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| **Year level: 1/2/3** | **Learning Area: Science** | **Chemical Sciences** |
| **RELEVANT STATEMENTS FROM THE YEAR 1 ACHIEVEMENT STANDARD** | **RELEVANT STATEMENTS FROM THE YEAR 2 ACHIEVEMENT STANDARD** | **RELEVANT STATEMENTS FROM THE YEAR 3 ACHIEVEMENT STANDARD** |
| **Science Understanding**At Standard, students describe objects and events that they encounter in their everyday lives, and the effects of interacting with materials and objects. They describe the external features of living things and how different places meet the needs of living things. Students describe changes in their local [environment](https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/science-v8/overview/glossary/environment).**Science as a Human Endeavour**Students share how people use science in their daily lives, including when caring for the [environment](https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/science-v8/overview/glossary/environment) and living things.**Science Inquiry Skills**Students respond to questions, make predictions, and participate in guided investigations of everyday phenomena. They follow instructions to record and sort their observations and share them with others. | **Science Understanding**At Standard, students describe changes to materials and living things, and how a push or a pull affects an object’s behaviour. They identify that certain materials and resources have different uses.**Science as a Human Endeavour**Students describe examples of where science is used in people’s daily lives.**Science Inquiry Skills**Students pose and respond to questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. Students record and represent observations and communicate ideas in a variety of ways. | **Science Understanding**At Standard, students use their understanding of the rotation of Earth, the behaviour of heat and its effect on materials to suggest explanations for everyday observations. They group living things based on observable features and distinguish them from non-living things.**Science as a Human Endeavour**Students describe how they can use science investigations to respond to questions.**Science Inquiry Skills**Students use their experiences to identify questions and make predictions about scientific investigations. They follow procedures to collect and record observations and suggest possible reasons for their findings, based on patterns in their data. Students describe how safety and fairness were considered and they use diagrams and other representations to communicate their ideas. |
|  | **YEAR 1 CONTENT** | **←YEAR 1/2→****Conceptual links** | **YEAR 2 CONTENT** | **←YEAR 2/3→****Conceptual links** | **YEAR 3 CONTENT** |
| **Science understanding** | Everyday materials can be physically changed in a variety of ways | Combining materials Changing materials | Different materials can be combined for a particular purpose | Combing materials Changes of state | A change of state between solid and liquid can be caused by adding or removing heat |
| **Science as a human endeavour** | Banded with year 2 | Asking questions Science and people | Science involves observing, asking questions about, and describing changes in, objects and eventsPeople use science in their daily lives, including when caring for their environment and living things | Making predictionsScience and people  | Science involves making predictions and describing patterns and relationshipsScience knowledge helps people to understand the effect of their actions |
| **Science inquiry skills** | Banded with year 2 | Identify questions and make predictionsCollect, sort and record informationCommunicate and compare information  | Pose and respond to questions, and make predictions about familiar objects and eventsParticipate in guided investigations to explore and answer questions Use informal measurements to collect and record observations, using digital technologies as appropriateUse a range of methods to sort information, including drawings and provided tables through discussion, compare observations with predictionsCompare observations with those of othersRepresent and communicate observations and ideas in a variety of ways | Identify questions and make predictionsPlan investigations (with guidance)Record information and represent this informationCommunicate ideas, explanations and suggestions for improvements | With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledgeWith guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accuratelyUse a range of methods including tables and simple column graphs to represent data and to identify patterns and trends Compare results with predictions, suggesting possible reasons for findingsReflect on investigations, including whether a test was fair or notRepresent and communicate observations, ideas and findings using formal and informal representations |
| **🡨COMMON UNDERSTANDINGS→*****Some suggested common understandings that could be applied across year groups for teaching*** |
| * Respond to questions about changing materials, combining materials and changes of state.
* Consider materials used in everyday life and the impact to the environment.
* Ask questions about materials and make predictions about scientific investigations.
* Apply science understanding about materials to investigations to help make predictions.
* Explain results and discuss observations about practical activities using materials, changing materials and combining materials.
* Identify variables in an investigation.
* Collect, record, share and represent data effectively?
* List safe practices to be followed during practical activities.
* Discuss fair testing and ways to improve investigations.
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| **SUGGESTED LEARNING EXPERIENCES** ***Ensure meaningful learning experiences explore the above common understandings*** |
| * Describe the characteristics and purpose of objects encountered in everyday life, e.g. clothes pegs, coffee cups, paper plates, forks, plastic drink bottles. Encourage students to suggest common objects made from impractical materials, e.g. paper drink bottles, plastic tissue, and a glass lunchbox. Allow students to record and illustrate their ideas and share with other students.
* <http://scienceweb.asta.edu.au/years-f-2/unit3/overview/yrf2-unit3-overview.html>
* Identify different materials and their different uses.
* Consider the materials used by people and the environmental impact of these choices.
* Explain the effect of heat on different materials.
* Record and communicate observations and findings in a variety of ways.
* Develop tasks and investigations using ice to demonstrate the change between a solid and a liquid caused by adding and removing heat; and the different observable properties of water as a solid, liquid and gas. What investigative questions may be explored/developed? <http://www.bbc.co.uk/bitesize/ks2/science/materials/solids_liquids_gases/read/1/>
* Discuss fair testing and how to improve an investigation.
* Heating up and cooling down (year 3 sample assessment task online, Heating up and cooling down). May be used as a learning activity and/or assessment
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| **SUGGESTED ASSESSMENT** ***Consider the learning experiences and identify the points of assessment for each year level (against the year level Achievement Standard)*** |
| **Year 1** | **Year 2** | **Year 3** |
| Collecting and sorting information about everyday materials.Making predictions about investigations planned.Posing questions about results and observations. | Collecting and sorting information about everyday materials.Making predictions about investigations planned.Posing questions about results and observations**.** | Sample assessment task online, Heating up and cooling down.Write a procedure based on an investigation conducted in the classroom, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge. |
| **CONSIDERATIONS WHEN LINKING THE ENGLISH CURRICULUM*****What authentic connections can be made across learning areas to develop connected programs?*** | **NECESSARY CONSIDERATIONS FOR MATHEMATICS PROGRAM*****What authentic connections can be made across learning areas to develop connected programs?*** |
| Evaluative languageListening and speaking interactionsOral presentations*Creating texts**Purpose, audience and structures of different text types* | **Statistics and Probability**ChanceData representation and interpretation |