

## Science (page 1 of 2)

### What are the key features of the draft K–10 Australian Curriculum for science?

The draft K–10 Australian Curriculum for science is organised around three interrelated strands—*Science understanding*, *Science inquiry skills*, and *Science as a human endeavour*.

It is designed to:

- prepare students to use science for life and active citizenship so that they can function effectively in a scientifically and technologically advanced society
- provide a foundation for learning leading to senior secondary science, science and engineering courses at university and technical and vocational education and training.

An issue for science education in Australia is not so much the performance of our students on international tests, but rather student engagement and interest in science. The draft science curriculum focuses on the personal and practical relevance of science to students as well as attention to contemporary science issues. This is to give teachers the basis for teaching science in a way that will engage students in meaningful ways and prepare them to use science in everyday life.

The draft K–10 Australian Curriculum for science:

- emphasises an inquiry based and active involvement model of teaching and learning
- identifies key science knowledge, understanding and skills but avoids overloading the curriculum and allows time for students to develop deeper understanding of the key concepts
- includes content with a focus on contemporary and future issues relevant to Australian students' lives, for example, sustainability, water in Australia, health, genetics applications, renewable energy, global warming, climate change, technological innovation and engineering

- enables the study of local contexts where students can make better sense of the ideas to be learnt.

### How is the draft K–10 Australian Curriculum for science similar to and different from state and territory curricula?

Current Australian state and territory curriculum documents have been taken into account during the development of the K–10 science curriculum, noting the following:

- the scope and sequence of the draft Australian Curriculum for science broadly aligns with that of existing curricula in relation to science inquiry skills and science understanding
- the strand in the draft Australian Curriculum called *science as a human endeavour* is a relatively new development in relation to state and territory science curricula for K to Years 6/7 and for some at Years 7/8 to 10
- the absence of sub-strand organisers (such as 'life and living', 'earth and space', 'energy and change' for Years K to 6; or such as 'biological sciences', 'earth and environmental sciences' for Years 7/8 to 10) in the draft Australian Curriculum differs from most current curricula. This is to avoid another layer of complexity in the structure of the curriculum but one can organise an online view of the curriculum using such organisers if required
- existing and proposed *Primary Connections* units implemented in many Australian primary schools currently align with the content of the draft Australian Curriculum for science.

*Continued next page*

## Science (page 2 of 2)

### What international references have been drawn upon in developing the draft K–10 Australian Curriculum for science?

Australia is one of the highest performing countries in scientific literacy of those participating in the 2006 Programme for International Student Assessment (PISA). The draft K–10 Australian Curriculum for science has been informed by key international curriculum documents of other top performing countries, including The United Kingdom, New Zealand, Singapore, Finland and Ontario, as well as by key international research in science education.

Other key international reference points have been:

- *National Science Education Standards* (National Research Council, USA, 1996)
- *Benchmarks for Science Literacy* (American Association for the Advancement of Science, Project 2061, USA, 1993)
- *21st Century Skills Map for Science* (Partnership for 21st Century Skills and National Science Teachers Association, USA, 2009)
- *Independent Review of the Primary Curriculum* (Rose, UK, 2009)
- *Australian School Science Education National Action Plan 2008 – 2012* (Goodrum and Rennie, 2007)
- *Re-imagining Science Education: Engaging students in science for Australia's future* (Tytler, 2007).