

Career of the Fortnight

Astronomer







Astronomer

Job description:

An astronomer is a scientist in the field of astronomy who focuses their studies on a specific question or field outside the scope of Earth.

They observe astronomical objects such as stars, planets, moons, comets and galaxies – in either observational (by analyzing the data) or theoretical astronomy.

Examples of topics or fields astronomers study include planetary science, solar astronomy, the origin or evolution of stars, or the formation of galaxies. Related but distinct subjects are like physical cosmology, which studies the Universe as a whole.

Skills:

You'll need to have:

- strong physics, mathematics, statistics and computer programming skills
- research and analysis skills
- problem solving/trouble shooting skills
- excellent communication, both oral and written
- the ability to make progress without strict deadlines
- the ability to collaborate and work in a team
- project management skills
- the ability to train and mentor students
- motivation and drive to study your area of research

Roles and Responsibilities

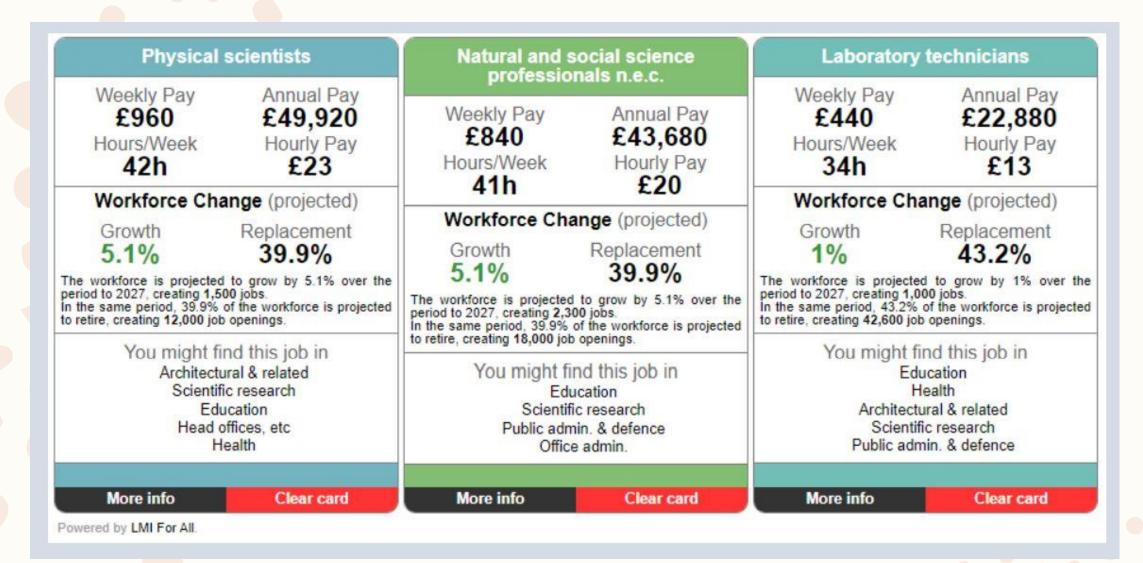
You will be employed by either a university or a dedicated research institute.

- collect and analyse data from cameras, satellites and other observations (if working in observational astronomy)
- plan and execute research projects to answer fundamental questions (such as how do galaxies form?)
- apply for time to observe at international observatories, if necessary to your work
- read existing academic literature
- put your work in the context of other researchers' work
- write scientific articles
- apply for grants to fund your research
- collaborate with other astronomers, often internationally
- present your work at conferences.

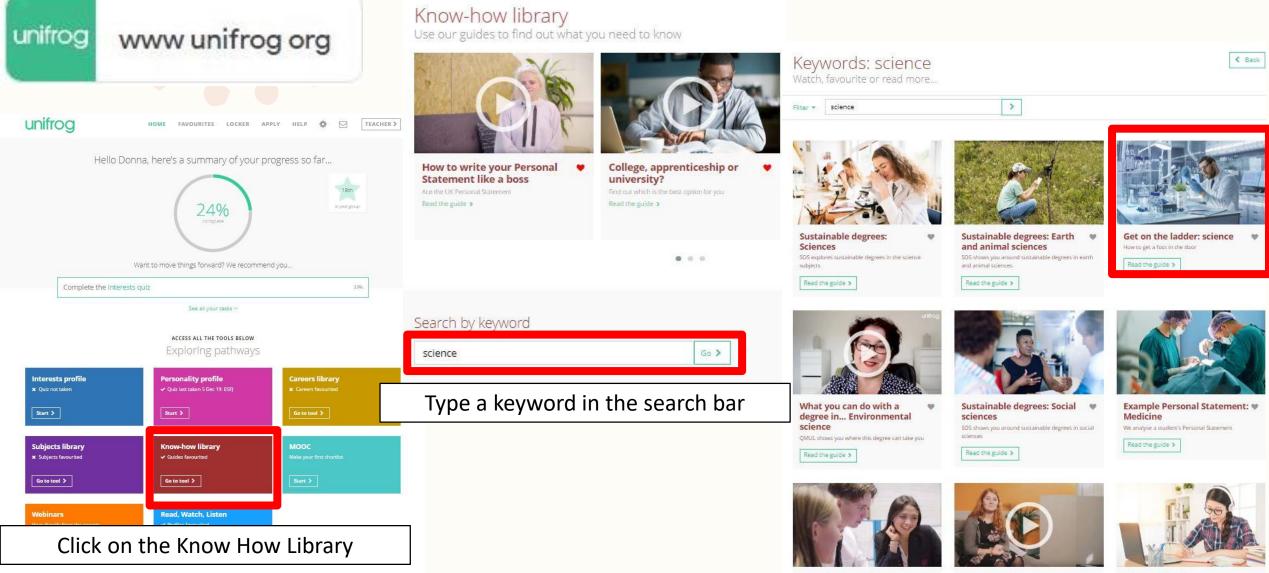
Employers of astronomers:	Qualifications:	Working Hours:
The majority of astronomers are employed by universities, but there are a few government and private institutions (such as observatories) that hire astronomers. Permanent positions in both astronomy research and outreach can be competitive, so you may have to consider moving internationally to pursue this career.	 University You'll need a degree and postgraduate qualification to work as an astronomer. You'll usually need to have achieved a first or a 2:1 in your degree. Relevant subjects include: maths physics astrophysics geophysics 	40 hours per week Hours can be irregular, particularly for observational astronomers and when travel is needed for conferences
Working conditions	geophysicsastronomy	Annual Income:
You could work in an observatory, in a laboratory, at a university or visit sites. Your working environment may be outdoors some of the time and you may spend nights away from home.	 space science Entry requirements You'll usually need: 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English, maths and science 2 or 3 A levels, or equivalent, including maths and physics a degree in a relevant subject for postgraduate study 	Starting salary: £15,000 Experienced salary: £40,000 - £80,000

