Australian Curriculum V9.0 Alignment • Year 6 • Circuit breakers

**Year 6**

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| **Science understanding core concept:** Energy, specifically electrical energy, can be transferred and transformed. | | | | | |
| **Sub-strand** | | **Content descriptor** | **AC code** | **Achievement Standard** | **How the sequence addresses this content** |
| SHE: Use and influence of science | Investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions. | | AC9S6H02 | Describe how individuals and communities use scientific knowledge. | Design an electrical device that could be used in a blackout. (Lesson 7) |
| SU: Physical sciences | Investigate the transfer and transformation of energy in electrical circuits, including the role of circuit components, insulators and conductors. | | AC9S6U03 | Identify the role of circuit components in the transfer and transformation of electrical energy. | Use scientific explanations, supported by data, to describe the equipment used and the transfer and transformation of electrical energy in a circuit. (Lessons 2, 3, 4, 5, 6) |
| SI: Questioning and predicting | Pose investigable questions to identify patterns and test relationships and make reasoned predictions. | | AC9S6I01 | Describe how individuals and communities use scientific knowledge. | Pose investigable questions to identify patterns, such as: ‘what type of material is the best conductor and what is the best insulator?’ (Lesson 5) |
| SI: Planning and conducting | Plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place. | | AC9S6I02 | Identify risks associated with investigations and key intercultural considerations when planning field work. Identify variables to be changed, measured and controlled. | Determine which is the variable being tested and which variable is being measured, and which other variables might affect their investigations and need to be kept the same. (Lessons 4, 5) |
| SI: Planning and conducting | Use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate. | | AC9S6I03 | Use equipment to generate and record data with appropriate precision. | Select and use instruments with the correct scale for measuring data with appropriate accuracy, such as a light meter or multi-meter (high tech option). (Lessons 4, 5) |
| SI: Processing, modelling and analysing | Construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships. | | AC9S6I04 | Construct representations to organise and process data and information and describe patterns, trends and relationships. | Organise information in graphic organisers to describe patterns and trends. (Lessons 5, 6)  Represent circuits using circuit diagrams and indicating the direction of electricity flow. (Lessons 2, 3) |
| SI: Evaluating | Compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions. | | AC9S6I05 | Identify possible sources of error in their own and others’ methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. | Work collaboratively to identify the strengths and weaknesses of their own and others’ investigations including where testing was not fair, and practices could be improved. (Lessons 4, 5) |
| SI: Communicating | Write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate. | | AC9S6I06 | Use language features that reflect their purpose and audience when communicating their ideas and findings. | Design a product that uses electrical circuits and presenting their product to an appropriate audience. (Lesson 7) |