

Australian Science Content Map

Education Perfect Science is an online learning resource with scaffolded Smart Lessons aligned to the Australian Curriculum. This table aligns the lessons provided by Education Perfect mapped to the Australian Curriculum.

Year 8 Australian Curriculum	
Science Understanding	
Biological sciences	Education Perfect Lessons
Cells are the basic units of living things; they have specialised structures and functions (ACSSU149)	<p>Science Understanding</p> <p>What is a Cell?</p> <p>Size of Cells</p> <p>Parts and Function of a Microscope</p> <p>Types of Microscopes</p> <p>Magnification</p> <p>Using a Microscope</p> <p>Pond Water Investigation</p> <p>Prokaryotic Cells</p> <p>Bacterial Cell Structure</p> <p>Eukaryotic Cells</p> <p>Animal Cells</p> <p>Plant Cell Structure</p> <p>Fungal Cell Structure</p> <p>Cell Division in Bacteria</p> <p>Cell Division in Humans</p> <p>Specialised Animal Cells</p> <p>Specialised Plant Cells</p> <p>Levels of Organisation</p> <p>Animal vs Plant Cells</p> <p>Diffusion</p> <p>Diffusion and Cell Size</p> <p>Prokaryotic vs Eukaryotic</p> <p>Science as a Human Endeavour</p> <p>Antibiotics</p> <p>Cell Theory</p> <p>Disease Treatment and Control</p> <p>History of Microscopes</p> <p>Stem Cells</p> <p>Vaccination</p> <p>Science Investigations</p> <p>Jelly Cells</p> <p>Pond Critters</p> <p>Preparing and Observing Cells</p> <p>Using a Microscope</p>
Multi-cellular organisms contain systems of organs carrying out specialised functions that enable them	<p>Science Understanding</p> <p>Introduction to Body Systems</p>

to survive and reproduce ([ACSSU150](#))

[Digestive System As A Whole](#)
[Food Groups](#)
[Mouth and Oesophagus](#)
[Stomach and Small Intestine](#)
[Large Intestine and Rectum](#)
[Comparing Digestion in Other Animals](#)
[Introduction to Respiration](#)
[Breathing](#)
[Gas Exchange](#)
[Respiration in Cells](#)
[Respiration Compare and Contrast](#)
[Introduction to the Circulatory System](#)
[Heart](#)
[Blood Vessels](#)
[Blood](#)
[Introduction to the Excretory System](#)
[Excretory Organs](#)
[The Kidneys & Urine Production](#)
[Kidney Disease](#)
[Musculoskeletal System](#)
[Bones & Joints](#)
[Muscles](#)
[Injuries](#)
[Sexual Reproduction in Plants](#)
[Pollination](#)
[Seed Dispersal & Germination](#)
[Asexual Reproduction in Plants](#)
[Sexual Reproduction in Animals](#)
[Asexual Reproduction in Animals](#)
[Puberty](#)
[Male Reproduction](#)
[Female Reproduction](#)
[Pregnancy](#)
[Birth](#)
[Photosynthesis](#)
[Plant Systems](#)
[Adapting to Extreme Climates](#)
[Diffusion](#)
[Diffusion and Body Systems](#)
[Exercise and the Body](#)
[Stress Effects on the Body](#)
Science as a Human Endeavour
[Contraception](#)
[Ethical Issues of Organ Transplant](#)
[Infertility](#)
[Maple Syrup](#)
[Organ Transplants](#)
[Plant Cloning](#)
Science Investigations
[Cross Pollination](#)
[First Aid and Body Systems](#)
[Flower Dissection](#)
[Heart Dissection](#)

Chemical sciences	Education Perfect Lessons
<p>Properties of the different states of matter can be explained in terms of the motion and arrangement of particles (ACSSU151)</p>	<p>Science Understanding What is Matter? States of Matter Particles Solids Liquids Gases Particle Model of Matter Changing State Melting and Freezing Boiling, Evaporation and Condensation Sublimation and Deposition Temperature and Changing State Density Mass and Volume Pressure Energy In Matter Newtonian and Non-Newtonian Fluids</p> <p>Science as a Human Endeavour Heatpumps and Refrigerators States of Matter in Space The Water Cycle and Weather When Water Freezes</p> <p>Science Investigations Building a Density Tower Building a Steam Engine Making Ice Cream Observing Atmospheric Pressure</p>
<p>Differences between elements, compounds and mixtures can be described at a particle level (ACSSU152)</p>	<p>Science Understanding Introduction to Elements, Compounds and Mixtures Atoms Elements Metals, Non-Metals and Metalloids First 10 Elements Compounds Molecules Chemical Formula Chemical Bonding The Periodic Table</p> <p>Science as a Human Endeavour Carbon Chemistry Discovering Elements Marie Curie and Radioactivity Materials Science</p> <p>Science Investigations Comparing Properties Flame Test Indirect Observations Making Models</p>

