**ELABORATION REFINEMENT FOR LEARNING AREAS**

**F–10 AUSTRALIAN CURRICULUM: SCIENCE ELABORATIONS REFINEMENT**

| **YEAR LEVEL** | **CODE** | **PREVIOUS ELABORATIONS** | **REVISED ELABORATIONS** |
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| 1 | ACSHE021 | * discussing why some plants only grow in certain areas * posing questions about events and features of the local environment that are of interest and affect students lives * recognising that descriptions of what we observe are used by people to help identify change | * jointly constructing questions about the events and features of the local environment with teacher guidance * recognising that descriptions of what we observe are used by people to help identify change |
| 1 | ACSIS024 | * thinking about “What will happen if...?” type questions about everyday objects and events * using the senses to explore the local environment to pose interesting questions, make inferences and predictions | * thinking about "What will happen if……?" type questions about everyday objects and events * using the senses to explore the local environment to pose interesting questions and making predictions about what will happen |
| 1 | ACSIS025 | * manipulating objects and materials and making observations of the results * researching with the use of simple information sources * sorting objects and events based on easily observable characteristics | * manipulating objects and making observations of what happens * researching ideas collaboratively using big books, web pages and ICT within the classroom * exploring different ways of solving science questions through guided discussion * sorting information and classifying objects based on easily observable characteristics with teacher guidance |
| 1 | ACSIS026 | * using units that are familiar to students from home and school, such as cups (cooking), hand spans (length) and walking paces (distance) | * using units that are familiar to students from home and school, such as cups (cooking), hand spans (length) and walking paces (distance) to make and record observations with teacher guidance |
| 1 | ACSIS027 | * using matching activities, including identifying similar things, odd-one-out and opposites * using simple column graphs (bar graphs) with guidance from the teacher to record gathered information | * using matching activities, including identifying similar things, odd-one-out and opposites * exploring ways of recording and sharing information through class discussion * jointly constructing simple column graphs and picture graphs to represent class investigations |
| 1 | ACSIS212 | * comparing and discussing, with guidance, whether observations were expected | * discussing or representing what was discovered in an investigation * engaging in whole class or guided small group discussions to share observations and ideas |
| 1 | ACSIS213 | * discussing observations with other students to see similarities and differences in results | * discussing original predictions and, with guidance, comparing these to their observations |
| 2 | ACSIS039 | * using units that are familiar to students from home and school, such as cups (cooking), hand spans (length) and walking paces (distance) | * using units that are familiar to students from home and school, such as cups (cooking), hand spans (length) and walking paces (distance) to make and compare observations |
| 2 | ACSIS040 | * using simple column graphs (bar graphs) with guidance from the teacher to record gathered information * using matching activities, including identifying similar things, odd-one-out and opposites | * constructing column and picture graphs with teacher guidance to record gathered information * sorting information in provided tables or graphic organisers |
| 3 | ACSIS053 | * choosing questions to investigate from a list of possibilities provided by the teacher * considering familiar situations in order to think of possible areas for investigation * working in groups to discuss things that might happen during an investigation | * choosing questions to investigate from a list of possibilities * jointly constructing questions that may form the basis for investigation * listing shared experiences as a whole class and identifying possible investigations * working in groups to discuss things that might happen during an investigation |
| 3 | ACSIS054 | * working in groups, with teacher guidance, to test simple cause-and-effect relationships * carrying out class surveys to identify trends and patterns in data | * working with teacher guidance to plan investigations to test simple cause-and-effect relationships * discussing as a whole class ways to investigate questions and evaluating which ways might be most successful |
| 3 | ACSIS055 | * recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm) * using a digital camera to record observations * considering safety rules for equipment used | * using provided tables to organise materials and objects based on observable properties * discussing how to graph data presented in a table |
| 3 | ACSIS058 | * describing experiences of carrying out investigations to the teacher, small group or whole class | * describing experiences of carrying out investigations to the teacher, small group or whole class * discussing as a whole class the idea of fairness in testing |
| 3 | ACSIS060 | * Communicating with other students carrying out similar investigations to share experiences and improve investigation skills * using simple explanations and arguments, reports or graphical representations to communicate ideas to other students | * communicating with other students carrying out similar investigations to share experiences and improve investigation skill * exploring different ways to show processes and relationships through diagrams, models and role play * using simple explanations and arguments, reports or graphical representations to communicate ideas to other students |
