Science21 (2010)
Advice for teachers

What is IC1?
November 2010
Science21 (2010)

Advice for teachers

What is IC1?

Compiled by the Queensland Studies Authority
November 2010

About this advice

This advice is intended to help teachers implement the Science21 syllabus in their school setting. It provides examples of contexts that could be used to incorporate the focus area *information and communication* and the key concept IC1—*storage, transfer and interpretation of information*—into a unit of work.

IC1 is a scientific concept that underpins a variety of natural and technological systems, with links to biology, chemistry, physics, earth and space. It is not to be confused with scientific skills such as graphing, drawing diagrams or data processing.

This advice is designed to be used by teachers before designing units of work. The examples provided in the mind map represent some of the possible ways that IC1 can be incorporated into a unit of work — the list is not exhaustive.

For example, it may be used by:
- individual teachers in the development of their own units of work
- groups of teachers to collaboratively plan and develop units
- school administrators to develop the teaching, learning and assessment capacity of their teaching staff.

Schools implementing Science21 do not need to draw their units of work from the examples provided in this document.

Other support documents that may be of further assistance are available to download from the Science21 page of the QSA website <http://www.qsa.qld.edu.au/11362.html>. They include:
- Science 21 (2010) syllabus
- Sample work program
- Work program requirements
- Work program review checklist.
What is IC1?

Five focus areas are identified in the Science21 syllabus:

- structure and properties of matter
- living systems
- earth and space
- energy
- information and communication

All focus areas are equally significant and mandatory. Within each focus area are a number of key concepts which must be included in at least two (2) contexts over the course.

The focus area information and communication is defined as “Communication, the sharing of information, is fundamental to the development of human societies. Developing methods for storing, retrieving and communicating information through digital technologies are at the forefront of social change. In the living world, communication of information occurs at molecular, microscopic and macroscopic scales. A two-way link is emerging between artificial and living information systems” (syllabus, section 3.3.2).

The key concept IC1 refers to the science behind the storage, transfer and interpretation of information. This includes, but is not limited to, storing and transmitting digital and analog signals, communication at a cellular or molecular level, storing data using a range of technologies, and systems for encoding and decoding information.

The use of communication methods — written, verbal or other — to communicate knowledge and understanding of other key concepts does not address coverage of IC1, but rather demonstrates achievement of the criteria and general objectives of this syllabus (i.e. knowledge and conceptual understanding, investigative processes and issues and impacts).

The following concept map has been developed to identify some of the possible concepts that could be incorporated into a context. It represents a small portion of the scope of this concept. Elaborations of IC1 in context can be found in the Science21 syllabus section 3.3.2.