

Track 1

Hi! I'm Ann Leary, and I've just turned 18. I'm a first-year electrician apprentice at *Power Supplies Company* in Manchester. My duties usually include doing the wiring, carrying my instructor's toolbox and installing sockets. Sometimes I also mount lamps. My working hours vary daily, but I often start work at 7 a.m., and I get home in the late afternoon. That's different when I'm at Vocational School, though; classes there start a bit later. I really like the variety of the job. Every day is different for an electrician. When I arrive at work in the morning, I often do not know what we are going to do that day, and most of the time, there's something new to learn. What I dislike about my job is working as an interior electrician only. I don't enjoy doing the same tasks in the same location over and over again.

Track 2

Hi, I am Johnny Mayer, and I'm 21 years old. I am training to be an electrician, and I have been a trainee for three years now. I started just after high school because I wanted to learn while I earn, as they say. The company I work for is called *Best Electrics*. It's a family-owned business based in Portland, Oregon. When I'm not on the job, I go to classes at the local community college and there are also online lessons. As I'm already in my third year, I usually do a lot of the things a certified electrician does, although sometimes I still have to ask my more experienced colleagues for help. What I like most is working as a residential electrician. I like to see new houses get finished, so that the homeowners can move in. Then there is the variety of houses that I work in – every building site is different, so I always have to think on my feet. No workday is ever the same. One of my duties is ordering new building materials such as cables and sockets. Duties I don't like? I don't particularly enjoy reading manuals. And when something doesn't work and we have a lot of troubleshooting to do, I get stressed out.

Track 3

Hello, my name is Chris Cavendish, I'm 17 and I'm an electrical apprentice. I've just started my apprenticeship. I started applying for apprenticeships while I was still finishing school. I always wanted to learn a trade that's more on the technical side, so I did my GCSEs in mathematics, science and English. The company I work for is *Power Grid UK* in Liverpool. I start work at 7 a.m. and leave at about 4 p.m., but if there is a lot to do, I stay on longer. Most of the time, I just follow my supervisor and help her with all the tasks she performs: general maintenance such as inspecting power lines, replacing faulty equipment like insulators or fuses, and generally making sure that everything runs safely. What I really enjoy is figuring out why something doesn't work, using all the testing devices and coming up with a solution. I often see it as a great puzzle that I have to solve, and I enjoy the challenge. What I really don't like is doing work up high. Even with the safety belt on, standing on a lifting platform makes me very nervous because I'm afraid of heights. The best part of my job is that I get to work in a great team. Even when I am badgering my supervisor and

my colleagues with questions, they never get annoyed: They seem happy that I'm so interested in the trade.

The tools of the trade

Unit 2

Track 4

A: *Best Shots Electronics*, this is Emily Warner from the Customer Service Department speaking. How may I help you?

B: Hello. This is Ben Smith, of *Smith's Electricians* speaking. I'm having troubles with one of your digital multimeters, the *BestDigital X3000*.

A: Oh, I'm sorry to hear that. Could you describe your problem in detail?

B: Yes. When I switch on the multimeter, the display doesn't work – there's just nothing.

A: Have you checked the two batteries that can be inserted in the back? Maybe you've used the multimeter for quite some time and the batteries are empty.

B: That was my first thought too, yes. I've already replaced the batteries with new ones and the display is still not activating.

A: Is it possible that the multimeter was dropped or fell on the floor?

B: No, I am always very careful with my tools. It might really just be broken, but it still has a two-year product warranty. I only bought it last year, and I still have the receipts. Still, I urgently need a functioning multimeter for my toolbox, and I'm willing to buy a second one to have a backup.

A: Well, I can offer you the following: Send your multimeter in, and our experts will have a look at it. They might be able to repair it; and if they cannot repair it, you will be sent a replacement. I can offer you a 10 % discount on your new multimeter for the inconvenience. Are there any special requirements, or would you like to order the *BestDigital X3000* again?

B: Well, I need a multimeter with an ohm, voltage, ampere and frequency range.

A: Then the *BestDigital X4000* might be the best choice for you. I will send you any necessary information about your order and the return of the malfunctioning multimeter via e-mail. Could you tell me your customer number so I can access all your data?

B: Yes, it's CN 344B, *Smith's Electricians*. Could you please expedite the shipping of the new multimeter?

A: Okay, I've noted that down. You will receive an e-mail in the next five minutes.

B: Thank you!

A: Goodbye.

B: Goodbye.

Track 5

Phone call 2

A: *Smith's Electricians*, this is Jonathan Meyer speaking. What can I do for you?