| 4 | ACSIS064 | * working in groups to discuss things that might happen during an investigation * considering familiar situations in order to think of possible areas for investigation * choosing questions to investigate from a list of possibilities provided by the teacher | * considering familiar situations in order to think about possible areas for investigation * reflecting on familiar situations to make predictions with teacher guidance * choosing questions to investigate from a list of possibilities |
| 4 | ACSIS065 | * working in groups, with teacher guidance, to test simple cause-and-effect relationships * carrying out class surveys to identify trends and patterns in data | * exploring different ways to conduct investigations and connecting these to the types of questions asked with teacher guidance * working in groups, with teacher guidance, to plan ways to investigate questions |
| 4 | ACSIS066 | * considering safety rules for equipment used * using a digital camera to record observations * recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm) | * discussing and recording safety rules for equipment as a whole class * making and recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimeters (cm) and mililitres (mL) |
| 4 | ACSIS068 | * identifying and discussing numerical and visual patterns in data collected from students' own investigations and from other sources * using tables to organise materials and objects based on observable properties | * identifying and discussing numerical and visual patterns in data collected from students' investigations and from other sources * using provided graphic organisers to sort and represent information * discussing with teacher guidance which graphic organisers will be most useful in sorting or organising data arising from investigations |
| 4 | ACSIS069 | * describing experiences of carrying out investigations to the teacher, small group or whole class | * reflecting on investigations, identifying what went well, what was difficult or didn't work so well, and how well the investigation helped answer the question * discussing which aspects of the investigation helped improve fairness, and any aspects that weren't fair |
| 4 | ACSIS216 | * discussing how well predictions matched results from an investigation and sharing ideas about what was learnt | * discussing how well predictions matched results from an investigation and proposing reasons for findings * comparing, in small groups, proposed reasons for findings and explaining their reasoning |
| 4 | ACSSU076 | * observing qualitatively how speed is affected by the size of a force * comparing the effect of friction between different surfaces, such as tyres and shoes on a range of surfaces * investigating the effect of forces on the behaviour of an object through actions such as throwing, dropping, bouncing and rolling * investigating the forces of attraction and repulsion between magnets | * observing qualitatively how speed is affected by the size of a force * exploring how non-contact forces are similar to contact forces in terms of objects pushing and pulling another object * comparing and contrasting the effect of friction on different surfaces, such as tyres and shoes on a range of surfaces * investigating the effect of forces on the behaviour of an object through actions such as throwing, dropping, bouncing and rolling * exploring the forces of attraction and repulsion between magnets |
| 5 | ACSIS086 | * experiencing a range of ways of finding information and ideas, including internet research      * considering different investigation methods, including experimental testing, field work and conducting surveys | * experiencing a range of ways of investigating questions, including experimental testing, internet research, field observations and exploring simulations * discussing the advantages of certain types of investigation for answering certain types of questions * considering different ways to approach problem solving, including researching, using trial and error, experimental testing and creating models |
| 5 | ACSIS087 | * discussing in groups how investigations can be made as fair as possible * using familiar tools such as rulers, weighing scales and watches to measure objects and events in investigations * using the idea of an independent variable (note: this terminology does not need to be used at this stage) as something that is being investigated by changing it and measuring the effect of this change * using familiar units such as grams, seconds and metres and developing the use of standard multipliers such as kilometres and millimetres * adding information to tables, graphs and spreadsheets | * discussing in groups how investigations can be made as fair as possible * using tools to accurately measure objects and events in investigation and exploring which tools provide the most accurate measurements * using familiar units such as grams, seconds and meters and developing the use of standard multipliers such as kilometres and millimetres      * recording data in tables and diagrams or electronically as digital images and spreadsheets |
| 5 | ACSIS088 | * discussing possible hazards involved in conducting investigations, and how these risks can be reduced | * explaining rules for safe processes and use of equipment |
| 5 | ACSIS090 | * describing simple cause-and-effect relationships as shown by trends in quantitative data * identifying similarities and differences in qualitative data in order to group items or materials | * constructing tables, graphs and other graphic organisers to show trends in data * identifying patterns in data and developing explanations that fit these patterns * identifying similarities and differences in qualitative data in order to group items or materials |
| 5 | ACSIS091 | * working collaboratively to suggest improvements to the methods used | * working collaboratively to identify where methods could be improved, including where testing was not fair and practices could be improved |
| 5 | ACSIS093 | * understanding how models can be used to represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding * using a variety of communication modes such as reports, explanations, arguments, debates and procedural accounts, to communicate scientific ideas * using labelled diagrams, including cross-sectional representations, to communicate ideas | * discussing how models represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding      * constructing multi-modal texts to communicate science ideas      * using labelled diagrams, including cross-sectional representations, to communicate ideas |
