

Position Statement

Design principles for a chemistry¹ curriculum

Last reviewed: October 2018

Governments and other bodies who design curricula at national level should pay due regard to principles of good curriculum design

A successful chemistry curriculum should:

1. have a **clear framework or narrative**, which overall provides a **coherent** 'big picture' of chemistry as a discipline, and which shows how different areas of content are connected; content is justified against this framework
2. present a clear **progression** of learning, in which deeper understanding is built on a secure foundation in each of the aspects of the framework
3. be **appropriately aligned** with the curriculum in related subjects
4. be clear about the level of understanding and skill that learners are expected to achieve at various stages of learning, thus offering a defined **learning entitlement**
5. set a level of demand that is **aspirational**, but allows an educational experience that is **inclusive** of all learners
6. encourage development of **understanding of fundamental ideas** in chemistry (as opposed to surface learning of facts), **useful procedural knowledge**, and **skills** both specific to chemistry and more broadly applicable
7. be **restrained in the amount of content**, to allow the time within the curriculum to develop understanding, and the **flexibility** for teachers to introduce meaningful contexts and applications that demonstrate the breadth of chemistry and its contribution to society
8. **be informed by available evidence**, which may include findings from research, best practice, and views from informed stakeholders.

¹ Chemistry is frequently taught as part of a broader subject under headings such as 'science', especially at earlier stages of education. The principles set out in this position statement are intended to apply to the continuum of chemistry education in its broadest sense, whether taught separately or as a broader subject.

These principles underpin a successful chemistry curriculum in accordance with our envisaged purpose for a chemistry curriculum, which is to provide learners with

- the skills and understanding that will enable them to become scientifically literate citizens
- a sound basis for further study and work, in the chemical sciences or related disciplines.

These design principles are intended for use in the development of national curricula, but may also be helpful to schools and teachers in their curriculum development at school level.

The Royal Society of Chemistry will use these design principles in its assessment of state-prescribed curricula. We also use these guidelines to self-assess our own recommendations for an appropriate chemistry curriculum.

For any queries relating to this position statement, please contact the Education Policy team:

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