The Australian Curriculum

Subjects	Science
Year levels	Year 4

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Year 4 Content Descriptions

Science Understanding

Biological sciences

Living things have life cycles (ACSSU072 - Scootle)

Elaborations

making and recording observations of living things as they develop through their life cycles

describing the stages of life cycles of different living things such as insects, birds, frogs and flowering plants

comparing life cycles of animals and plants

recognising that environmental factors can affect life cycles such as fire and seed germination

Living things depend on each other and the environment to survive (ACSSU073 - Scootle)

Elaborations

investigating how plants provide shelter for animals

investigating the roles of living things in a habitat, for instance producers, consumers or decomposers

observing and describing predator-prey relationships

predicting the effects when living things in feeding relationships are removed or die out in an area

recognising that interactions between living things may be competitive or mutually beneficial

Chemical sciences

Natural and processed materials have a range of physical properties that can influence their use (ACSSU074 - Scootle)

Elaborations

describing a range of common materials, such as metals or plastics, and their uses

investigating a particular property across a range of materials

selecting materials for uses based on their properties

considering how the properties of materials affect the management of waste or can lead to pollution

Earth and space sciences

Earth's surface changes over time as a result of natural processes and human activity (ACSSU075 - Scootle)

Elaborations

collecting evidence of change from local landforms, rocks or fossils

exploring a local area that has changed as a result of natural processes, such as an eroded gully, sand dunes or river banks

investigating the characteristics of soils

considering how different human activities cause erosion of the Earth's surface

considering the effect of events such as floods and extreme weather on the landscape, both in Australia and in the Asia region

Physical sciences

Forces can be exerted by one object on another through direct contact or from a distance (ACSSU076 - Scootle)

Elaborations

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

Science as a Human Endeavour

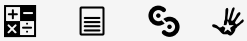
Nature and development of science

Science involves making predictions and describing patterns and relationships (ACSHE061 - Scootle)

Elaborations

exploring ways in which scientists gather evidence for their ideas and develop explanations

considering how scientific practices such as sorting, classification and estimation are used by Aboriginal and Torres Strait Islander people in everyday life



Use and influence of science

Science knowledge helps people to understand the effect of their actions (ACSHE062 - Scootle)

Elaborations

investigating how a range of people, such as clothing designers, builders or engineers use science to select appropriate materials for their work

considering methods of waste management and how they can affect the environment

exploring how science has contributed to a discussion about an issue such as loss of habitat for living things or how human activity has changed the local environment

considering how to minimise the effects of erosion caused by human activity

Science Inquiry Skills

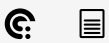
Questioning and predicting

With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge (ACSIS064 - Scootle)

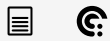
Elaborations

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

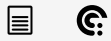


Planning and conducting

With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment (ACSIS065 - Scootle)

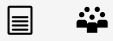
Elaborations

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

discussing and recording safety rules for equipment as a whole class



Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately (ACSIS066 - Scootle)

Elaborations

making and recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm) and millilitres (mL)

recognising the elements of a fair test and using these when planning the steps and processes of an investigation

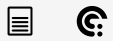
Processing and analysing data and information

Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends (ACSIS068 - Scootle)

Elaborations

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

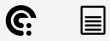


discussing with teacher guidance which graphic organisers will be most useful in sorting or organising data arising from investigations

Compare results with predictions, suggesting possible reasons for findings (ACSIS216 - Scootle)

Elaborations

discussing how well predictions matched results from an investigation and proposing reasons for findings



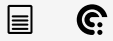
comparing, in small groups, proposed reasons for findings and explaining their reasoning

Evaluating

Reflect on investigations, including whether a test was fair or not (ACSIS069 - Scootle)

Elaborations

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

Communicating

Represent and communicate observations, ideas and findings using formal and informal representations (ACSIS071 - Scootle)

Elaborations

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