**[00:00:00]**

**Brodie McCloy:** Hello. I'm Brodie McCloy. I'm currently a third-year medical student at Trinity College. Right now, this year, I'll do history and philosophy of science. It's been a while since I've done A-level physics, chemistry, all that sort of stuff, so we'll see how this interview goes. I'm going to be showing you how we're expecting the Zoom interviews to go. From now on, if you are not having an interview in person, you'll be invited to a Zoom interview, and **[00:00:30]** right now we're doing a natural science interview.

**[pause 00:00:32]**

**[00:01:00]**

**Brodie McCloy:** Hello. Good afternoon.

**Speaker 2:** Brodie, nice to see you.

**Brodie McCloy:** You too.

**Speaker 2:** Thank you. I'm just going to transfer you to the waiting room where one of our students will look after you, so if you click the join breakout room button **[00:01:30]** when it pops up.

**Brodie McCloy:** Lovely. Thank you.

**Speaker 2:** Thank you.

**[pause 00:01:33]**

**Brodie McCloy:** Hiya. Good afternoon.

**Mire:** Hi. I'm Mire. I'm one of the student helpers for your interview today.

**Brodie McCloy:** Oh, lovely to meet you. I'm Brodie.

**Mire:** Good to meet you. I hope you're doing well.

**Brodie McCloy:** Yes.

**Mire:** I just wanted to make sure that you can hear and see me okay.

**Brodie McCloy:** I **[00:02:00]** can.

**Mire:** Great. I just wanted to confirm that you're here for an interview in natural sciences.

**Brodie McCloy:** Yes, I am.

**Mire:** Great. It also says here that your interview requires a drawing tablet. Do you have that, and do you feel--

**Brodie McCloy:** I do indeed. Here we go.

**Mire:** Awesome. Great. You are going to be transferred to your interview in a few minutes, once your interviewers are ready for you. Right now, you can take a moment to **[00:02:30]** take a deep breath and compose yourself. Just remember to have fun, to be yourself, and of course, if you have any questions for me before you're transferred, feel free to ask them.

**Brodie McCloy:** Thank you.

**[pause 00:02:46]**

**Brodie McCloy:** Good afternoon. Hiya.

**Aleks:** Hello-

**Cate:** Hello.

**[00:03:00]**

**Aleks:** -Brodie. Good afternoon. Thank you very much for coming to this interview. I'm Alex. I'm a theoretical chemist here.

**Cate:** I'm Cate, and I work in material science.

**Brodie McCloy:** Oh, lovely to meet you both. Thanks for having me.

**Cate:** Very nice to meet you.

**Aleks:** Great. Over the course of the next half an hour or so, we'll just talk a little bit about some science, and we'll start with a bit of chemistry. I was wondering if you could maybe tell me a little bit about what you know about ionic bonding.

**[00:03:30]**

**Brodie McCloy:** An ionic bond is a bond formed between two ions. An ion is a charged particle, and in an ionic bond there is a transfer of charge from one particle to the other, which enables them to be joined by sort of electrostatic attraction. That's the sort of bond that's formed.

**Aleks:** Good. Let me show you a crystallized structure. Hopefully, this will work. **[00:04:00]** Can you see the whiteboard?

**Brodie McCloy:** I can, yes.

**Aleks:** Wonderful. This is a crystallized structure of an ionic compound. Have you ever seen pictures like this before?

**Brodie McCloy:** Not exactly like this, I don't think. No.

**Aleks:** You might have seen the structure of sodium chloride, but you might have drawn three dimensions. **[00:04:30]** This is a projection of a crystalline structure into two dimensions.

**Brodie McCloy:** That's the bottom plane, and then we've got one that's coming, and it's going to be more central if we're looking down at it. Trying to draw this in 3D.

**Aleks:** Maybe we can think about-- if this is the bottom plane only, is there anything else that is in the bottom **[00:05:00]** plane?

**Brodie McCloy:** We've got two more of the fluorine atoms that are also in the bottom plane.

**Aleks:** Where are they?

**Brodie McCloy:** Those are there and there, because they're--

**Aleks:** Yes. Okay, great. Okay, and then the same sort of thing happens again at the very top, and then there's only one thing we have to consider in the middle, so maybe we don't have to draw it in 3D. Maybe you can do it layer by layer. What's the layer at one half, what does that look like?

**Brodie McCloy:** The layer at **[00:05:30]** one half is going to be the central A with the two fluorine. That's going to be layered on top, so trying to draw that. I guess if we did go back to trying to draw in 3D, it'd be more like a pyramid, in terms of just the A at the ions and then the addition of the--

**Aleks:** Yes, that's right.

**Brodie McCloy:** Up here at the top we've got waves of light. **[00:06:00]** Each of the lines will represent one part of the wavelength. In my mind I see them as being the peak amplitude, and we are reaching this, which is the barrier. You can see the two slits which are left between here, and the light waves are going to be able to pass through these slits. What will happen is that you'll get a shape like this, because they'll be **[00:06:30]** diffracted as they pass through.

Then what happens is you get the waves will actually-- obviously, as you get further away from the source, the waves are going to meet and they'll show interference, which is why on this screen we have this central very bright area which represents high amplitude, **[00:07:00]** lots of positive interference. If I'd interpret that, if I could draw it into a wavelength, it would look like-- then you've got-- they're canceling each other out in the black spaces, and then you've got smaller amplitude wave here.

**Cate:** I guess this is all we have time for today. Of course, if you have any **[00:07:30]** questions for us, now would be a good time to ask.

**Brodie McCloy:** I don't think so. So far the admissions people have been really helpful.

**Cate:** Thank you.

**Brodie McCloy:** Thank you very much for having me. Thank you.

**Aleks:** Thank you very much, Brodie. I think you should hear back from the college sometime in January, so thank you very much for coming to see us and-

**Brodie McCloy:** Thank you.

**Aleks:** -take care. Bye-bye.

**Brodie McCloy:** Bye-bye.

**Cate:** Thank you. Goodbye. Bye-bye.

**[00:08:00]**

**Brodie McCloy:** There we go. That was my natural science interview. It was a bit of a refresher on physics and chemistry that I haven't done in a few years, so there we are. I hope that's a useful thing to give you idea of what to expect when you come for a Zoom interview. I know that the process can be quite daunting, especially if you don't really know what's going on, and especially given online technology and somehow how that goes a bit wrong.

I think the main thing that I learned from doing that was that you can just take **[00:08:30]** time. If you feel like there is something going a little bit wrong, I think there were a couple of hiccups where they couldn't see my mouse, I think it's quite good to remember that the interviewers are going to be really understanding of the difficulties that you might have with it being online. They're also perhaps not as familiar with this as they'd like to be.

I think just keep calm. If there are any technical difficulties, the college will understand that, and they won't affect the application or the outcome of your interview. I think as well you have to try to making sure that you've got a good **[00:09:00]** idea of how the interface works, so using the tablet a bit beforehand was quite useful to work out how that goes. Also, really basic things like knowing the difference between what's your mouse and what's your drawing on Zoom.

Otherwise, I think it was a good experience, and I hope that this is useful for you guys to understand what sort of thing is expected from you. Best of luck for your applications, and honestly, don't be too nervous. You might be a bit nervous on the day, but at the end of the day it is **[00:09:30]** just a chat. If you see it as a chat and just doing your best, then that's the best way that you can get the most out of the experience. Best of luck. Thank you.

**[00:09:40] [END OF AUDIO]**