

Job described by Ross aged 14

Ailsa works as a Biomedical Scientist at a hospital. She takes samples from patients and isolates the bacteria causing the problem, identifies it and finally tests which antibiotic will work best to cure the problem. She studied English, Maths, French, Biology, Chemistry and Physics for Higher and continued her studies at University where she did an Honours course in Biomedical Science. She then got a trainee job in a laboratory and achieved her Masters Degree in Biomedical Science. To work in a job such as this you need many skills, including confidence, laboratory training, teamwork, organisation and background knowledge in the subject. Working as a Biomedical Scientist seems to me like a difficult, challenging and interesting profession.



****WINNER**** job described by Jonathon aged 12

Ailsa is a Biomedical Scientist in Microbiology. She works in a lab most of the day. She identifies bacteria from swabs or liquids sent to her by G.P.s or hospital wards. She then works out how to treat the infection. The key skills needed in her job are good communication, computer skills, background knowledge, she needs to be able to work well in a team and she needs to be organised. She went from school to University, she then got a trainee job in the hospital, did a Masters Degree and sat an exam at work.



Job described by Andrew and Timothy, 4th Year pupils at Secondary School

Ailsa works in a bacteriological laboratory. She isolates and identifies bacteria and does antibiotic testing. She is very busy doing 960 samples per day. Results take 24-48 hours. The lab is divided into sections for each specimen type.

Key skills needed:

- Know theory behind what is being done.
- Practical skills.
- Able to use a microscope.
- Organised.
- Problem solving skills.

Career Pathway:

- University Honours Degree.
- 2 years training in lab.
- State Registration.
- Masters Degree.
- Current job.



Biomedical Scientist- Grade 1 (Pathology): *Lynne*

Job described by Katie aged 16

Lynne studies diseased tissues and assists in saving lives by helping to diagnose diseases in a patient's tissue. She looks at specimens and stains the tissue so that it can be examined and diagnosed.

For this job a number of key skills are important. It helps to have good organisation and communication skills as you have to work with a number of different people. Time management is also important as you could be called at any time to work.



Job described by Katie aged 15

Primarily Lynne's job is to assist Pathologists in creating slides for studying. This involves slicing the tissue into tiny samples (300th of a mm) and preparing and staining them on the slide. Also, she may be involved in studying tissue from post mortem work from things such as rejected organs.

Key skills needed:

Knowledge of how the body works.

Good communication skills.

Teamwork.

Observant.

Good memory and knowledge.



“By providing results in as little as 20 minutes, the job really is a matter of life or death.”

Clinical Scientist (Senior Clinical Gastro-intestinal Physiologist): Sarah

****WINNER**** job described by Amy aged 15

Sarah is a Clinical Scientist who works in gastro-intestinal science testing for how fast the gut moves and digests food. She takes blood samples daily and looks at pH balances. Sarah has a Degree in Chemistry and did a Healthcare and Biomedical Science course at work. Sarah also did an MSc.

Her job is different every day as she is constantly meeting new people. She provides doctors with reports and writes scientific papers. Sarah is currently working in serotonin/neurotransmitters and drug trials. Sarah took the full load and took all three sciences, Physics, Chemistry and Biology, and has a Degree in Chemistry. She had a job for a year working as an Organic Synthesis Chemist and hated it. She now currently works for the NHS.

Job described by Ross aged 13

I interviewed Sarah. She is a Clinical Scientist and does tests on peoples' guts and livers. She does endoscope tests, tests to see how enzymes react with the liver, does blood and tissue analysis and tests acidity levels. The qualifications needed for the job are; a Degree in Chemistry, a course in Gastro Intestinal Medicine, an MSc, and additional training courses.

A weekly summary would include; working on different people all of the time, calibrate equipment, one day a week she does research, scientific meetings, drug trials and analysing results. To look for a job in Clinical Science you start by taking Biology, Chemistry and Physics at Standard Grade and Higher. Go to University for a Degree in Chemistry and look into the NHS for a career in Clinical Science.

"Perform diagnostic tests to review a patient's progression. Look at how gut works. What if it malfunctions? Doctor may want tests, which are done by Sarah."

"Key skills needed include; Degree in Chemistry, 1 year Organic Synthesis placement, presentation skills, IT skills, a lot of bureaucracy, and as 60% of the day is working with patients, good communication skills and good people skills."

Head of Chemical Development: *Ian*

****WINNER**** job described by Christopher in 5th Year at Secondary School

What this person does for a job:

Manufacturing and developing large scale chemical products. Cheap Amino Acids are bought in. They are then engineered in a lab and made into more valuable amino acids and are sold for lots of money.