| 5 | ACSIS231 | * discussing in groups possible situations to investigate      * sharing ideas about what may happen and why * applying experience from similar situations in the past to predict what may happen in a new situation | * exploring the range of questions that can be asked about a problem or phenomena and with guidance, identifying those questions that could be investigated * applying experience from similar situations in the past to predict what might happen in a new situation |
| 5 | ACSSU043 | * explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants * describing and listing adaptations of living things suited for the Australian environment * exploring general adaptations for particular environments such as water conservation in deserts * comparing types of adaptations such as behavioural and structural | * explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants      * describing and listing adaptations of living things suited for particular Australian environments * exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts |
| 5 | ACSSU077 | * recognising that substances exist in different states depending on the temperature * observing that gases have mass and take up space demonstrated by using balloons or bubbles * exploring the way solids, liquids and gases change under different situations such as heating and cooling * recognising that some materials such as foam are composite materials and cannot be easily classified as solids, liquids or gases on the basis of their observable properties * comparing solids and liquids by investigating differences, such as the ability to flow or maintain shape and volume | * recognising that substances exist in different states depending on the temperature * observing that gases have mass and take up space, demonstrated by using balloons or bubbles * exploring the way solids, liquids and gases change under different situations such as heating and cooling * recognising that not all substances can be easily classified on the basis of their observable properties |
| 6 | ACSIS103 | * experiencing a range of ways of finding information and ideas, including internet research * considering different investigation methods, including experimental testing, field work and conducting surveys | * following a procedure to design an experimental or field investigation * discussing methods chosen with other students, and refining methods accordingly * considering which investigation methods are most suited to answer a particular question or solve a problem |
| 6 | ACSIS104 | * discussing in groups how investigations can be made as fair as possible      * using familiar units such as grams, seconds and metres and developing the use of standard multipliers such as kilometres and millimetres * using the idea of an independent variable * (note: this terminology does not need to be used at this stage) as something that is being investigated by changing it and measuring the effect of this change * using familiar tools such as rulers, weighing scales and watches to measure objects and events in investigations | * using familiar units such as grams, seconds and metres and developing the use of standard multipliers such as kilometres and millimetres * using the idea of an independent variable (note: this terminology does not need to be used at this stage) as something that is being investigated by changing it and measuring the effect of this change * using digital technologies to make accurate measurements and to record data |
| 6 | ACSIS107 | * identifying similarities and differences in qualitative data in order to group items or materials * describing simple cause-and-effect relationships as shown by trends in quantitative data | * exploring how different representations can be used to show different aspects of relationships, processes or trends      * using digital technologies to construct representations, including dynamic representations |
| 6 | ACSIS108 | * working collaboratively to suggest improvements to the methods used | * discussing improvements to the methods used, and how these methods would improve the quality of the data obtained |
| 6 | ACSIS110 | * using a variety of communication modes, such as reports, explanations, arguments, debates and procedural accounts, to communicate science ideas * understanding how models can be used to represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding * using labelled diagrams, including cross-sectional representations, to communicate ideas | * discussing the best way to communicate science ideas and what should be considered when planning a text      * using a variety of communication modes, such as reports, explanations, arguments, debates and procedural accounts, to communicate science ideas      * using labelled diagrams, including cross-sectional representations, to communicate ideas and processes within multi-modal texts |
| 6 | ACSIS221 | * sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect | * sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect * discussing the difference between data and evidence * referring to evidence when explaining the outcomes of an investigation |
| 6 | ACSIS232 | * applying experience from similar situations in the past to predict what may happen in a new situation * discussing in groups possible situations to investigate or identify problems that relate to students lives * sharing ideas about what may happen in an investigation and why | * refining questions to enable scientific investigation      * asking questions to understand the scope or nature of a problem      * applying experience from previous investigations to predict the outcomes of investigations in new contexts |
