Australian CURRICULUM Review

SCIENCE

CONSULTATION CURRICULUM

All elements F–6

AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY

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F–10 AUSTRALIAN CURRICULUM: SCIENCE

ABOUT THE LEARNING AREA

Introduction

The Australian Curriculum: Science has been developed on the basis that all students will study Science from Foundation to Year 10.

Rationale

Science is a dynamic, collaborative and creative human endeavour arising from our desire to make sense of our world through exploring the unknown, investigating universal mysteries, making predictions and solving problems. Science provides an empirical way of answering interesting and important questions about the changing world in which we live. The knowledge it produces has proved to be a reliable basis for action in our personal, social and economic lives. Science knowledge is contestable and is revised, refined and extended as new evidence arises.

The Australian Curriculum: Science gives students opportunities to develop an understanding of important science concepts and processes, the practices used to develop scientific knowledge, science's contribution to our culture and society, and its applications in our lives. The curriculum supports students to develop the scientific knowledge, understandings and skills needed to make informed decisions about local, national and global issues and to participate in science-related careers.

In addition to its practical applications, learning science is a valuable pursuit in its own right. Students can experience the joy of scientific discovery and nurture their natural curiosity about the world around them. In doing this, they develop critical and creative thinking skills and challenge themselves to identify questions and draw evidence-based conclusions using scientific practices. The wider benefits of this 'scientific literacy' are well established, including giving students the capability to investigate the natural world and changes made to it through human activity.

Aims

The Australian Curriculum: Science aims to ensure that students develop:

- an interest in science as a means of expanding their curiosity and willingness to explore, ask questions about and speculate on the changing world in which they live
- a solid foundation of knowledge of the biological, Earth and space, physical and chemical sciences, including being able to select and integrate the scientific knowledge and practices needed to explain and predict phenomena, to apply that understanding to new situations and events, and to appreciate the dynamic nature of scientific knowledge

- an understanding of the nature of scientific inquiry and the ability to use a range of scientific inquiry practices, including questioning; planning and conducting experiments and investigations based on ethical principles; collecting and analysing data; evaluating results; and drawing critical, evidence-based conclusions
- an ability to communicate scientific understanding and findings to a range of audiences, to justify ideas on the basis of evidence, and to evaluate and debate scientific arguments and claims
- an ability to solve problems and make informed, evidence-based decisions about current and future applications of science while taking into account ethical and social implications of decisions
- an understanding of historical and cultural contributions to science as well as contemporary science issues and activities and an understanding of the relationship between science and society.

Organisation of the learning area

Content structure

The Australian Curriculum: Science is presented in year levels from Foundation to Year 10.

Year level descriptions

Year level descriptions give an overview of the learning that students should experience at each year level. Year level overviews include example inquiry questions that could be used to prompt discussion; they are optional only.

Achievement standards

Achievement standards describe the expected quality of learning that students should typically demonstrate by the end of each year.

Content descriptions

Content descriptions specify the essential knowledge, understanding and skills that students are expected to learn, and teachers are expected to teach, in each year. The content descriptions are organised into strands and sub-strands.

Content elaborations

Content elaborations give teachers suggestions and illustrations of ways to teach the content descriptions. They are optional material only; they are not a set of complete or comprehensive content points that all students need to be taught. They illustrate and exemplify content descriptions with a diverse range of examples.