How knowledge and understanding content is presented in the draft Science Years 7–10 Syllabus

Content:

- is presented in stages
- includes Australian curriculum content descriptions and NSW content
- describes what students are required to learn about and to do from Years 7–10.

Science • Stage 4

Chemical Sciences

Outcomes:
A student:
- describes the observed properties and behaviour of matter using the motion and arrangement of particles
- explains how scientific understanding of the properties of elements, compounds and mixtures relates to their uses in everyday life

Science as a Human Endeavour:
- Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have significantly changed people's understanding of the world.

Science Understanding:
Year 7 Chemical Sciences
- Mixtures, including solutions, contain a combination of pure substances and can be separated using a range of techniques

Year 8 Chemical Sciences
- The properties of the different states of matter can be explained in terms of the motion and arrangement of particles
- Differences between elements, compounds and mixtures can be described at a particle level
- Chemical change involves substances reacting to form new substances

- Scientific knowledge has changed people's understanding of the motion and arrangement of particles in matter

Students:
  - describe how the motion and arrangement of particles in solids, liquids and gases is related to their different physical properties
  - describe expansion and contraction of materials in terms of a simple particle model
  - relate an increase or decrease in the amount of energy possessed by particles to changes in particle movement [CCT]
  - demonstrate that heat energy can bring about changes in the physical properties of matter

- In a chemical change, new substances are formed, which may have uses in everyday life

Students:
  - compare physical and chemical changes in terms of the arrangement of particles and reversibility of the process
  - identify that a chemical change involves substances reacting to form new substances
  - identify when a chemical change is taking place by observing a change in temperature, the appearance of new substances, or disappearance of an original substance
  - investigate the properties and uses of common acids and bases and how they are identified

Content is organised into strands.

Outcomes and content are linked.

Australian curriculum content descriptions, determined by ACARA, are shaded grey.

NSW content clarifies the Australian curriculum content. It provides breadth and depth of learning and appropriate scope for the subject.

NSW content is the focus of consultation.

Overarching statement identifies what students learn about. Underpinning content describes what students learn to do.

Teachers select how sections of content are combined into units of work.

Cross-curriculum content is embedded and identified using codes. Examples include Critical and Creative Thinking [CCT].