| 7 | ACSIS124 | * working collaboratively to identify a problem to investigate * using information and knowledge from previous investigations to predict the expected results from an investigation | * working collaboratively to identify a problem to investigate      * recognising that the solution of some questions and problems requires consideration of social, cultural, economic or moral aspects rather than or as well as scientific investigation * using information and knowledge from previous investigations to predict the expected results from an investigation |
| 7 | ACSIS125 | * working collaboratively to decide how to approach an investigation * developing strategies and techniques for effective research using secondary sources, including use of the internet | * working collaboratively to decide how to approach an investigation * learning and applying specific skills and rules relating to the safe use of scientific equipment * identifying whether the use of their own observations and experiments or the use of other research materials is appropriate for their investigation * developing strategies and techniques for effective research using secondary sources, including use of the internet |
| 7 | ACSIS126 | * recognising the differences between controlled, dependent and independent variables * learning and applying specific skills and rules relating to the safe use of scientific equipment * using a digital camera to record observations and compare images using information technologies * using specialised equipment to increase the accuracy of measurement within an investigation | * recognising the differences between controlled, dependent and independent variables * using a digital camera to record observations and compare images using information technologies * using specialised equipment to increase the accuracy of measurement within an investigation |
| 7 | ACSIS129 | * understanding different types of graphical representation and considering their advantages and disadvantages * using spreadsheets to aid the presentation and simple analysis of data | * understanding different types of graphical and physical representation and considering their advantages and disadvantages * using spreadsheets to aid the presentation and simple analysis of data * describing the trends shown in collected data |
| 7 | ACSIS130 | * using diagrammatic representations to convey abstract ideas and to simplify complex situations | * using diagrammatic representations to convey abstract ideas and to simplify complex situations * comparing and contrasting data from a number of sources in order to create a summary of collected data * identifying data which provides evidence to support or negate the hypothesis under investigation * referring to relevant evidence when presenting conclusions drawn from an investigation |
| 7 | ACSIS131 | * discussing investigation methods with others to share ideas about the quality of the inquiry process * suggesting improvements to inquiry methods based on experience | * discussing investigation methods with others to share ideas about the quality of the inquiry process * identifying and considering indicators of the quality of the data when analysing results * suggesting improvements to inquiry methods based on experience |
| 7 | ACSIS132 | * identifying where science has been used to make claims relating to products and practices | * using the evidence provided by scientific investigations to evaluate the claims or conclusions of their peers |
| 7 | ACSIS133 | * using digital technologies to access information and to communicate and collaborate with others on and off site | * presenting the outcomes of research using effective forms of representation of data or ideas and scientific language that is appropriate for the target audience * using digital technologies to access information and to communicate and collaborate with others on and off site |
| 8 | ACSIS139 | * working collaboratively to identify a problem to investigate      * using information and knowledge from previous investigations to predict the expected results from an investigation | * considering whether investigation using available resources is possible when identifying questions or problems to investigate * recognising that the solution of some questions and problems requires consideration of social, cultural, economic or moral aspects rather than or as well as scientific investigation * using information and knowledge from their own investigations and secondary sources to predict the expected results from an investigation |
| 8 | ACSIS140 | * working collaboratively to decide how to best approach an investigation * developing strategies and techniques for effective research using secondary sources, including use of the internet | * working collaboratively to decide how to best approach an investigation * identifying any ethical considerations that may apply to the investigation * taking into consideration all aspects of fair testing, available equipment and safe investigation when planning investigations |
| 8 | ACSIS141 | * using a digital camera to record observations and compare images using information technologies * learning and applying specific skills and rules relating to the safe use of scientific equipment * using specialised equipment to increase the accuracy of measurement within an investigation * recognising the differences between controlled, dependent and independent variables | * using specialised equipment to increase the accuracy of measurement within an investigation * identifying and explaining the differences between controlled, dependent and independent variables |
| 8 | ACSIS144 | * understanding different types of graphical representation and considering their advantages and disadvantages * using spreadsheets to aid the presentation and simple analysis of data | * describing measures of central tendency and identifying outliers for quantitative data      * explaining the strengths and limitations of representations such as physical models, diagrams and simulations in terms of the attributes of systems included or not included |
| 8 | ACSIS145 | * using diagrammatic representations to convey abstract ideas and to simplify complex situations | * constructing tables, graphs, keys and models to represent relationships and trends in collected data * drawing conclusions based on a range of evidence including primary and secondary sources |
