global Cycles
<p>Content Descriptor</p>	<p>EP Lessons in 3. The Universe</p>	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) • Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) • The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Earth and Space Sciences</p> <ul style="list-style-type: none"> • The Universe contains features including galaxies, stars and solar systems; the Big Bang theory can be used to explain the origin of the Universe (VCSSU129) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • 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 (VCSIS136) • Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) • Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138) • Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140) 	<p>1. <i>Introduction to the Universe</i></p> <ul style="list-style-type: none"> • The Solar System and Beyond • Models of the Solar System • Scientific Notation • Scientific Theory • Comprehension: Black Holes <p>2. <i>Measuring the Universe</i></p> <ul style="list-style-type: none"> • Distances in Space • Gravity and the Cosmological Principle • Light Speed and Light Years • Converting Light Years • Seconds and Years • Observing Space <p><i>Measuring Parallax</i></p> <ul style="list-style-type: none"> • Measuring Parallax • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Lab Report Material PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>3. <i>Galaxies and Stars</i></p> <ul style="list-style-type: none"> • The Life Cycle of Stars • Distances to Stars and Parsecs • Properties of Stars • Reading Hertzsprung-Russell Diagrams • Calculating Distance to Stars • The Secret Lives of Ultra-Cool Dwarf Stars • The James Webb Space Telescope 	<p><i>Flame Tests</i></p> <ul style="list-style-type: none"> • Pre Lab: Flame Test • Post Lab: Flame Test • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>4. <i>Evidence for the Big Bang</i></p> <ul style="list-style-type: none"> • The Big Bang Theory • Cosmic Background Radiation • Red Shift • The Cosmic Microwave Background • Data Interpretation: Red Shift and the Expanding Universe <p>5. <i>Theories of the Universe</i></p> <ul style="list-style-type: none"> • Life • End of the Universe <p>6. <i>Extension</i></p> <ul style="list-style-type: none"> • Extension: Heat & The Cosmic Microwave Background • Extension: Parallax and Distances Between Stars • Extension: Radar Ranging • Extension: Relativity <p>7. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: The Universe • Definitions MCQ: The Universe • Spelling List: The Universe <p>8. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: Measuring the Universe

Physical Sciences

Content Descriptor	EP Lessons in 1. Electricity	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none">• Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114)• Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none">• Electric circuits can be designed for diverse purposes using different components; the operation of circuits can be explained by the concepts of voltage and current (VCSSU130) <p>Science Inquiry Skills</p> <ul style="list-style-type: none">• 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 (VCSIS135)• 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 (VCSIS136)• Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137)• 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 (VCSIS139)	<p>1. Introduction to Electricity</p> <ul style="list-style-type: none">• Electricity• Where Electricity Comes From• Conductors and Insulators• Conductors• Insulators• Comprehension: Development of Light Bulbs <p>Static Electricity</p> <ul style="list-style-type: none">• Static Electricity• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx) <p>2. Electrical Circuits</p> <ul style="list-style-type: none">• Circuits• Open and Closed Circuits• Circuit Diagrams• Circuits in Series• Circuits in Parallel• Comparing Circuits• Current• Voltage• Resistance• Introduction to Ohm's Law• Batteries• War of the Currents	<p>Battery Voltages</p> <ul style="list-style-type: none">• Battery Voltages• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx) <p>Building Circuits</p> <ul style="list-style-type: none">• Building Circuits• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx) <p>Ohm's Law</p> <ul style="list-style-type: none">• Ohm's Law• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Lab Report Material PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx) <p>Resistance</p> <ul style="list-style-type: none">• Resistance• Risk Assessment (in RiskAssess)• Student Worksheet PDF• Lab Report Material PDF• Teacher Guide PDF• Laboratory Technician Guide PDF• Editable Documents - Word (.docx)

	<p>3. <i>Extension</i></p> <ul style="list-style-type: none"> • Extension: Calculating Using Ohm's Law • Extension: Household Circuits and Electrical Safety • Extension: The Sixth Sense: Electroreception • Extension: Ways in which the Use of Electricity by Society has Changed Over Time 	<p>4. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: Electricity • Definitions MCQ: Electricity • Spelling List: Electricity
<p>Content Descriptor</p>	<p>EP Lessons in 2. Magnetism</p>	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> • Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) • Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> • The interaction of magnets can be explained by a field model; magnets are used in the generation of electricity and the operation of motors (VCSSU131) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> • 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 (VCSIS135) 	<p>1. <i>Magnets & Magnetism</i></p> <ul style="list-style-type: none"> • Magnetism • Magnetic Fields • Examples of Magnetic Fields • Magnetic Force on a Wire • Magnetic Force on a Charged Particle • Electromagnetic Induction • Generators • Motors • Earth's Magnetic Field • Data Interpretation: Flipping Poles • Video Comprehension: Magnetic Navigation <p><i>Mapping Magnetic Fields</i></p> <ul style="list-style-type: none"> • Mapping Magnetic Fields • Risk Assessment (in RiskAssess) • Student Worksheet PDF • Teacher Guide PDF • Laboratory Technician Guide PDF • Editable Documents - Word (.docx) <p>2. <i>Extension</i></p> <ul style="list-style-type: none"> • Extension: Maglev Trains 	<p>3. <i>Glossary</i></p> <ul style="list-style-type: none"> • Definitions List: Magnetism • Definitions MCQ: Magnetism • Spelling List: Magnetism <p>4. <i>Pre-Built Assessments</i></p> <ul style="list-style-type: none"> • Topic Test: Electromagnetic Induction • Topic Test: Magnets and Magnetic Fields