What the job is like day to day:

Mostly lab work.
Promotion days to advertise company at trade shows.
Interviews with clients/customers for business.
Attends Science shows to promote Science careers.

Key skills needed:

Essential Chemistry background.
Patience and tolerance.
Good communication and people skills.
Good team work is essential to complete tasks.
Need a good financial focus on the job at hand.
Practical mathematical understanding.

Career Pathway:

O Levels: Chemistry, Biology, Physics, Maths, French, English and History.

A Levels: Chemistry, Biology, Physics and Maths.

At 19 started Chemical Engineering at University then switched to a Chemistry Degree for 3 years.

PhD for 3 years.

2 years Postdoctoral.

Interesting Aspects:

Manufacturing chemicals for business, salary, good working hours and relaxed atmosphere.



The
freedom
to try out the
unknown. Discovering
things that can be of
great use to the
community.

Key skills

Chemistry

Managing people

Open minded and confident

Communication (people skills)

Simplifying Chemistry jargon into plain English

Ability to admit and recognise when you're wrong

Business skills: organisation/efficiency and management of people

Medical Research Technician (Reproductive Science): *Sheila* Postdoctoral Scientist (Reproductive Science): *Vincent*

Jobs described by Amy in 5th Year at Secondary School

What these people do for a job:

Research new diseases and experimental lab work, helping to discover cures for problems causing the patients to be ill, such as cancer. It requires a lot of time and effort to find and prove a cure for the stated problem. The work can be shared between staff. For example, Sheila works on female reproductive problems, whereas Vincent deals with male reproductive systems.

Day to day:

There is a lot of reading involved to keep up to date with what's happening in the field. Discussing cures and progress results in order to find out what's happening and talk to other people to find out their hypothesis.

Key skills needed:

Work in a team environment as well as individually.
Good communication skills.
Open minded.
Interest in the subject.
Perseverance and patience.
Must keep up to date with new information.

Vincent's Career Pathway:

Trained as an Environmental Scientist.
Degree in Environmental Sciences.
Biomedical Degree.

Sheila's job described by Rowena at Secondary School

She works in Medical research in Reproductive Sciences – she develops a hypothesis and tries to prove it.

Day to day:

They treat cells with a compound to see what they do and they take human tissue and check genes to see if they are there or not.

Key skills needed:

Precise.
Curious.
Prepared for anything and flexible.

Career Pathway:

Left school with O Levels/
ONC and HNC in Medical Lab Sciences.
Work in hospital lab – diagnostic testing.
Moved into research.

Vincent's job described by Seb and Fraser in 5th Year at Secondary School

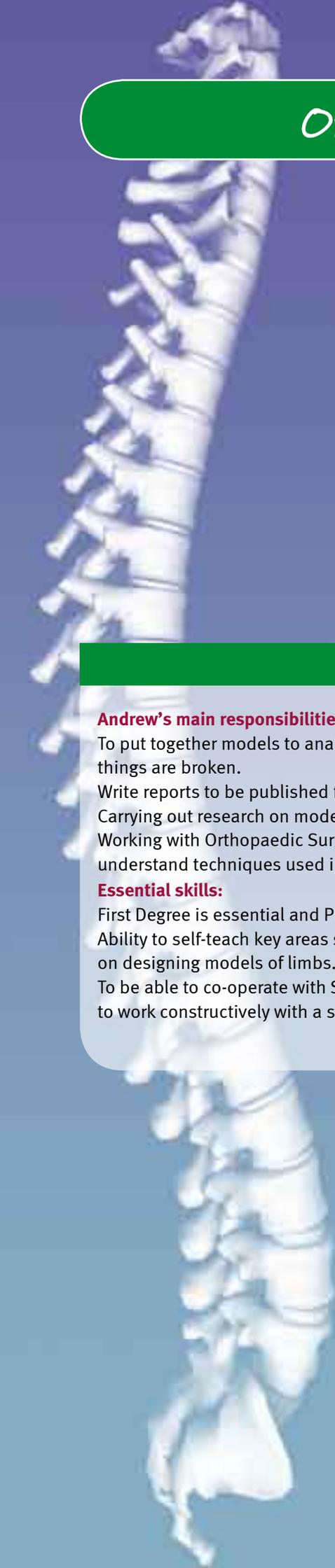
His job is like a Biologist – he analyses samples and investigates how hormonal changes affect chromosomes. He works in Reproductive Science (frontline Hormonal Science). He investigates the effects of hormones on receptor cells at a molecular level.

Day to day:

Mainly bench based analysis of results.
Application of genetics.
Interaction with other people is key – isolation is rare.

