Incorporating the Australian Curriculum v8.1 changes into the Western Australian Curriculum – Science

Summary
The changes to Science have a minimal impact on teaching programs. A number of content descriptions have been re-worded for clarity but the concepts remain the same. For some year levels, the Achievement Standard has had minor adjustments to the wording to clarify meaning and/or to reflect the adjustments to the content descriptions.

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
Pre-primary	**Earth and space sciences** Daily and seasonal changes in our environment, including the weather, affect everyday life (ACSSU004)	**Earth and space sciences** Daily and seasonal changes in our environment affect everyday life (ACSSU004)	Some rewording of content for clarification. No change required to teaching program – content the same.
	Science as a Human Endeavour **Nature and development of science** Science involves exploring and observing the world using the senses (ACSHE013)	**Science as a Human Endeavour** **Nature and development of science** Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE013)	
	Science Inquiry Skills **Questioning and predicting** Respond to questions about familiar objects and events (ACSIS014)	**Science Inquiry Skills** **Questioning and predicting** Pose and respond to questions about familiar objects and events (ACSIS014)	
	Planning and conducting Explore and make observations by using the senses (ACSIS011)	**Planning and conducting** Participate in guided investigations and make observations by using the senses (ACSIS011)	
	Processing and analysing data and information Engage in discussions about observations and use methods such as drawing to represent ideas (ACSIS233)	**Processing and analysing data and information** Engage in discussions about observations and represent ideas (ACSIS233)	

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1	**Science as a Human Endeavour** **Nature and development of science** Science involves asking questions about, and describing changes in, objects and events (ACSHE021)	**Science as a Human Endeavour** **Nature and development of science** Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE021)	Some content descriptions combined. *'Such as'* removed from some points. Content remains the same other than rewording. No change required to teaching program – content the same.
	Science Inquiry Skills **Questioning and predicting** Respond to and pose questions, and make predictions about familiar objects and events (ACSIS024)	**Science Inquiry Skills** **Questioning and predicting** Pose and respond to questions, and make predictions about familiar objects and events (ACSIS024)	
	Planning and conducting Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources (ACSIS025)	**Planning and conducting** Participate in guided investigations to explore and answer questions (ACSIS025)	
	Processing and analysing data and information Use a range of methods to sort information, including drawings and provided tables Through discussion, compare observations with predictions (ACSIS212)	**Processing and analysing data and information** Use a range of methods to sort information, including drawings and provided tables through discussion, compare observations with predictions (ACSIS027)	
	Communicating Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (ACSIS029)	**Communicating** Represent and communicate observations and ideas in a variety of ways (ACSIS029)	

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2	**Earth and space sciences** Earth's resources, including water, are used in a variety of ways (ACSSU032)	**Earth and space sciences** Earth's resources are used in a variety of ways (ACSSU032)	Some examples removed, e.g. 'including water'. Rewording for clarity. Some content combined. Content remains the same. No change required to teaching program – content the same.
	Science as a Human Endeavour **Nature and development of science** Science involves asking questions about, and describing changes in, objects and events (ACSHE034)	**Science as a Human Endeavour** **Nature and development of science** Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE034)	
	Science Inquiry Skills **Questioning and predicting** Respond to and pose questions, and make predictions about familiar objects and events (ACSIS037)	**Science Inquiry Skills** **Questioning and predicting** Pose and respond to questions, and make predictions about familiar objects and events (ACSIS037)	
	Planning and conducting Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources (ACSIS038) Use informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate (ACSIS039)	**Planning and conducting** Participate in guided investigations to explore and answer questions (ACSIS038) Use informal measurements to collect and record observations, using digital technologies as appropriate (ACSIS039)	
	Processing and analysing data and information Use a range of methods to sort information, including drawings and provided tables (ACSIS040) Through discussion, compare observations with predictions (ACSIS214)	**Processing and analysing data and information** Use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions (ACSIS040)	

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	Communication Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (ACSIS042)	**Communication** Represent and communicate observations and ideas in a variety of ways (ACSIS042)	
3	**Planning and conducting** Suggest ways to plan and conduct investigations to find answers to questions (ACSIS054) Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate (ACSIS055)	**Planning and conducting** With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment (ACSIS054) Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately (ACSIS055)	Rewording for clarity. The new concept of a 'fair test' must be explicitly elaborated upon in classroom teaching. Change of language – 'formal and informal representations'.
	Evaluating Reflect on the investigation, including whether a test was fair or not (ACSIS058)	**Evaluating** Reflect on investigations, including whether a test was fair or not (ACSIS058)	
	Communicating Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple reports (ACSIS060)	**Communicating** Represent and communicate observations, ideas and findings using formal and informal representations (ACSIS060)	