B: Hello! My name is Linda McMillan. There's a problem with the lighting in my house, and I was wondering if someone could stop by to fix it.

A: What kind of problem is it? Could you describe it in detail?

B: Well, it first happened this morning. Whenever I switch on the light in the living room, the circuit breaker trips, and everything goes dark.

A: Have you tried resetting the breaker?

B: Yes, of course. I reset the breaker twice, and the power came back on. But as soon as I switch on the light in the living room, the breaker trips again.

A: Okay. It sounds like there is a problem with one of the lamps activated by the light switch. They may be overloading the circuit.

B: Really? We had the light fixtures installed a few weeks ago, so they are quite new.

A: We'll send a technician to have a look. He'll surely be able to repair any damage. In the meantime, make sure that nobody switches the light on again so that the circuit breaker doesn't trip. Could you please repeat your name and tell me your address?

B: Sure. It's Linda McMillan, spelled M - C - M - I - L - L - A - N. The address is no. 7, Baker Street. It's a big yellow house with a white front door.

A: Linda McMillan, 7 Baker Street. Got it. And your phone number, please?

B: It's 309 887 99. Could you please send someone as soon as possible?

A: Sure. Let's have a look at our electricians' schedules ... ah, here: A technician could stop by between 2 p.m. and 4 p.m. Is that alright with you?

B: Yes, that's great. Thank you.

A: You're welcome. Goodbye.

B: Goodbye.

Track 6

Phone call 3

A: Hello, this is Susan McCormack from *Power Networks* speaking. What can I do for you?

B: Hello, this is Joanne Warner. There was a thunderstorm last night and since then the power in the whole house has been down. We really need the power to be turned back on. My husband has to drive to work, but we cannot even open the garage.

A: Have you already checked the fuses?

B: Yes, I have. They are all on.

A: Then it must be something more serious. Maybe some of the meters have fused or the power surge arresters are dead. A bolt of lightning might have struck a power line.

B: Okay, that sounds serious. What can I do about it?

A: Nothing, Ms Warner. I will send an electrician to your house immediately. Could you please tell me your address and your phone number?

B: The address is 34, Regent Street. It's the white house next to the church.

A: 34, Regent Street. And your phone number, Ms Warner?

B: Ah, yes, of course. It's 973 884 733.

A: It's 973 884 733, got it. My colleague will be there within an hour.

B: That sounds great, thank you!

A: You're welcome. Goodbye, Ms Warner.

Track 7**Conversation 1**

A: Hey Ben, do you have a minute? I could use your help.

B: Sure, what's the problem?

A: The dishwasher isn't working properly anymore. Something must be broken ...

B: What's wrong with it?

A: Well, I loaded the dishwasher as usual, but after running the intensive programme for five minutes, the fuse blew.

B: The dishwasher's fuse?

A: No, the whole house went dark. I put the fuse back in place and started the dishwasher again, but then the same thing happened. I reckon it won't do any good trying it for a third time.

B: No, it might be a good idea not to do that again. Well, I can have a look at the dishwasher and try to figure out what's wrong. There might be a problem within the dishwasher's circuit. It has a metal casing, maybe it's the heating system or the wiring ...

A: Do you think you can fix it? I'm not keen on washing all these dirty pots and pans by hand.

B: Well, I'll get my toolkit, and then I can check if a faulty component is responsible for these short circuits. As soon as we find the culprit, we can decide what to do. We may have to order some replacement components; but first we'll have to unload the dishwasher because I can't see anything with all these dishes in here.

A: Oh, okay. I can do that while you get your tools. Handwashing it is, then.

B: Looks that way, at least for today. But I'll get right on it, let's hope it's an easy fix.

A: Still, thank you, Ben. I appreciate your help.

Track 8**Conversation 2:**

A: Oh, no, Sarah! Come here quick! Sarah!

B: Okay, okay, Lisa, I'm coming! What's up?

A: Don't be mad, but I think I just broke our TV.

B: What? What happened?

A: I was vacuuming the living room and when I turned the corner, the vacuum cleaner's hose must have caught the TV. I didn't even have time to react, I just heard this loud thud behind me. Look, it hit the floor here and then toppled over.

B: Are you okay?

A: Yes, I'm okay, it didn't hit me. The noise just gave me a good scare.

B: Well, let's unplug it before we have a look at it. It has a plastic casing, but it never hurts to stay on the safe side. Can you help me put it upright? This thing is really heavy.

A: Sure!

B: Okay, let's see. The case is cracked where it landed, and it looks like the flat screen has also taken a hit.

