Caroline Gardiner

From the moment that I took Biology as a subject in high school, I have always had a passion for Science. I knew that I would eventually choose it as a career path. I went on to gain a Bachelor of Science with Honours in Medical Biochemistry and a Masters Degree in Forensic Science. I have worked in various Science roles since leaving university in 1999.

The skills that I developed at school, including group working, planning and communicating have been very important in all of the Science roles that I have undertaken and I have continued to develop them during my career and to acquire new skills.

In particular, during a project to develop a DNA database (DNA is a list of instructions that control how a living thing grows and a database of these instructions can be used to study the living things), I became much more skilled and confident at the fine techniques that are involved.  DNA profiling and sequencing is a very time consuming and precise procedure and is costly to carry out.  We observed that we could get the same results using a 50% dilution of all the enzymes which cut down our costs dramatically.

Concentration and careful working are vital in this kind of work. If meticulous lab discipline is not followed then contamination can result which could destroy the entire project.  I learned that good routines were important and that the last sample should be treated with the same care as the first.  You cannot afford to get lazy or sloppy in your work just because you have repeated it many times previously. Complacency is very dangerous!

When taking on this project, I had to work as part of a team to develop a question to be answered: “Is it possible to develop a DNA Database for the West of Scotland and would this database show any differences to the rest of the United Kingdom?” With the question generated, a hypothesis was developed and then planning began. The database showed similarities in the DNA of the people of the West of Scotland that could also be found in the rest of the UK but it is now used as the gold standard reference database to compare unknown DNA samples against. Our results confirmed our theory that having reference samples for a local population would be a useful tool for other investigators and researchers to use.

My communication skills were useful in presenting the work to my university department, it was published in Forensic Science International and writing it up as a project to gain my Masters Degree. I can send you a couple of picks from the project and the abstract of the article if you think photos would help to inspire them with this story? Best of all, the BBC came to the lab to interview meabout the work for the evening news!

In all scientific roles, it is very important to be inquisitive, to ask questions and have a desire to explore these ideas and questions. The ability to work with others is crucial because the most effective team is built around everyone bringing their own individual perspectives and expertise together. When working in a lab environment, in my opinion, it is important to be well planned and methodical in the way that you work.

I have always had a passion for Life Science, with a particular focus on DNA and now, I get to teach and inspire others, encouraging them to think about this as a career path. Perhaps you will develop a love of finding out about Science and decide to choose this path when you leave school. Good luck!