<p>Chemical change involves substances reacting to form new substances (ACSSU225)</p>	<p>Science Understanding Physical Properties Physical Change Chemical Reactions Writing Chemical Reactions Chemical Properties Using Substances Based on their Properties Writing Symbol Equations</p> <p>Science as a Human Endeavour Alchemy Recycling Synthetic Materials Working in Chemistry</p> <p>Science Investigations Making Recycled Paper Observing Chemical Reactions Observing Reactions with Fire Rusting in Different Environments</p>
<p>Earth and space sciences</p>	<p>Education Perfect Lessons</p>
<p>Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (ACSSU153)</p>	<p>Science Understanding Earth's Structure Earth Processes Weathering and Erosion Introduction to Minerals Identifying Minerals Igneous Rocks Sedimentary Rocks Metamorphic Rocks The Rock Cycle Australian Landforms formed by Physical Weathering, Erosion and Sedimentation Australian Landforms formed by Volcanism and Chemical Weathering Geological Time</p> <p>Science as a Human Endeavour Australian Fossils Martian Geology Minerals and Rocks as Resources Mining and Minerals Exploration Volcanology</p> <p>Science Investigations Build a Geological Timescale Building a Stratigraphic Column Cooling Crystals Simulating Erosion</p>
<p>Physical sciences</p>	<p>Education Perfect Lessons</p>
<p>Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers</p>	<p>Science Understanding What is Energy? Kinetic Energy</p>

<p>cause change within systems (ACSSU155)</p>	<p>Potential Energy Identifying KE or PE Units of Energy Converting between Joules (J) and Kilojoules (kJ) Converting between Kilojoules (kJ) and Megajoules (MJ) Law of Conservation of Energy Heat Transfer Conductors and Insulators Energy Transformations Displaying Energy Transformations Energy Transformation and Food Useful and Wasted Energy Cogeneration and Engines Energy Calculations Qualitative and Quantitative Data Science as a Human Endeavour Cars of the Future Energy Efficient Houses The Development of Flight The Power Grid and You Science Investigations Bouncy Balls and Energy Efficiency Building a Solar Oven Energy in Skate Parks Energy Transformations Investigating Heat Energy Rube Goldberg Machine</p>
<p>Science as a Human Endeavour</p>	
<p>Nature and development of science</p>	<p>Education Perfect Lessons</p>
<p>Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available (ACSHE134)</p>	<p>Biological sciences Antibiotics Cell Theory History of Microscopes Plant Cloning Chemical sciences States of Matter in Space When Water Freezes Carbon Chemistry Discovering Elements Marie Curie and Radioactivity Materials Science Alchemy Earth and space sciences Martian Geology Physical sciences The Development of Flight</p>
<p>Science knowledge can develop through</p>	<p>Biological sciences</p>

<p>collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE226)</p>	<p>Cell Theory History of Microscopes Infertility Organ Transplants Chemical sciences Carbon Chemistry Discovering Elements Marie Curie and Radioactivity Materials Science Alchemy Earth and space sciences Martian Geology Mining and Minerals Exploration Volcanology Physical sciences The Development of Flight</p>
<p>Use and influence of science</p>	<p>Education Perfect Lessons</p>
<p>Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (ACSHE135)</p>	<p>Biological sciences Antibiotics Stem Cells Vaccination Contraception Ethical Issues of Organ Transplant Infertility Plant Cloning Chemical sciences Heatpumps and Refrigerators Carbon Chemistry Marie Curie and Radioactivity Materials Science Recycling Synthetic Materials Physical sciences Cars of the Future Energy Efficient Houses The Development of Flight</p>
<p>People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE136)</p>	<p>Biological sciences Antibiotics Disease Treatment and Control Stem Cells Maple Syrup Organ Transplants Plant Cloning Chemical sciences The Water Cycle and Weather Carbon Chemistry Materials Science Synthetic Materials Working in Chemistry</p>