A: That's too bad. Do you think it can be repaired?

B: I don't know. If the screen is really damaged, it might be cheaper to get a new one. The replacements are usually quite pricey. We won't know until we've had an expert look at it.

A: The warranty probably doesn't apply now, hmm? We've only had that TV for a year. They don't build them to last, do they?

B: Well, they don't expect you to drop them on the floor either. I'm afraid you won't have any luck with the warranty in this case. If I were you, I would call that small electronics repair shop around the corner and ask if someone can have a look at it. Maybe we can even drop it off there later in the day.

A: I will do that. Thank you, Sarah. I'm so sorry for destroying our TV.

B: Don't worry about it, accidents can happen. Maybe it's a sign that we should read more.

Track 9

Conversation 3

A: Hello, *BestLaptop* customer service hotline here, this is Nicky speaking. What can I do for you?

B: Hello! I bought a *BestLaptop* two years ago, the XL 5 model. It stopped working yesterday. It just doesn't boot.

A: Did you purchase the extended warranty insurance?

B: No, I didn't think it was necessary.

A: I'm sorry to inform you, but in that case the warranty doesn't cover any repairs or replacements anymore. The usual warranty expires after one year. Please hold the line: I will connect you with a service technician who may be able to help you.

[*Music*]

C: Hi, my name is Alexa. My colleague Nicky connected you with me as I might be able to troubleshoot from afar. Could you please describe your problem?

B: Yes. My laptop won't start anymore. When I press the power button, it doesn't initiate the booting process.

C: Is your laptop's battery fully charged? My first guess is that the battery might be dead.

B: Yes, I think so. I charged it for a few hours, but nothing happened.

C: Maybe it's the power cord? There's a charge control light on the power cord that comes with the laptop. Is it on?

B: I didn't notice the control light, but I checked the power supply with a multimeter, and there is a current of 24V DC coming from the power cord.

C: Okay, then that's not it. Well, even if your battery isn't working, the power cord should supply your laptop with electricity. You can check the battery with the multimeter too, if you want, but I suspect that it's a hardware problem and that you'll have to send your laptop to our service centre anyway.

B: Okay, what a bummer. Well, I'll check the battery anyway.

C: You can unlock the battery at the back of your device and release it. There should be two latches; undo them, and you can take out the battery. Make sure to unplug the laptop first.

B: Okay, I will try that in a moment. Can I call you back?

C: Of course. I'm curious about that battery too. Just call again and ask for Alexa. I will help you process the repair.

B: Thank you for your help. Goodbye!

C: Goodbye!

All about electricity

Unit 4

Track 10

Hello, and welcome to a new episode of *On the grid*, the electrifying podcast about the world of electricity and energy. Our topic for today is the history of electricity.

So, who invented electricity? The answer to that question is: nobody. Electricity has always been a part of our world. Just think of lightning during a thunderstorm – that's a powerful source of electric energy. There is also electric energy in your body: there are electrical synapses in your brain that use tiny amounts of electricity for communication.

You can also notice the effects of electricity when rubbing a balloon on your T-shirt, as you are creating static electricity by doing that. And you won't be the first to notice this phenomenon: It is said that the Greek philosopher Thales of Miletus noticed the effects of static electricity in the year 600 BCE – that was over 2,600 years ago!

We know that electricity is a type of energy that can build up or flow from one place to another. In the case of static electricity, the energy remains in one place, as static means that something does not move. The energy that moves is called current electricity.

Hundreds of years of scientific discoveries, experiments and inventions have led us to the way we use electricity today – generating immense amounts of energy in power plants, lighting whole cities, powering gadgets from laptops to smartphones and from microwaves to washing machines.

As the history of electricity is quite complex, we will only focus on a few important discoveries today, but stay tuned for future episodes in which we will highlight other famous inventors.

Around 1600, the English scientist William Gilbert used the word electricity for the first time. In 1752, the American politician Benjamin Franklin conducted a series of experiments to find out that there were two kinds of electrical charge: a positive and a negative charge.

In 1785, the French scientist Charles Augustin de Coulomb explored electric fields. Around 1800, Alessandro Volta discovered the electrical properties of metals. He joined different metals to make electricity, basically inventing batteries. 27 years later, Georg Ohm, a German physicist, noticed that some materials are better conductors for electricity than others, developing the idea of resistance.

Meanwhile, the study of electromagnetism began. In 1821, Andre-Marie Ampère proved that electricity and magnetism work together to create a force. Michael Faraday worked on the first electric motor in the same year; later he also invented the electric generator. In 1840, Joseph Henry Joule finally proved that electricity is a kind of energy.

