



A Future in Chemistry

Parents' Guide



So your child is interested in chemistry? Of course, you want to support them in making the right choices for the future.

That's where the Royal Society of Chemistry can help.

If your child is at secondary school, we have a wide range of information about chemistry and what it can lead to. Whether that is more studying, or learning while at work, we can help you to guide your child as they take that important next step.

What is chemistry?

Scientists study what substances are made of, how they interact, and what they can be used for. Put simply, it is the study of atoms and molecules. And that's chemistry.

Chemistry is also at the heart of other related subjects such as:

- biological sciences, such as biochemistry, molecular biology and pharmacology;
- chemical engineering;
- environmental chemistry – understanding climate change, pollution or waste management;
- materials chemistry – looking at the chemical structure of things and how they react with their environment.

Why choose chemistry?

Chemists work almost everywhere you can think of, including:

- with oil, gas and the things made from them in the petrochemical industry;
- developing and producing items for food, transport, electronics or other manufacturing industries;
- looking at evidence after a crime as a forensic scientist;
- investigating energy sources and how they affect the world around us;
- developing and testing new medicines in the pharmaceuticals industry;
- writing articles for scientific journals or for newspapers as a journalist;
- working in schools, colleges or universities as a teacher; and
- using problem-solving skills in the financial sector.

For more ideas visit:

rsc.li/future

rsc.li/cw-jobs



Why chemistry?

When thinking about any sort of training or study, it's important to find out if those skills will be needed in the workplace.

Although we live in a fast-changing world, chemistry is a valuable choice. There will always be a demand for chemists, because chemistry is at the heart of so many processes in the modern world. And as chemistry is a global subject, there are plenty of opportunities to travel and work abroad.

Choosing to study chemistry at school or university does not mean that your child is limited to a chemistry career. Far from it: the skills they gain during their scientific studies will be useful in any area. For example, as well as gaining scientific knowledge, they will be able to:

- collect and analyse data;
- write scientific reports;
- think logically and use their knowledge to solve a problem; and apply prior knowledge to solve problems;
- pay close attention to detail.

What next?

Does your child want to go straight into work at 16, or study more? Although the usual full-time study route after 16 often leads to a degree at university, there are also ways to study and work at the same time. We explain each option here.

Post-16 full-time study

Your child should choose a qualification in chemistry, or one with a lot of chemistry content, if they want to go on to study chemistry at university. Maths is a good subject to study at the same time, as it helps with some parts of the chemistry. Plus, a maths qualification is needed for studying many science degrees.

If your child would like more advice on qualifications for post-16 students, our website has more information:

[rsc.li/future](https://www.rsc.li/future)

University degrees

BSc (Hons)

– a three or four year full-time course to develop a student's skills and knowledge. Chemistry can be combined with other subjects and some courses include industrial or overseas placements.

MChem/MSci

– a four or five year course which usually includes a research project. The first two years are normally the same as the BSc, with more advanced and in-depth studies in the later years. Students will be more prepared for further study or a professional life.

Work-based routes

- **Apprenticeships**

– more and more employers are now offering apprenticeships than in the past, and more young people are choosing this option. As an apprentice you are paid to work and at the same time allowed to study for recognised qualifications (from GCSEs up to degree level). So it is possible to become fully qualified while earning, gaining valuable experience and avoiding student debt.

- **Foundation degrees**

– available in areas such as applied chemistry, analytical chemistry, forensic science and pharmaceutical science. They can be taken as part of an apprenticeship, or as two years of full-time study. Some can be studied part time and they can eventually lead to a BSc.

- **Higher National Certificates (HNCs) and Higher National Diplomas (HNDs)**

– often, but not always, taken as part of an apprenticeship. HNCs and HNDs on offer include analytical science, applied science and chemical science for industry.



How to

...choose a university

If your child is thinking of a chemistry degree, it is important that they choose a university, and a course, that is right for them. There is no 'best' course, but our website has a range of information to help when thinking about choosing the right one.

[rsc.li/future](https://www.rsc.li/future)

...earn while you learn

From foundation degrees and HNCs to apprenticeships, our website has everything you need to help your child make the right choice.

[rsc.li/future](https://www.rsc.li/future)

And if they decide on an apprenticeship, then the government website is where to search and apply.

[rsc.li/apprenticeship](https://www.rsc.li/apprenticeship)

...look at possible careers

To show the wide range of careers that are open to people with chemistry qualifications, we've put together some profiles on our website.

[rsc.li/future](https://www.rsc.li/future)

A good place to look at work currently available in the chemical sciences is Chemistry World Jobs.

[rsc.li/cw-jobs](https://www.rsc.li/cw-jobs)

What else can you do to help your child?

Science can be fun outside lessons and exams – here are some ideas.

- Attend events such as the Big Bang science festival.
[rsc.li/big-bang](https://www.rsc.li/big-bang)
- Visit science museums and discovery centres.
[rsc.li/science-centres](https://www.rsc.li/science-centres)
- Apply for a Nuffield Research Placement.
[rsc.li/nuffield-placement](https://www.rsc.li/nuffield-placement)



Further information

- A Future in Chemistry, our careers website.
[rsc.li/future](https://www.rsc.li/future)
- UCAS (the Universities Admissions Service)
[rsc.li/ucas-parents](https://www.rsc.li/ucas-parents)
- Parental Guidance from the Careers Writers Association has information and guidance to help you help your child.
[rsc.li/guidance-parents](https://www.rsc.li/guidance-parents)
- Futuremorph is full of science-related information and activities for parents and young people.
[rsc.li/futuremorph](https://www.rsc.li/futuremorph)
- My World of Work
[rsc.li/world-of-work](https://www.rsc.li/world-of-work)



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