| 8 | ACSIS146 | * discussing investigation methods with others to share ideas about the quality of the inquiry process * suggesting improvements to inquiry methods based on experience | * suggesting improvements to investigation methods that would improve the accuracy of the data recorded      * discussing investigation methods with others to share ideas about the quality of the inquiry process |
| 8 | ACSIS148 | * using digital technologies to access information and to communicate and collaborate with others on and off site | * using digital technologies to construct a range of text types to present science ideas * Selecting and using appropriate language and representations to communicate science ideas within a specified text type and for a specified audience |
| 8 | ACSIS234 | * identifying where science has been used to make claims relating to products and practices | * identifying the scientific evidence available to evaluate claims * deciding whether or not to accept claims based on scientific evidence * identifying where science has been used to make claims relating to products and practices |
| 8 | ACSSU151 | * linking the energy of particles to temperature changes * modelling the arrangement of particles in solids, liquids and gases | * explaining why a model for the structure of matter is needed * modelling the arrangement of particles in solids, liquids and gases * using the particle model to explain observed phenomena linking the energy of particles to temperature changes |
| 9 | ACSIS164 | * using internet research to identify problems that can be investigated * evaluating information from secondary sources as part of the research process * developing ideas from students own or others' investigations and experiences to investigate further | * using internet research to identify problems that can be investigated * evaluating information from secondary sources as part of the research process * revising and refining research questions to target specific information and data collection or finding a solution to the specific problem identified * developing ideas from students own or others' investigations and experiences to investigate further |
| 9 | ACSIS165 | * using modelling and simulations, including using digital technology to investigate situations and events * combining research using primary and secondary sources with students own experimental investigation | * explaining the choice of variables to be controlled, changed and measured in an investigation      * identifying the potential hazards of chemicals or biological materials used in experimental investigations * ensuring that any investigation involving or impacting on animals is justified, humane and considerate of each animal's needs * using modelling and simulations, including using digital technology to investigate situations and events * combining research using primary and secondary sources with students' own experimental investigation * considering how investigation methods and equipment may influence the reliability of collected data |
| 9 | ACSIS166 | * considering the potential hazards of chemicals or biological materials used in experimental investigations * explaining the choice of variables to be controlled, changed and measured in an investigation * using probes and data loggers to record information * ensuring that any investigation involving or impacting on animals is justified, humane and considerate of each animals needs * learning specific skills for the use of scientific instruments * describing specific safety precautions required for investigations | * using probes and data loggers to record information * applying specific skills for the use of scientific instruments |
| 9 | ACSIS169 | * using spreadsheets to present data in tables and graphical forms and to carry out mathematical analyses on data * calculating means and ranges from data and considering the distribution of sets of quantitative data * designing and constructing appropriate graphs to represent data and analysing graphs for trends and patterns | * using spreadsheets to present data in tables and graphical forms and to carry out mathematical analyses on data * describing sample properties (such as mean, median, range, large gaps visible on a graph) to predict characteristics of the larger population * designing and constructing appropriate graphs to represent data and analysing graphs for trends and patterns |
| 9 | ACSIS171 | * distinguishing between random and systematic errors and how these can affect investigation results | * identifying gaps or weaknesses in conclusions (their own or those of others) * identifying alternative explanations that are also consistent with the evidence |
| 9 | ACSIS172 | * explaining why suggested changes will improve the accuracy of investigations * researching the methods used by scientists in studies reported in the media * describing how scientific arguments are used to make decisions regarding personal and community issues | * discussing what is meant by 'validity' and how we can evaluate the validity of information in secondary sources * researching the methods used by scientists in studies reported in the media * describing how scientific arguments are used to make decisions regarding personal and community issues |
| 9 | ACSSU182 | * exploring how and why the movement of energy varies according to the medium through which it is transferred * investigating how the human body receives sound and light waves * investigating the transfer of heat in terms of convection, conduction and radiation, and identifying situations in which each occurs * investigating factors that affect the transfer of energy through an electric circuit * exploring situations where energy is transferred in the form of waves, such as sound and light | * exploring how and why the movement of energy varies according to the medium through which it is transferred * discussing the wave and particle models and how they are useful for understanding aspects of phenomena * investigating the transfer of heat in terms of convection, conduction and radiation, and identifying situations in which each occurs * understanding the processes underlying convection and conduction in terms of the particle model * investigating factors that affect the transfer of energy through an electric circuit * exploring the properties of waves, and situations where energy is transferred in the form of waves, such as sound and light |
