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# Year 9 SyllabusTest

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**Year Level Description**

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- ☒ Science Understanding

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- ☒ Information and Communication Technology (ICT) capability

# Year 9 Syllab

## Year Level Descri

The science inquiry across a two-year b expectations outlining science understand strands are address are interrelated and detail in which the programs are decis

## Incorporating the

Over Years 7 to 10, structures, how sys matter and interact and relative amoun

In Year 9, students explore ways in wh environment and th ecosystems. They a electrons and neutr They learn that mat changes play an im concept of the cons view of energy tran forces to global sys

- ✔ Critical and creative thinking
- ✔ Personal and social capability
- ✔ Ethical understanding
- ✔ Intercultural understanding

## Science Understanding

### BIOLOGICAL SCIENCES

Multi-cellular organisms rely on coordinated interdependent internal systems to respond to changes to their environment ([ACSSU176](#))

Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems ([ACSSU176](#))

### CHEMICAL SCIENCES

All [matter](#) is made of atoms that are composed of protons, neutrons and electrons. Some atoms are naturally radioactive.

arises from the decay of unstable nuclei in atoms  
([ACSSU177](#))

Chemical reactions involve rearranging atoms to form new substances; during a chemical reaction matter is not created or destroyed ([ACSSU178](#))

Chemical reactions, including combustion and the reactions of acids, are important both in non-living and living systems and involve energy transfer  
([ACSSU179](#))

## EARTH AND SPACE SCIENCE

The theory of plate tectonics explains global patterns of geological activity and continental movement ([ACSSU180](#))

Energy transfer through different mediums can be explained using wave and particle models  
[\(ACSSU182\)](#)

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## Year 9 Achievement

### Science Understanding

At Standard, students understand the structure of atoms and energy changes in chemical reactions. They describe how these concepts are used to explain phenomena in the world of geological processes, the function and response of ecosystems, and the interdependence of living organisms.

### Science as a Human Endeavour

Students describe the history of science and the role of scientists in society.

### Science Inquiry Skills

Students design and conduct investigations that include the control of variables, and describe how they collect and analyse data, identify relationships, and evaluate the quality of their findings. They communicate their findings from a scientific perspective and reflect on their learning when communicating.

The science inquiry skills and science as a human endeavour standards that schools and teachers refer to the expectations outlined in the a

understanding strand for the relevant year level to ensure that three strands of the curriculum are interrelated and their content descriptions are organised into teaching and learning

## **Incorporating the key ideas of science**

Over Years 7 to 10, students develop their understanding of models and scales are shaped by flows of energy and matter and interactions between relative amounts.

In Year 9, students consider the operation of systems at a range of scales. A system responds to its external environment and the interdependence of systems. They are introduced to the notion of the atom as a system of particles through nuclear decay. They learn that matter can be rearranged through chemical reactions. Energy plays an important role in many systems. They are introduced to the conservation of energy, a sophisticated view of energy transfer. They begin to apply their understanding to continental movement.

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