Labour Market Information

Labour Market Information (LMI) shows you what sorts of employment opportunities exist in your area and which sectors are growing. It can help you decide on a career path or where to get more information.



Where can you find out more information?



Example Personal Statement:
Physics
A student analyses their Personal Statement

How to ace the BMAT (BioMedical Admissions Test)

Safety online: how to protect 🖤 your data

Keep your personal information safe with our useful



Get on the ladder: science How to get a foot in the door



Science is a hugely varied and exciting field. You can do world-changing work, discover more about the planet we live on, and make a real difference in people's lives. This guide will tell you how to kickstart your scientific career.

Who works in the science sector?

The science sector is extremely varied, but it's essentially made up of two job groups:

- Researchers try to find out new things. This might be simply to further our knowledge of the world, or to figure out how to solve a particular problem.
- Technicians and technologists are paid to carry out scientific experiments or tests, or to
 operate equipment.

To introduce yourself to some of the many different roles available in this sector, explore some Careers library profiles on Unifrog:

- Chemist
- Forensic scientist
- Laboratory technician
- Botanist
- Physicist

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Get on the ladder: science

What skills will you need to demonstrate?

- Curiosity- all science roles will require you to have a desire to find out how and why the things around you work.
- Attention to detail- as a scientist, it's especially important that you keep good records of your research and don't miss anything that could be important. Precision is key!
- Numeracy- you don't need to be an A* student, but basic mathematics skills are essential for a career in science.

How can you get experience?

Through school, college or university

- Join a science club at school. These will give you the opportunity to try out lots of
 experiments and projects that you wouldn't get to do in a normal science class, plus you can
 develop a broader range of experience and skills. If your school/college doesn't have a
 science club, why not start one?
- Get involved with inter-school science competitions. Speak to one of your science tutors
 about getting a team together and entering a regional or national competition. It's not just
 about the winning even entering on a team will look great on your CV. You might also meet
 some interesting people and learn some new skills to boot.
- Join a science society at university. If you're at university, there should be plenty of student-led science societies to get involved in - whether your interests lie in astronomy, clinical neurology, energy, biotech, obstetrics, or environmental sciences, you're bound to find one to suit your needs.

Elsewhere

- Citizen science projects are a great way to get involved with real-life scientific research. You
 can even do this from the comfort of your own home, through websites such as Zooniverse
 (link below). There are in-person projects, too take a look at what's going on in your local
 area, or perhaps organise your own!
- · Visit or volunteer at a science festival in your area.
- Volunteer at a local museum or planetarium. They often look for extra helpers to run activities at weekends and during school holidays.
- Complete a MOOC. These courses tend to be free and you can find many of them through Unifrog's MOOC tool. Simply select the topic that interests you (such as Biology, Animal Science, or Physics) and get studying!
- Read! See if your local library has a copy of New Scientist and use it to find out what's
 happening in the world of science. Though not technically 'experience', knowing what's
 happening in the industry will help you during job interviews and throughout your career.

Workplace experience

- Workplace experience can include anything from a day spent shadowing a researcher in a lab through to a 12-month industrial placement. It could be paid or voluntary it all counts! Many opportunities are not advertised, so consider making direct contact with organisations that interest you. Use our guide on speculative applications to get started. Formal work placements in this field can be tricky to source (as they are often highly skilled); however, work shadowing is a good alternative. This gives you the opportunity to see what a working day in the life of a scientist is like and ask lots of questions. Begin by asking friends, family, and teachers if they can put you in touch with someone. Your teachers in particular may have connections to alumni or local companies.
- Science is a big subject area, so try to identify some key areas of interest and look for work
 experience related to that topic. For example, if you really enjoy plant biology, you could look
 for work experience at a garden, field centre, or park.
- Many universities offer work experience to school/college students over the summer holidays. Contact any local to you to see if this is something that you can participate in.
- If you live in the UK, an apprenticeship in science is a fantastic way to gain some workplace
 experience and earn a recognised qualification. There aren't as many available as other
 career sectors, and most science-related apprenticeships tend to be Advanced level
 (equivalent to A-levels) and above, but they do exist. Check out Unifroe's Apprenticeships

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