| 10 | ACSIS198 | * using internet research to identify problems that can be investigated * developing ideas from students own or others' investigations and experiences to investigate further * evaluating information from secondary sources as part of the research process | * developing hypotheses based on well-developed models and theories * using internet research to identify problems that can be investigated * formulating questions that can be investigated within the scope of the classroom or field with available resources * developing ideas from students own or others' * investigations and experiences to investigate further * evaluating information from secondary sources as part of the research process |
| 10 | ACSIS199 | * combining research using primary and secondary sources with a students own experimental investigation * using modelling and simulations, including using digital technology, to investigate situations and events | * combining research using primary and secondary sources with a student's own experimental investigation * using modelling and simulations, including using digital technology, to investigate situations and events * Deciding how much data are needed to produce reliable measurements * considering possible confounding variables or effects and ensuring these are controlled * identifying the potential hazards of chemicals or biological materials used in experimental investigations * identifying safety risks and impacts on animal welfare and ensuring these are effectively managed within the investigation |
| 10 | ACSIS200 | * describing specific safety precautions required for investigations * considering the potential hazards of chemicals or biological materials used in experimental investigations * using probes and data loggers to record information * explaining the choice of variables to be controlled, changed and measured in an investigation * ensuring that any investigation involving or impacting on animals is justified, humane and considerate of each animals needs * learning specific skills for the use of scientific instruments | * selecting and using probes and data loggers to record information * applying specific skills for the use of scientific instruments * identifying where human error can influence the reliability of data |
| 10 | ACSIS203 | * designing and constructing appropriate graphs to represent data and analysing graphs for trends and patterns * using spreadsheets to present data in tables and graphical forms and to carry out mathematical analysis on data * calculating means and ranges from data and considering the distribution of sets of quantitative data | * using spreadsheets to present data in tables and graphical forms and to carry out mathematical analyses on data * describing sample properties (such as mean, median, range, large gaps visible on a graph) to predict characteristics of the larger population, acknowledging uncertainties and the effects of outliers * exploring relationships between variables using spreadsheets, databases, tables, charts, graphs and statistics |
| 10 | ACSIS204 | * comparing conclusions with earlier predictions and reviewing scientific understanding where appropriate * suggesting more than one possible explanation of the data presented | * using primary or secondary scientific evidence to support or refute a conclusion * constructing a scientific argument showing how their evidence supports their claim |
| 10 | ACSIS205 | * distinguishing between random and systematic errors and how these can affect investigation results | * evaluating the strength of a conclusion that can be inferred from a particular data set * distinguishing between random and systematic errors and how these can affect investigation results * identifying alternative explanations that are also consistent with the evidence |
| 10 | ACSIS206 | * researching the methods used by scientists in studies reported in the media * explaining why suggested changes will improve the accuracy of investigations * describing how scientific arguments are used to make decisions regarding personal and community issues | * researching the methods used by scientists in studies reported in the media * judging the validity of science-related media reports and how these reports might be interpreted by the public * describing how scientific arguments, as well as ethical, economic and social arguments, are used to make decisions regarding personal and community issues |
| 10 | ACSIS208 | * using the internet to facilitate collaboration in joint projects and discussions * using secondary sources as well as a student’s own findings to help explain a scientific concept * presenting results and ideas using formal experimental reports, oral presentations, slide shows, poster presentations and contributing to group discussions | * using the internet to facilitate collaboration in joint projects and discussions * constructing evidence based arguments and engaging in debate about scientific ideas * presenting results and ideas using formal experimental reports, oral presentations, slide shows, poster presentations and contributing to group discussions * using a range of representations, including mathematical and symbolic forms, to communicate science ideas |

**F–10 AUSTRALIAN CURRICULUM: HISTORY ELABORATIONS REFINEMENT**

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| **YEAR LEVEL** | **CODE** | * **PREVIOUS ELABORATIONS** | * **ADDITIONAL ELABORATIONS** |
| 3 | ACHHS215 | * No previous elaboration | * identifying sources to investigate change in the community in the past, including photographs, maps, oral histories and diary entries |
| 4 | ACHHS216 | * No previous elaboration | * identifying sources to investigate the story of the First Fleet and its arrival, including paintings, maps, written accounts and the remains of buildings |