Content Descriptor	EP Lessons in 3. Heat Transfer	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community (VCSSU114) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> Energy flow in Earth's atmosphere can be explained by the processes of heat transfer (VCSSU132) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> 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 (VCSIS135) 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 (VCSIS136) Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138) 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 (VCSIS139) 	<p>1. Understanding Heat Transfer</p> <ul style="list-style-type: none"> Heat Transfer Conduction Convection Radiation Bushfires Comprehension: Heat Transfer in the Atmosphere and the Oceans Data Interpretation: The Speed of Heat Transfer <p><i>Convection in Liquids</i></p> <ul style="list-style-type: none"> Convection in Liquids Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Heat Conduction</i></p> <ul style="list-style-type: none"> Heat Conduction Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p><i>Radiation</i></p> <ul style="list-style-type: none"> Radiation Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) 	<p>2. Conductors and Insulators</p> <ul style="list-style-type: none"> Conductors and Insulators Housing Insulation <p><i>Insulators</i></p> <ul style="list-style-type: none"> Insulators Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>3. Glossary</p> <ul style="list-style-type: none"> Definitions List: Heat Transfer Definitions MCQ: Heat Transfer Spelling List: Heat Transfer

Content Descriptor	EP Lessons in 4. Force and Motion	
<p>Science Understanding - Science as a Human Endeavour</p> <ul style="list-style-type: none"> Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115) The values and needs of contemporary society can influence the focus of scientific research (VCSSU116) <p>Science Understanding - Physical Sciences</p> <ul style="list-style-type: none"> The description and explanation of the motion of objects involves the interaction of forces and the exchange of energy and can be described and predicted using the laws of physics (VCSSU133) <p>Science Inquiry Skills</p> <ul style="list-style-type: none"> Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134) 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 (VCSIS135) 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 (VCSIS136) Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137) Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138) 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 	<p>1. Motion</p> <ul style="list-style-type: none"> Distance and Time Displacement and Compass Directions Calculating Displacement Speed Acceleration Using the Acceleration Formula to Calculate Final Velocity Using the Acceleration Formula to Calculate Initial Velocity Using the Acceleration Formula to Calculate Time <p>Ticker Timers</p> <ul style="list-style-type: none"> Ticker Timers Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Truckapults</p> <ul style="list-style-type: none"> Truckapults Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>2. Motion Graphs</p> <ul style="list-style-type: none"> Distance-Time Graphs Displacement-Time Graphs Velocity-Time Graphs Acceleration-Time Graphs Summary of Motion Graphs Data Interpretation: Graphing and Analysing Motion 	<p>3. Force</p> <ul style="list-style-type: none"> Introduction to Forces Types of Forces: Gravity Types of Forces: Magnetism vs Friction Weight and Mass Newton's First Law Newton's Second Law Newton's Third Law <p>Balloon Rocket</p> <ul style="list-style-type: none"> Balloon Rocket Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>Egg Drop</p> <ul style="list-style-type: none"> Egg Drop Risk Assessment (in RiskAssess) Student Worksheet PDF Lab Report Material PDF Teacher Guide PDF Laboratory Technician Guide PDF Editable Documents - Word (.docx) <p>4. Applications of Forces</p> <ul style="list-style-type: none"> Car Safety Systems Car Safety Systems Investigation Sports Science Rockets How BB-8 Works Comprehension: Crashing Drones Comprehension: History of Rockets Comprehension: How Planes Stay Up Data Interpretation: Space Travel: The Weight Loss Sensation! STEM: The Mass of an Email

possible alternative explanations and describing specific ways to improve the quality of data (VCSIS139)

- Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140)

Gravity

- [Gravity](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

Reaction Times

- [Reaction Times](#)
- [Risk Assessment \(in RiskAssess\)](#)
- [Student Worksheet PDF](#)
- [Teacher Guide PDF](#)
- [Laboratory Technician Guide PDF](#)
- [Editable Documents - Word \(.docx\)](#)

6. Extension

- [Extension: Friction](#)
- [Extension: Planetary Motion](#)
- [Extension: Pressure](#)
- [Extension: Tides](#)

7. Glossary

- [Definitions List: Force and Motion](#)
- [Definitions MCQ: Force and Motion](#)
- [Spelling List: Force and Motion](#)

8. Pre-Built Assessments

- [Motion](#)