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Your future in STEM: A-Z

Where might **science** take you?

Z

is for

Zoologist

Please can you introduce yourself and tell us a bit about your job?

My name is Alice and I'm a zoologist. I studied zoology at the University of Glasgow during which I worked in a few different countries on fieldwork projects to help the conservation of endangered animals. I recently worked in the endocrinology lab at Chester Zoo, where I helped zookeepers keep track of the health of their breeding animals. Now I'm studying a PhD in animal behaviour with The University of Liverpool as one of Chester Zoo's conservation scholars. This means I get to keep working with the science team and apply my research to captive species in zoos.

A typical day for a zoologist is very variable. When I was doing fieldwork, I would spend whole days outdoors looking for a specific animal species, counting the number I could find in an area and note their behaviour. When I was working in the endocrinology lab, I might spend the day processing faecal samples (yes, that's animal poo) to find out if an animal was pregnant or not. These days, I'm mostly working in an animal behaviour lab observing the behaviours of mice for my PhD. Our animal lab houses many types of rodents, but at the moment I work with wild house mice. When I'm not in the lab, I'll be looking at the data collected from my experiments and writing up results or reading up on research that other zoologists have done similar to mine so that I can figure out what questions still remain unanswered.

One great thing about zoology is that there are so many different types of jobs you can go into. A zoologist might work in a laboratory, a zoo, in the field, a public-facing job, in schools' outreach, in media, with the government or several other things. No two zoologists will have the exact same job day-to-day.

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How did you get into this line of work?

I've always had a love of animals and a fascination with the natural world. I grew up watching Steve Irwin and David Attenborough any chance I could get and wanting to know all I could about animals around the world. When I went to university, I decided to study zoology because there were lots of opportunities to travel and do fieldwork on animal species. It wasn't until I did an internship in Chester Zoo's endocrinology lab that I realised how valuable zoo-based science is to improve the welfare and success of animals in captivity. After I graduated, I was asked to come back into the lab to work on a new project that would help other researchers process faecal samples of wild black rhino and Grevy's zebra in Kenya. I felt very excited to be able to apply the lab techniques we use to monitor animals in zoos to wild animals in the field. ▶

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What qualifications did you study or what experience did you gather to enable you to become a Zoologist?

When I went to university to study zoology, I made sure to join the Zoological Society and Exploration Society. The Exploration Society offered places on fieldwork teams to get experience during the summer. Luckily, I made it onto a team to study herptiles (amphibians and reptiles) in Trinidad after my second year, and after my third year I was leading a team of students on a fieldwork trip in Bolivia to study birds and mammals. On these trips, we worked with local animal conservation groups to help gather information on the species they were working to protect. Our Zoological Society had weekly talks by professionals in zoology from all different parts of the country, so we could learn what their jobs were like. My university also offered the opportunity to do an extra year as an internship to transfer my Honours degree to a Master's degree. I chose to do my internship in the endocrinology lab at Chester Zoo because, at that point, I had a lot of fieldwork experience but no lab experience. Getting to know people that work in different organisations was the most useful thing I have done for my career. It's important to focus on your studies, but if you can try to find real-life work experiences and show that you're a hard worker, people will remember you and are more likely to ask you to come back for a job later.

Are there any particular science practicals, teachers or other moments in schools you fondly remember to this day?

In my last year of high school, we were asked to do an investigation into any biology-related question we wanted. I decided to see if different diets would affect a rodent's ability to complete and learn mazes. After asking my biology teacher, she let me buy some gerbils and keep them in the school for a few weeks while I made my mazes for them to run through. Afterwards, I got to keep them as pets! They were so friendly and intelligent and ended up being great pets. As for the experiment, it turns out you need more than 2 gerbils to get a real answer to that question... but it was great that my teacher gave us the opportunity to try designing our own experiments and I learned I really love working with rodents!

Were there any people who have inspired you into this line of work?

One of my biology teachers in high school was a zoologist, and she had studied up north in Aberdeen. She always taught us about zoology topics with lots of passion and enthusiasm, and she helped me with my university applications when I decided I also wanted to study zoology. I'll always be grateful to her for showing me I could follow my curiosity about animals and make a career out of it.

How has your line of work changed to when you first started as a zoologist to now?

Since I first started studying to be a zoologist, the public perception of environmental scientists and conservationists has changed a lot. In the past few years, with the rise of the climate action movement, the growing popularity of nature documentaries, and an increased awareness of the harm that the illegal wildlife trade has ▶

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on animals and people, the public has been more willing to take personal responsibility for supporting conservation and fighting climate change. It seems that people are more aware than ever of how our everyday actions – such as what we eat, or how much carbon we emit through transportation – affect the environment.

I also think that the public's perception of zoos is beginning to change for the better. People are starting to see the work that zoos do to help conservation around the world, not just within the boundaries of the zoo itself. For Chester Zoo in particular, I think having the TV show 'The Secret Life of the Zoo' is helping people see what goes on behind the scenes and have a better understanding of how important zoos can be for conservation.

I would like to mention that since the COVID-19 pandemic hit, zoos are under threat of closing from losing income from visitors. If you can, and you want to continue to support the conservation work that zoos do, donate to your local zoo!

How has studying science at school prepared you to be become such a successful zoologist?

Studying biology, chemistry and maths in school gave me a good foundation for learning more about the natural world. I remember first learning about ecosystems in school and how everything is connected, it really pushed me to learn more about the environment and how it all works together. Understanding the basics of biology and the scientific process was essential when I decided that I wanted to pursue zoology at university.

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Were there any obstacles or factors that put you off this route at any point?

Sometimes it can be difficult to convince people to fund conservation work, and you need funding to get your research projects up and running! However, I think that people are beginning to prioritise environmental science and conservation more and more these days. If you love the work and you believe that it is worthwhile, it's a lot easier to help others see that too.

What advice would you give to someone thinking about going into the same line of work as you?

If you decide you want to get into zoology, you should have a strong motivation behind why you want to do it. If you have a strong 'why' and a curiosity to find out more it will help you a lot in your journey. If you get the chance, ask as many people who work in zoology what their job is like and try out a few different types of work. If you don't like doing field work, you might love working in a lab or campaigning to change laws around wildlife trade – there are so many different ways to be a zoologist and it's not one-size-fits-all. Find out about as many different jobs as you can to see what excites you! ▶

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What advice would you give to others thinking about a career in STEM?

If you're thinking about a career in STEM, go for it! Find what topic in STEM makes you the most excited and follow your curiosity. If you don't see role models that represent who you are, you can try to seek them out online. STEM is growing more diverse as time goes on, but we still have a long way to go. We need more young people to take an interest in STEM subjects so that we can all build a better future together. There is always more to find out and further advancements to be made, and it will be the young people of today who make that happen.

What is the reaction from friends and family when you shared your desire to become a zoologist?

My friends and family knew I'd end up working with animals in some way and were very supportive when I told them that I wanted to be a zoologist. My parents are both from scientific backgrounds too, so they understood why I wanted to get into STEM. I am very lucky for that; I know it's not the case for everybody. Some of my friends didn't understand exactly what a zoologist was, but once I explained it to them, they were excited for me too.

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