Key skills needed:

Sociable.
Persistent.
Good analyst.
Self motivated.
Curious.



Orthopaedic Engineer: **Andrew**

Job described by Faye aged 15

Andrew, an Orthopaedic Engineer, works mainly in research concerned with implants and how they can be improved. He spends time talking with Orthopaedic Surgeons to ensure that they are using the best surgical methods to operate. He also, on behalf of the surgeons, does research into causes of a problem a patient may have. For example, if a patient breaks something for no apparent reason he will research into the problem – often using complex computer software and imaging. Andrew works at a university and because of this he often has to write for journals and attend conferences publishing his work.

In school he took the Sciences and Maths at A Level, although he also took History. These subjects helped him apply for university where he studied Civil Engineering, but in his final year he took a research placement where he then decided he wanted to be involved with Orthopaedic Engineering.

Job described by Hannah aged 15

Andrew's main responsibilities:

To put together models to analyse how things are broken.
Write reports to be published for the University.
Carrying out research on models of artificial limbs.
Working with Orthopaedic Surgeons to understand techniques used in surgery.

Essential skills:

First Degree is essential and PhD would be preferable.
Ability to self-teach key areas such as computer work on designing models of limbs.
To be able to co-operate with Surgeons and to work constructively with a small research team.

Desirable skills:

Very good presentation skills and communication skills.
Sound understanding of IT.
Had a mainly science focused group of O Levels/Highers – at least two sciences.

Other responsibilities:

To travel abroad at least once per annum for a conference.
To do research projects and to have an excellent grasp of a particular area, e.g. hip replacements.
To supervise students in your team and to have the ability to motivate others.

Job described by Rebecca aged 14

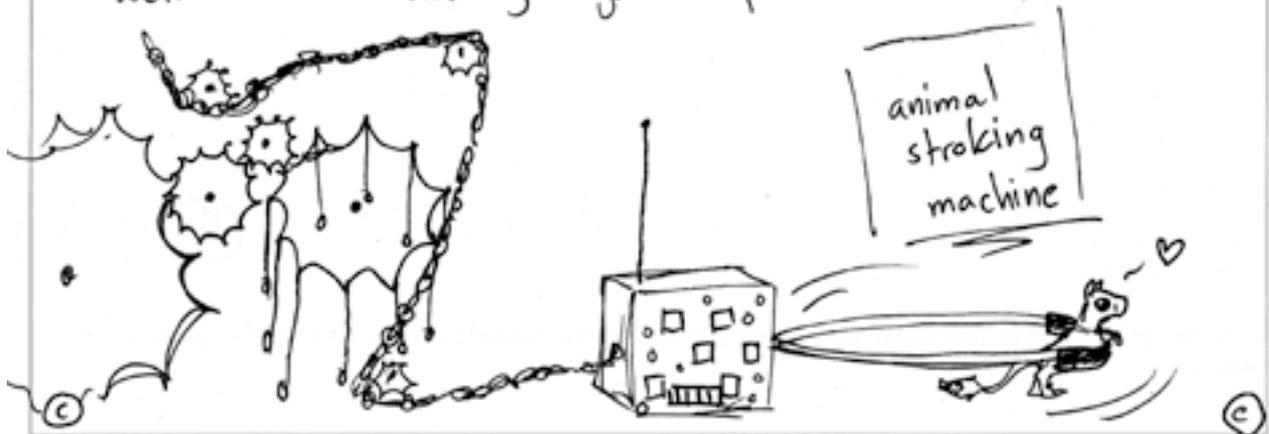
He works with surgeons at the hospital. If a type of hip replacement fails a lot he will find out why it failed using a computer and analysis. Once found out why it failed he will try and design a new one to prevent it from failing in the future. He also works with the people who make the metal implants and helps redesign them.

“A lot of the work includes working with bone grafts and hip replacements.”

Patent Attorney (Technical Assistant-Patents): **John**

Job described by Fiona in 5th year at Secondary School

© A varied, interesting job, which involves writing patents for new discoveries & inventions, to prevent them being ripped off & copied by other people or companies. It also involves helping their clients keep track of their patents & offering them advice. It is helpful to be well organised & good with computers, as well as having good public relations skills. ©



Job described by Annalee aged 17

Patent Lawyers patent ideas and inventions by creating legal documents which permits the individual with the idea to use, sell, import and export their invention. This document also prevents other people from stealing the idea and using it for their benefit. A patent costs the individual approximately £30,000 per country.

A typical day for a patent Lawyer includes writing letters to clients and ensuring that the money for the patent is paid. They also guide people through the process of patenting and remind people of their patent. Many skills are needed for the job, including, good IT skills and communication.