# Year 3 and 4

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| **Science Understanding** | **Science Inquiry Skills** | **Science as a Human Endeavour** |
| **Biological Sciences** | **Questioning and Predicting** | **Nature and Development of Science** |
| Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals  ***COD - Students will be introduced to these differences through the explanation of the crime.***  ***COE – Students learn how to categorise and identify the products of living things as part of solving the crime*** | Pose questions to explore observed patterns and relationships and make predictions based on observations  ***In the conclusion of the workshop students are asked to predict the perpetrator and/or story of the crime based on observations of the evidence*** | Examine how people use data to develop scientific explanations  ***We encourage students to develop theories before collecting their own evidence and decide whether they are correct.*** |
| **Chemical Sciences** | **Planning and Conducting** | **Use and Influence of Science** |
| Investigate the observable properties of solids and liquids and how adding or removing heat energy leads to a change of state  ***COE –Students are set a task of predicting the age of a liquid based on decomposition via heat.*** | Use provided scaffolds to plan and conduct investigations to answer questions or test predictions, including identifying the elements of fair tests, and considering the safe use of materials and equipment  ***Discussions surrounding safety measures taken at a crime scene are conducted***  Follow procedures to make and record observations, including making formal measurements using familiar scaled instruments and using digital tools as appropriate  ***Students are introduced to scientific procedures such as microscopy and chromatography. They are tasked with using a certain methodology to achieve a result*** | Consider how people use scientific explanations to meet a need or solve a problem  ***A consistent theme of all workshops is how forensic scientists and investigators use science to solve a crime*** |
| **Earth and Space Sciences** | **Processing, modelling and analysing** |
| Compare the observable properties of soils, rocks and minerals and investigate why they are important Earth resources | Construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns  ***COF – epidemiology exercise will demonstrate patterns in data as it is collected.***  ***COE – students will create a column graph and compare to images to answer questions*** |
| **Physical Sciences** | **Evaluating** |
| Identify sources of heat energy and examine how temperature changes when heat energy is transferred from one object to another | Compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions  ***Students will be in small groups helping each other and sharing ideas as they progress through the investigation.*** |
|  | **Communicating** |
|  | Write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate  ***Students learn a variety of scientific vocabulary*** |

# Year 5 and 6

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| **Science Understanding** | **Science Inquiry Skills** | **Science as a Human Endeavour** |
| **Biological Sciences** | **Questioning and Predicting** | **Nature and Development of Science** |
| Examine how particular structural features and behaviours of living things enable their survival in specific habitats  ***COE – Students will have to identify various tracks of Australian animals based on their unique adaptations.*** | Pose investigable questions to identify patterns and test relationships and make reasoned predictions  ***Students are guided through the best kind of questions to ask in order to reach a desired conclusion*** | Examine why advances in science are often the result of collaboration or build on the work of others  ***We explain how many different scientists and specialists come together to solve a crime*** |
| **Earth and Space Sciences** | **Planning and Conducting** | **Use and Influence of Science** |
| Describe how weathering, erosion, transportation and deposition cause slow or rapid change to Earth’s surface | 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  ***Students will have to adapt to different ways of thinking and take several approaches to solve the cases.*** | Investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions  ***In discussion students use the information they have gathered to lead the direction of the investigation*** |
| **Physical Sciences** | **Processing, modelling and analysing** |
| Identify sources of light, recognise that light travels in a straight path and describe how shadows are formed and light can be reflected and refracted  ***COE, COD-Students use and learn about UV light in a forensic context*** | 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  ***COF – epidemiology exercise will demonstrate patterns in data as it is collected.***  ***COE – students will create a column graph and compare to images to answer questions*** |
| **Chemical Sciences** | **Evaluating** |
| Explain observable properties of solids, liquids and gases by modelling the motion and arrangement of particles | 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  Error is purposely built into the workshop to make students consider what the correct conclusion is |
|  | **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 |

# Year 1 and 2

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| **Science Understanding** | **Science Inquiry Skills** | **Science as a Human Endeavour** |
| **Biological Sciences** | **Questioning and Predicting** | **Use and influence of science** |
| Identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs  ***COE – Students are tasked with identifying an animal based on its habitat, food source and scats*** | Pose questions to explore observed simple patterns and relationships and make predictions based on experiences  ***Students are encouraged to answer questions based on their exploration of the evidence*** | Describe how people use science in their daily lives, including using patterns to make scientific predictions  ***Examples from daily life are used to extrapolate upon different kinds of evidence*** |
| **Earth and Space Sciences** | **Planning and Conducting** |
| Describe daily and seasonal changes in the environment and explore how these changes affect everyday life | Suggest and follow safe procedures to investigate questions and test predictions  Make and record observations, including informal measurements, using digital tools as appropriate    ***Students use a digital microscope to make observations*** |
| **Physical Sciences** | **Processing, Modelling and Analysing** |
| Describe pushes and pulls in terms of strength and direction and predict the effect of these forces on objects’ motion and shape | Sort and order data and information and represent patterns, including with provided tables and visual or physical models  ***COF – epidemiology exercise will demonstrate patterns in data as it is collected.***  ***COE – students will create a column graph and compare to images to answer questions*** |
|  | **Evaluating** |
|  | Compare observations with predictions and others’ observations, consider if investigations are fair and identify further questions with guidance  ***Students will be in small groups helping each other and sharing ideas as they progress through the investigation.*** |
|  | **Communicating** |
|  | Write and create texts to communicate observations, findings and ideas, using everyday and scientific vocabulary  ***Students are introduced to a variety of scientific vocabulary*** |