



Science

Essential Learnings by the end of **Year 3**

Learning and assessment focus

Students use their curiosity about the natural and physical world and their senses, intuition and imagination as a basis for exploring and testing their thinking about the world. They are able to tell others what they see, what they think and what they wonder about. They develop an understanding that science is a way of constructing new knowledge and is based on observations of the natural world. They see the place of science in people's work and community lives.

Students use the essential processes of **Ways of working** to develop and demonstrate their **Knowledge and understanding**. They develop their ability to work scientifically by generating scientific questions, by participating in scientific activities, and by individually and collaboratively planning and conducting simple investigations. They reflect on their learning and their understanding of science in everyday situations.

Students use tools and technologies, including information and communication technologies (ICTs). They explore the use of ICTs to inquire, create and communicate within scientific contexts.

Students demonstrate evidence of their learning over time in relation to the following assessable elements:

- knowledge and understanding
- investigating
- communicating
- reflecting.

Ways of working

Students are able to:

- pose questions and make predictions
- plan activities and simple investigations, and identify elements of a fair test
- identify and collect data, information and evidence
- make judgments about the usefulness of the data, information and evidence
- use identified tools, technologies and materials
- draw conclusions and give explanations, using data, information and evidence
- communicate scientific ideas, data, information and evidence, using terminology, illustrations or representations
- follow guidelines to apply safe practices
- reflect on and identify other points of view relating to science in everyday situations
- reflect on learning to identify new understandings.

Knowledge and understanding

Science as a human endeavour

Science is a part of everyday activities and experiences.

- Science has applications in daily life, including at home, at school, at work and in leisure time
e.g. medicines to treat illness in people and animals; electricity for lights.
- Science can impact on people and their environments
e.g. knowledge of the effects of the sun's rays influences sun safety precautions.
- Stewardship of the environment involves conserving natural resources
e.g. strategies to conserve water and preserve wilderness environments.
- Australian Indigenous knowledge of natural phenomena has developed over time as a result of people observing, investigating and testing in everyday life
e.g. observing changes in the environment to help determine seasons.

Earth and beyond

Changes in the observable environment influence life.

- Earth and space experience recurring patterns and natural cycles of events, including seasons, weather and moon phases, and these can affect living things
e.g. tides affect life on the shoreline; seasons affect the growth of plants; some animals hibernate in winter.
- Materials of the earth can be used in various ways
e.g. water for drinking; soil for growing crops.



Energy and change

Energy can be used for different purposes.

- Pushes and pulls affect the shape and motion of objects
e.g. squeezing clay; stretching a spring; throwing a ball.
- Forms of energy, including electricity, light, heat, movement and sound, have different applications
e.g. electricity can light the classroom; most animals use light to see; the sun can warm us; kicking a ball makes it move; blowing musical instruments makes sound.

Life and living

Needs, features and functions of living things are related and change over time.

- Animals, plants and non-living things have different features/characteristics
e.g. some animals have fur; unlike plants and animals, rocks do not grow.
- Offspring have similar characteristics to their parents
e.g. dogs have puppies; cats have kittens; birds have chicks.
- Change occurs during the life cycle of living things
e.g. a seed grows into a plant; a joey in the pouch develops into an adult kangaroo.
- Living things depend on the environment and each other
e.g. plants need light to make food; adult birds feed their young.

Natural and processed materials

Materials have different properties and undergo different changes.

- Materials are categorised according to their observable properties
e.g. texture, colour and solubility can be used to group materials.
- Properties of familiar materials may be changed
e.g. water is usually liquid but is solid when frozen.