



Why study?



Biology

How studying GCSE **Biology** could lead to a job at Sizewell C

What does **Biology** have to do with the nuclear industry?

At first glance, biology might not seem that relevant to the nuclear industry. But many branches of medicine use nuclear materials and techniques – the most widely known example being X-rays. Nuclear power also has a key role in reducing fossil fuel use and conserving global biodiversity¹.

More generally, a biology GCSE helps give you an excellent grounding for careers in scientific and technical fields. Many jobs in nuclear power require one or more science GCSEs. And if you're interested in studying a subject like nuclear engineering at degree level, going on to do biology at A-Level helps satisfy the entry requirements².

Careers at Sizewell C

You might think biology won't help you in a trade or practical job, but a biology GCSE shows you can analyse and interpret information. And as a science subject, it'll help you qualify for the many roles that require at least English, Maths, and one or more sciences.

For instance, you could become a **welder**, and your biology experience could help you interpret welding diagrams or consider the environmental impact of your work. Maybe you'll be a **health and safety lead**, and use your logical approach to ensure safety guidelines are followed³. Your biology GCSE might be the first step to qualifying as a **site medic** and providing first aid to colleagues. Biology could even start you on the road to becoming a **climate and energy specialist**: an expert in the environmental impact of our need for power.

Even if you don't use your biology GCSE to pursue a career in nuclear energy, it could take you into another area of nuclear: the futuristic world of nuclear medicine! This branch of medicine uses radioactive material inside the body to understand how its parts are functioning; and even target and destroy damaged or diseased tissue⁴!



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Career pathways using Biology

- Apprenticeships are an excellent way to qualify for roles such as a welder, and they provide a route into other specialisations such as health and safety⁵. Find out more on the government's **Apprenticeships website** or have a look for **Sizewell C apprenticeships**.
- You may need a degree to qualify for other roles, such as a climate and energy specialist. In some other cases, having one may improve your employment prospects.
- An internship or industrial placement can help you experience a role or industry. Your college or university should be able to help you find opportunities.
- EDF is working with local schools and colleges, such as **East Coast College (Lowestoft)**, **Suffolk New College** and **West Suffolk College**, so have a look at their websites for pathway courses too.

Biology skills



A biology GCSE helps you develop logical and ordered thinking, which can enhance your **problem-solving** skills. You'll sometimes do practical work with lab partners, giving you a chance to polish up your **teamwork**, **listening** and **speaking** skills. All will prove invaluable in jobs at Sizewell C!

Did you know?

Back in 1990, the UK generated 72% of its electricity from coal. By 2022, coal supplied just 1.7% of our power... But 44% of our electricity still comes from fossil fuels. About 15% comes from low-carbon nuclear power⁹, but this is expected to increase to about 25% by 2050, as the UK aims for net zero¹⁰.

- <https://onlinelibrary.wiley.com/doi/10.1111/cobi.12433>
- E.g. <https://www.imperial.ac.uk/study/courses/undergraduate/2023/chemical-nuclear-engineering/>
- <https://nationalcareers.service.gov.uk/job-profiles/health-and-safety-adviser>
- https://www.cdc.gov/nceh/radiation/nuclear_medicine.htm
- <https://www.instituteofapprenticeships.org/apprenticeship-standards/safety-health-and-environment-technician-v1-2>
- <https://earth.org/the-impact-of-rising-ocean-temperatures-on-humans-marine-biodiversity-and-ecosystems/>
- <https://www.bbc.co.uk/bitesize/topics/zhssgk7/articles/zq2m2v4>
- <https://www.worldwildlife.org/pages/six-ways-loss-of-arctic-ice-impacts-everyone>
- From the diagrams and chart on P27 of https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182129/UK_Energy_in_Brief_2023.pdf
- <https://www.gov.uk/government/publications/great-british-nuclear-overview/great-british-nuclear-overview>

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Some of the images come from our sister project, Hinkley Point C, in Somerset.

Biology



Biology in action

Climate change is placing the world's ecosystems under stress. What's happening – and what's causing it? Take our quiz to find out!

- The driving force behind climate change is global warming, fuelled by the **greenhouse effect**. What is this?
 - The cutting down of rainforest to provide land for edible crops
 - Higher concentrations of gases like carbon dioxide in the atmosphere, which trap more heat on the earth
 - Not enough houses conforming to 'green' standards
- Which of these is not an effect of climate change?
 - Extreme weather events
 - Rising sea levels
 - More electric vehicles on the roads
- Which consequences of climate change are a threat to plants and animals? (You can choose more than one)
 - Warming oceans
 - More frequent and violent forest fires
 - Melting sea ice
- Our need for energy is one of the biggest drivers of climate change. Which of these power sources does not produce low-carbon electricity?
 - Gas
 - Wind
 - Nuclear
- What can we do to reduce our own impact? (You can choose more than one)
 - Cut down or give up meat, fish and animal produce, like dairy
 - Switch to energy providers offering low-carbon electricity
 - Turn down the heating and turn off unused appliances

Useful links

icanbea... Career ideas and opportunities in Norfolk and Suffolk
Young SZC: Connecting young people to careers and apprenticeships in the region
BBC Bitesize: What GCSEs should I take?
BBC: Jobs that use biology

Answers:
Q1. b) Q2. c) Q3. a) Q4. a) Q5. a), b) & c)
b (loss of habitat and ecosystem destruction) & c (loss of habitat)

Sizewell C
The power of good for Britain