That's it for today! There is more to come on other discoveries and famous personalities such as Thomas Edison and Nikola Tesla in our next episode! Thank you for listening!

You've got the power

Unit 5

Track 11

A: Hello, can I help you? Are you looking for something specific?

B: Well, yes ... maybe? I am looking for a new lamp for our living room.

A: Well, then you have come to the right place. We here at *Light & Design* specialise in interior light installations. Would you like to have a look at our showroom?

B: I am actually looking for something that gives a lot of light. Our living room is quite dark, and I thought that a big lamp could fix that.

A: Well, that depends. We have different models here that provide a high degree of luminosity. Which lamp you choose also depends on the style of your living room. When talking about lots of light, sometimes it's better to place a few smaller lights in different locations in addition to one big lamp. That improves the light situation and is more effective than just one big lamp in the middle of the room.

B: Well, that makes sense. Our living room has quite an industrial, minimalist look, so I was thinking about something simple, made of metal. Maybe with spotlights? How much would that be, approximately? Including installation?

A: Well, there is the cost of the lamp, and then the installation. Is there already current where you want to hang the lamp?

B: Yes, there is an old lamp that I would like to get rid of.

A: Well, look at this model here, for example. With wiring already in place, it will take about an hour to install it, so that would be 200 Euros for the installation plus the lamp. I would recommend fitting it with LED light bulbs as they are very energy-efficient and might look really good in a modern living room.

B: Really? I thought that the light quality of LEDs was rather poor, and that they are quite costly.

A: The light quality is getting better with new LEDs, and while the initial purchase might be costly, they really last a long time.

B: That's good to know. Do you think that this kind of lamp will solve all my problems?

A: While this model provides a lot of light, I cannot promise you that it will be perfect as I don't know the layout of your room. If you're interested, we also offer consultations at home where we assess the light situation in a room and then make suggestions for appropriate light design and installations – the ambient and accent lighting are important to make a room feel cosy and bright.

B: That actually sounds like a great idea. How much would such a consultation be?

Track 12

There is a bright future ahead for teenagers who have chosen to train as electricians. The demand for skilled tradesmen and tradeswomen is high, so there are often vacancies that you can apply for. Getting an interview is the first step. But to get the job, you have to convince your future employer that you have the necessary skills and that you will fit well into the company. So here are some job interview tips for electricians.

First, I want to start with tips that apply to all interview situations. As with all job interviews, preparation is key. Before you go to the interview, do some research online and have a look at the company's homepage. Get some information about the company: What services do they offer? Where do they operate? This information can be vital in an interview situation – it will tell you what the company is looking for in a future employee.

Another well-known tip is to dress well for the interview: You might not wear business attire on an average workday, but it is important to make a good first impression. So dress neatly and make sure that your clothes are clean and ironed. Not only your physical appearance matters, your body language does too. A firm handshake, eye contact and a friendly smile can set the tone for an interview. Good posture and open body language – not crossing your arms or looking down – show the interviewer that you have a positive attitude and might be a pleasant coworker.

Oh, and one more thing: Don't forget to bring a copy of your diploma or certification and your CV to the interview. And don't be late! Make sure that you arrive at least five minutes before the interview is supposed to begin. Be on time!

Let's move on to tips for electricians. During an interview, the interviewer wants to make sure that you are proficient in your trade. To prepare for an interview, you should think about your answers to typical interview questions in advance so you cannot be taken by surprise. Then you will be able to reply to all questions swiftly and confidently. Here are some typical interview questions.

When dealing with young job applicants, the interviewer might want to know why you decided to train as an electrician and how you did during your apprenticeship. Another common question is: "Why do you want to work for us?"

The question "How do you imagine a typical day at work?" tries to assess if you have a realistic idea of the job. "What are the last three repairs or installations you did?" is about your skills and experience. "Where do you see yourself in five years' time?" aims to find out whether you are going to be a long-term hire or looking to change jobs soon. Interviewers might also ask simple technical questions to make sure that you know your stuff. "What is the difference between a fuse and a circuit breaker?" "What do you do when a colleague gets an electric shock?" But you can probably answer these questions easily.

Harder are questions about your personality like "How do you handle difficult customers?", "Are you a good team worker?" or "What are your strengths and weaknesses?" Make sure to think of authentic answers to these questions before the interview, and don't be afraid to practice at home. Try to be yourself in an interview situation, but keep in mind that in order to get the job, there are some

things that an interviewer wants to hear. Show that you are competent and enthusiastic, and the job will be yours. Good luck!