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4	**Science Understanding** **Biological Sciences** Living things, including plants and animals, depend on each other and the environment to survive (ACSSU073)	**Science Understanding** **Biological Sciences** Living things depend on each other and the environment to survive (ACSSU073)	Rewording for clarity. Some points combined. No change required to teaching program – content the same, apart from explicit focus on 'fair tests'.
	Chemical sciences Natural and processed materials have a range of physical properties; these properties can influence their use (ACSSU074)	**Chemical sciences** Natural and processed materials have a range of physical properties that can influence their use (ACSSU074)	
	Science Inquiry Skills **Questioning and predicting** With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge (ACSIS064)	**Science Inquiry Skills** **Questioning and predicting** With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge (ACSIS064)	
	Planning and conducting Suggest ways to plan and conduct investigations to find answers to questions (ACSIS065) Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate (ACSIS066)	**Planning and conducting** With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment (ACSIS065) Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately (ACSIS066)	
	Communicating Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple reports (ACSIS071)	**Communicating** Represent and communicate ideas and findings using formal and informal representations (ACSIS071)	

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5	**Science as a Human Endeavour** **Nature and development of science** Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena (ACSHE081) Important contributions to the advancement of science have been made by people from a range of cultures (AVSHE082)	**Science as a Human Endeavour** **Nature and development of science** Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions (ACSHE081)	Some content combined. No change required to teaching program – apart from explicit focus on 'fair tests'.
	Use and influence of science Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE083) Scientific knowledge is used to inform personal and community decisions (ACSHE217)	**Use and influence of science** Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE083)	
	Science Inquiry Skills **Questioning and predicting** With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be (ACSIS231)	**Science Inquiry Skills** **Questioning and predicting** With guidance, pose clarifying questions and make predictions about scientific investigations (ACSIS231)	
	Planning and conducting With guidance, plan appropriate investigation methods to answer questions or solve problems (ACSIS086) Decide which variable should be changed and measured in fair tests and accurately observe, measure and record data, using digital technologies as appropriate (ACSIS087) Use equipment and materials safely, identifying potential risks (ACSIS088)	**Planning and conducting** Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (ACSIS086) Decide variables to be changed and measured in fair tests, and observe, measure and record data with accuracy using digital technologies as appropriate (ACSIS087)	

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	Evaluating Suggest improvements to the methods used to investigate a question or solve a problem (ACSIS091)	**Evaluating** Reflect on and suggest improvements to scientific investigations (ACSIS091)	
	Communicating Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts (ACSIS093)	**Communicating** Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (ACSIS093)	
6	**Chemical sciences** Changes to materials can be reversible, such as melting, freezing, evaporating; or irreversible, such as burning and rusting (ACSSU095)	**Chemical sciences** Changes to materials can be reversible, or irreversible (ACSSU095)	'Such as' removed. Some content combined. Rewording for clarity. No change required to teaching program.
	Physical sciences Electrical circuits provide a means of transferring and transforming electricity (ACSSU097) Energy from a variety of sources can be used to generate electricity (ACSSU219)	**Physical sciences** Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources (ACSSU097)	
	Science as a Human Endeavour **Nature and development of science** Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena (ACSHE098) Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE099)	**Science as a Human Endeavour** **Nature and development of science** Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions (ACSHE098)	

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
	Use and influence of science Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE100)	**Use and influence of science** Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE100)	
	Science Inquiry Skills **Questioning and predicting** With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be (ACSIS232)	**Science Inquiry Skills** **Questioning and predicting** With guidance, pose clarifying questions and make predictions about scientific investigations (ACSIS232)	
	Planning and conducting With guidance, plan appropriate investigation methods to answer questions or solve problems (ACSIS103) Decide which variable should be changed and measured in fair tests and accurately observe, measure and record data, using digital technologies as appropriate (ACSIS104)	**Planning and conducting** Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (ACSIS103) Decide variables to be changed and measured in fair tests, and observe, measure and record data with accuracy using digital technologies as appropriate (ACSIS104)	
	Evaluating Suggest improvements to the methods used to investigate a question or solve a problem (ACSIS108)	**Evaluating** Reflect on and suggest improvements to scientific investigations (ACSIS108)	
	Communicating Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts (ACSIS110)	**Communicating** Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (ACSIS110)	

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
7	**Biological sciences** There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111) Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions (ACSSU112)	**Biological sciences** Classification helps organise the diverse group of organisms (ACSSU111)	Rewording for clarification. No implications for teaching time. ACARA 7.5 ACSSU112 is being retained.
	Earth and space sciences Some of Earth's resources are renewable, but others are non-renewable (ACSSU116) Water is an important resource that cycles through the environment (ACSSU222)		ACARA 7.5 ACSSU116 is being retained.
	Physical sciences Change to an object's motion is caused by unbalanced forces, acting on the object (ACSSU117) Earth's gravity pulls objects towards the centre of the Earth (ACSSU118)	**Physical sciences** Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object (ACSSU117)	Gravity is included in the unbalanced forces rather than as a separate point. The content is the same. There are no implications for teaching.
8	**Physical sciences** Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and causes change within systems (ACSSU155)	**Physical sciences** Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers causes change within systems (ACSSU155)	Clarification that energy changes forms and its transfer is what causes change in systems. Teachers would already be discussing energy in its different forms so there is no implication for teaching time.

