Overview of coverage of Knowledge and understanding | Science | Years 8–9

SAMPLE

Essential Learnings	**Year 8** course overview topics	**Year 9** course overview topics
Science as a human endeavour **Responsible and informed decisions about real-world issues are influenced by the application of scientific knowledge.**		
• Immediate and long-term consequences of human activity can be predicted by considering past and present events.	The changing Earth Living with and in water Looking after the environment	Managing natural ecosystems
• Responsible, ethical and informed decisions about social priorities often require the application of scientific understanding.	Diversity of living things The heat is on Living with and in water Looking after the environment	Body systems Managing natural ecosystems Electricity
• People from different cultures contribute to and shape the development of science.	Our place in the universe	Body systems Cracked up
Earth and beyond **Events on earth and in space are explained using scientific theories and ideas, including the geological and environmental history of the earth and the universe.**		
• Scientific ideas and theories offer explanations about the earth that extend to the origins of the universe.	Our place in the universe	Cracked up And then there was matter
• Global patterns of change on earth and in its atmosphere can be predicted and modelled.	Our place in the universe The changing Earth	Cracked up
• Geological evidence can be interpreted to provide information about past and present events.	The changing Earth	Cracked up
Energy and change **Forces and energy are identified and analysed to help understand and develop technologies, and to make predictions about events in the world.**		
• An unbalanced force acting on a body results in a change in motion.	Machines	Fun park physics
• Objects remain stationary or in constant motion under the influence of balanced forces.	Machines	Fun park physics
• Energy can be transferred from one medium to another.	Understanding matter The heat is on Machines Looking after the environment	Fun park physics Electricity
• Transfer of energy can vary according to the medium in which it travels.	The heat is on	Electricity
• Energy is conserved when it is transferred or transformed.	The heat is on	Managing natural ecosystems Electricity

Queensland Studies Authority PO Box 307 Spring Hill, Queensland 4004 Australia
Phone: (07) 3864 0299; Fax: (07) 3221 2553; Email: office@qsa.qld.edu.au
www.qsa.qld.edu.au

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Partnership and innovation

Essential Learnings	**Year 8** course overview topics	**Year 9** course overview topics
Life and living **Organisms interact with their environment in order to survive and reproduce.**		
• The diversity of plants and animals can be explained using the theory of evolution through natural selection.	Diversity of living things	Cracked up The birds and the bees
• In ecosystems, organisms interact with each other and their surroundings.	Living with and in water	Managing natural ecosystems
• Complex organisms depend on interacting body systems to meet their needs internally and with respect to their environment.	Diversity of living things	Body systems
• All the information required for life is a result of genetic information being passed from parent to offspring.		The birds and the bees
• Changes in ecosystems have causes and consequences that may be predicted.	Living with and in water	Managing natural ecosystems
Natural and processed materials **The properties of materials are determined by their structure and their interaction with other materials.**		
• Changes in physical properties of substances can be explained using the particle model.	Understanding matter Living with and in water	The chemical environment
• Matter can be classified according to its structure.	Understanding matter The changing Earth Forensics — introduction to investigative processes Living with and in water Looking after the environment	And then there was matter The chemical environment
• Chemical reactions can be described using word and balanced equations.		And then there was matter The chemical environment
• Reaction rate is affected by various factors, including temperature, concentration and surface area.		The chemical environment