	<p>Earth and space sciences Australian Fossils Minerals and Rocks as Resources Mining and Minerals Exploration Volcanology</p> <p>Physical sciences The Power Grid and You</p>
Science Inquiry Skills	
Questioning and predicting	Education Perfect Lessons
Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge (ACSIS139)	<p>Science Investigations Building a Density Tower Observing Atmospheric Pressure Rusting in Different Environments Cooling Crystals Bouncy Balls and Energy Efficiency Building a Solar Oven Energy in Skate Parks Investigating Heat Energy Rube Goldberg Machine</p> <p>Science Inquiry Skills Lessons Hypothesising and Predicting</p>
Planning and conducting	Education Perfect Lessons Rube Goldberg Machine
Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (ACSIS140)	<p>Science Investigations Jelly Cells Pond Critters Preparing and Observing Cells Using a Microscope Flower Dissection Heart Dissection Indirect Observations Observing Chemical Reactions Observing Reactions with Fire Rusting in Different Environments Cooling Crystals</p> <p>Science Inquiry Skills Lessons Bunsen Burner Equipment Types Organising Data into a Data Table from an Experiment Safety Equipment Separating Substances and Other Equipment Magnification Parts and Function of a Microscope Types of Microscopes Using a Microscope</p>

<p>Measure and control variables, select equipment appropriate to the task and collect data with accuracy (AC SIS141)</p>	<p>Science Investigations Preparing and Observing Cells Using a Microscope Flame Test Rusting in Different Environments Cooling Crystals Bouncy Balls and Energy Efficiency Building a Solar Oven Energy in Skate Parks Investigating Heat Energy Science Inquiry Skills Lessons Accuracy Control Variables and Control Groups Fair Tests Repeatability and Reliability Sample Size Validity Variables Measuring Electricity Measuring in Science Reading the Meniscus</p>
<p>Processing and analysing data and information</p>	<p>Education Perfect Lessons</p>
<p>Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships in data using digital technologies as appropriate (AC SIS144)</p>	<p>Science Investigations Build a Geological Timescale Science Inquiry Skills Lessons Algebra - Algebra in Science Algebra - Rearranging Equations Interpreting Data Tables Matching Tables to Graphs Choosing Appropriate Units Units of Distance Units of Energy Units of Speed Units of Volume Scientific Notation Significant Figures Interpreting Scale</p>
<p>Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions based on evidence (AC SIS145)</p>	<p>Science Investigations Jelly Cells Rusting in Different Environments Build a Geological Timescale Building a Stratigraphic Column Simulating Erosion Building a Solar Oven Energy in Skate Parks Investigating Heat Energy Science Inquiry Skills Lessons Food Webs</p>

	Interpreting Diagrams Water Cycle Bar Graphs Line Graphs Scatter Graphs
Evaluating	Education Perfect Lessons
<p>Reflect on scientific investigations including evaluating the quality of the data collected, and identifying improvements (ACSIS146)</p>	<p>Science Investigations</p> Jelly Cells Preparing and Observing Cells Cross Pollination Flower Dissection Comparing Properties Flame Test Indirect Observations Making Models Building a Density Tower Building a Steam Engine Making Ice Cream Observing Atmospheric Pressure Making Recycled Paper Observing Chemical Reactions Observing Reactions with Fire Rusting in Different Environments Bouncy Balls and Energy Efficiency Building a Solar Oven Energy in Skate Parks Energy Transformations Investigating Heat Energy Rube Goldberg Machine <p>Science Inquiry Skills Lessons</p> Evaluating in Science
<p>Use scientific knowledge and findings from investigations to evaluate claims based on evidence (ACSIS234)</p>	<p>Science Investigations</p> Cooling Crystals
Communicating	Education Perfect Lessons
<p>Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations, using digital technologies as appropriate (ACSIS148)</p>	<p>Science Investigations</p> Jelly Cells First Aid and Body Systems Rube Goldberg Machine <p>Science Inquiry Skills Lessons</p> Graphs in Science Observations and Inferences Scientific Method