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
7–8	**Science as a Human Endeavour** **Nature and development of science** Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world (ACSHE119) Science knowledge can develop through collaboration and connecting ideas across the disciplines of science (ACSHE223)	**Science as a Human Endeavour** **Nature and development of science** Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available (ACSHE119) Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE223)	Removal of 'some scientific discoveries'. The meaning is the same. This may decrease the amount of content. Same meaning, with the inclusion of 'contributions of people from a range of cultures'. This may require inclusion of some additional content.
	Use and influence of science 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 (7 = ACSHE119) (8 = ACSHE135) Science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management (7 = ACSHE121) (8 = ACSHE136) People use understanding and skills from across the disciplines of science in their occupations (7 = ACSHE224) (8 = ACSHE227)	**Use and influence of science** Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (7 = ACSHE119) (8 = ACSHE135) People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (7 = ACSHE121) (8 = ACSHE136)	More succinct wording with the same meaning. No implications for teaching time. Removes the specific areas of human activity 'such as industry, agriculture and marine and terrestrial resource management', so there is possibly less content to teach.
	Science Inquiry Skills **Planning and conducting** In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (7 = ACSIS126) (8 = ACSIS141)	**Science Inquiry Skills** **Planning and conducting** Measure and control variables, select equipment appropriate to the task and collect data with accuracy (7 = ACSIS126) (8 = ACSIS141)	The words 'appropriate to the task' have been added. This has no implications for teaching time.

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
	Processing and analysing data and information Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships using digital technologies as appropriate (7 = ACSIS129) (8 = ACSHE144) Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions (7 = ACSIS130) (8 = ACSHE145)	**Processing and analysing data and information** 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 (7 = ACSIS129) (8 = ACSHE144) Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions based on evidence (ACSIS130)	Clarification. No implications for teaching time. Clarification that scientific conclusions are based on evidence which would already be taught. There are no implications for teaching time.
	Evaluating Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements (ACSIS131) Use scientific knowledge and findings from investigations to evaluate claims (ACSIS132)	**Evaluating** Reflect on scientific investigations including evaluating the quality of the data collected, and identifying improvements (ACSIS131) Use scientific knowledge and findings from investigations to evaluate claims based on evidence (ACSIS132)	Rewording for clarification. No implications for teaching time. Clarification that science is based on evidence. No implications for teaching time.
	Communicating Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate (7 = ACSIS133) (8 = ACSIS148)	**Communicating** Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations using digital technologies as appropriate (7 = ACSIS133) (8 = ACSIS148)	Clarification that science is based on evidence which would already be taught. No implications for teaching time.

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
7	**Achievement Standard** They predict the effect of environmental changes on feeding relationships and classify and organise diverse organisms based on observable differences. Students describe situations where scientific knowledge from different science disciplines has been used to solve a real-world problem. They explain how the solution was viewed by, and impacted on, different groups in society.	**Achievement Standard** They predict the effect of human and environmental changes on interactions between organisms and classify and organise diverse organisms based on observable differences. Students describe situations where scientific knowledge from different science disciplines and diverse cultures has been used to solve a real-world problem. They explain possible implications of the solution for different groups in society.	Rewording for clarification. No implications for teaching time.
9–10	**Science as a Human Endeavour** **Use and influence of science** People can use scientific knowledge to evaluate whether they should accept claims, explanations or predictions (9 = ACSHE160) (10 = ACSHE194) Advances in science and emerging sciences and technologies can significantly affect people's lives, including generating new career opportunities (9 = ACSHE161) (10 = ACSHE195)	**Science as a Human Endeavour** **Use and influence of science** People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities (9 = ACSHE160) (10 = ACSHE194)	Rewording for conciseness. No implications for teaching time.
	Science Inquiry Skills **Planning and conducting** Plan, select and use appropriate investigation methods, including field work and laboratory experimentation, to collect reliable data; assess risk and address ethical issues associated with these methods (9 = ACSIS165) (10 = ACSIS199)	**Science Inquiry Skills** **Planning and conducting** Plan, select and use appropriate investigation types, including field work and laboratory experimentation, to collect reliable data; assess risk and address ethical issues associated with these methods (9 = ACSIS165) (10 = ACSIS199)	Change from 'investigation methods' to 'investigation types'. The meaning is the same. No implications for teaching time.

Year	Current content from the Western Australian Curriculum	Content and/or Achievement Standard from the Australian Curriculum v8.1	Implications for teaching programs
	Evaluating Critically analyse the validity of information in secondary sources and evaluate the approaches used to solve problems (9 = ACSIS172) (10 = ACSIS206)	**Evaluating** Critically analyse the validity of information in primary and secondary sources and evaluate the approaches used to solve problems (9 = ACSIS172) (10 = ACSIS206)	Students are asked to analyse primary sources, that is, their own investigation data. They would normally do this during an investigation. No implications for teaching time.