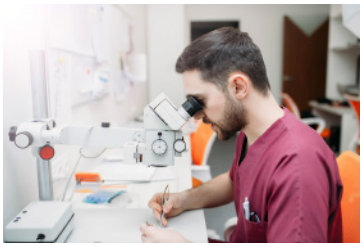
Careers in...

Science

Advice for Year 10 & Year 11 Pupils

Penwortham Priory ACADEMY





Why science?

Science is a broad and wide-ranging field of study which offers many potential career paths. Some of this is laboratory based, but much of it is not. The information that follows describes just some of the potential areas of employment linked to the theme of each unit covered in GCSE science.

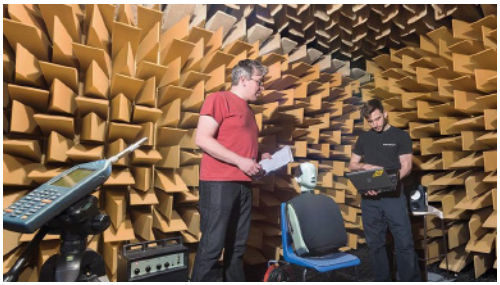
CAREERS IN SCIENCE

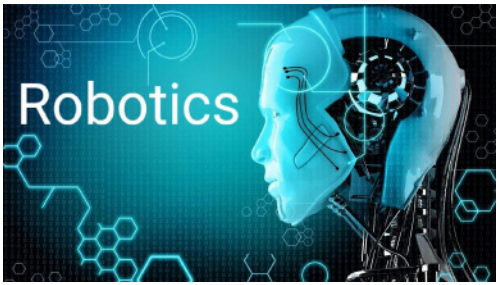
1. Explore Career Paths in Biology

- **Cell Biology:** Understanding cells is fundamental to careers in **medicine, biotechnology**, and **genetics**. If you're fascinated by how cells work, consider becoming a **biomedical scientist** or a **genetic counsellor.**
- **Organisation:** This topic covers the human body and plant systems. Careers in **healthcare**, such as **nursing, physiotherapy,** or **botany,** are great options.
- **Infection and Response:** This area is crucial for roles in **immunology, pharmacology,** and **public health.** You might become an **epidemiologist** or a **pharmacist.**
- **Bioenergetics:** Understanding how organisms obtain and use energy can lead to careers in **sports science, nutrition**, or **biochemistry.**
- **Homeostasis and Response:** Careers in **neuroscience, endocrinology**, and **clinical psychology** are relevant here. You could become a **neurologist** or a **clinical researcher.**
- **Inheritance, Variation, and Evolution:** This area is crucial for **genetic counselling, paleontology,** and **evolutionary biology**. Consider roles like **geneticist** or **conservation biologist.**
- **Ecology:** Careers in **environmental science, conservation,** and **ecology** are directly related. You might work as an ecologist or wildlife biologist.

2. Explore Career Paths in Chemistry

- **Atomic Structure and the Periodic Table:** This is the foundation for careers in **chemical engineering, materials science**, and **nanotechnology.**
- **Bonding, Structure, and the Properties of Matter:** These concepts are essential for **pharmaceuticals, cosmetics,** and **environmental science.**
- **Quantitative Chemistry:** Skills in this area are valuable for **analytical chemists** and **forensic scientists.**
- **Chemical Changes:** This topic is key for careers in i**ndustrial chemistry** and **energy production.**
- **Energy Changes:** This topic is important for careers in **thermodynamics, chemical engineering,** and **energy management.** You could become an **energy analyst** or **chemical engineer.**
- **The Rate and Extent of Chemical Change:** Relevant careers include **industrial chemistry, process engineering,** and **quality control.** Consider becoming a **process engineer** or **quality assurance specialist.**
- **Organic Chemistry:** This is fundamental for **pharmaceuticals, biochemistry,** and **petrochemicals**. You might work as an **organic chemist** or **pharmacologist.**
- **Chemical Analysis:** Careers in **forensic science, environmental testing,** and **quality control** are relevant. You could become a **forensic scientist** or **analytical chemist.**
- **Chemistry of the Atmosphere:** This area is crucial for **climate science, environmental policy,** and **atmospheric chemistry**. Consider roles like **climate scientist** or **environmental consultant.**
- **Using Resources:** Careers in **sustainable development, materials science,** and **waste management** are directly related. You might work as a **sustainability consultant** or **materials scientist.**





3. Explore Career Paths in Physics

- **Energy:** Understanding energy is crucial for careers in **renewable energy, nuclear physics**, and **engineering.**
- **Electricity:** This topic is fundamental for e**lectrical engineering, electronics,** and **robotics.**
- **Particle Model of Matter:** Careers in **material science, meteorology,** and **astrophysics** benefit from this knowledge.
- **Atomic Structure:** This is important for **nuclear medicine, radiography,** and **quantum computing.**
- **Forces:** This topic is essential for careers in **mechanical engineering, aerospace engineering,** and **robotics.** You could become a **mechanical engineer** or **aerospace engineer.**
- **Waves:** Relevant careers include **acoustics, optics,** and **communications technology.** Consider becoming an **acoustical engineer** or **optical physicist.**
- **Magnetism and Electromagnetism:** This area is crucial for **electrical engineering, magnetic resonance imaging (MRI),** and **telecommunications.** You might work as an **MRI technologist** or **telecommunications engineer.**
- **Space Physics:** Careers in **astronomy, astrophysics,** and **space exploration** are directly related. You could become an **astronomer** or **space scientist.**

4. Focus on Relevant Subjects

Scientific work often includes a lot of data-based tasks. For this reason, it is useful to study **maths** alongside science. You may also wish to study c**omputer science, geography, astronomy or engineering** depending on your particular areas of interest.

5. What Can You Do Now?

Attend Career Events

- The STEM careers fair held at Priory is just a sample of the different science-based employers and businesses that operate locally. There are many more within the north-west, within the UK, and globally. Attending events such as these will help you to understand the different areas of employment.
- You should also consider university open days, professional networking or outreach events, and work experience placements.

Develop Key Skills

As well as the knowledge and analytic skills necessary for a career in science, you will also need to consider and develop your ability to **communicate, work effectively in a team, and solve problems.**

Stick With It

- Science offers a wide range of exciting and impactful career paths. You're probably not interested in all of them, but you don't have to be. Explore different areas, find what excites you, and pursue it with enthusiasm. There is a vast array of scientific fields you could work in.

Mr Bedford, Head of Science
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