

## 1.1 and 1.2

**Speaker 1:** I guess I'm quite crafty. I quite enjoy bits of sewing and things like that. I know that when my friends have gotten married, which is, you know, from time to time, I would make them something for their wedding – a traditional Victorian sampler or something. And, actually, as we speak, I am wearing a scarf that I knitted myself. A little festive number, so I'm quite proud of my knitting skills at the moment.

**Speaker 2:** For several years now – I've been doing pottery. That's making things of clay, as you may know, and then firing them. And I'm still trying to explore different techniques, different materials. There's an infinite number of choices in pottery, actually.

**Speaker 3:** So, since I was twelve I've been doing acting. So I do ... mainly from a film background in Australia, which is lots of fun. I also did a theatre tour when I was fifteen around Europe, which was really cool. It was the story of Ned Kelly.

**Speaker 4:** Well, I've been into football for quite a long time and so I used to play and now I am a football coach. So I'm still coaching. I coach a team at home in Manchester and then I recently started coaching a girls' team here in London as well since I've moved here.

**Speaker 5:** I have done cheerleading for the past six years and I'm actually a cheerleading coach at the moment, so I've stopped competing and I'm coaching it now. So it's a combination of acrobatic stunting, gymnastics, dance jumps.

**Speaker 6:** I've always done a lot of dance, and currently I'm doing some Brazilian dance. I used to belly dance for a long time. But over the past few years, I've put it a bit on the back burner, but it's nice to be getting back to it now. Now that my children are a little older and I can leave them for a bit.

**Speaker 7:** I've been writing my whole life, so it's my main hobby. I started when I was a kid, writing small stories and I still do now. And I've a bit of a blog, writing about London and the city.

**Speaker 8:** I've been doing cooking for a very long time cos I'm a human being and as human beings, we have to sustain ourselves by eating. I cook every day, and recently I've been doing a lot more baking. I've been inspired by the *Great British Bake Off* and so far I've made a piñata cake, cake pops, and yesterday I made a Christmas cake.

## 1.3 and 1.4

**M = Max K = Katy**

**M:** I'm just saying that school isn't always the best thing for helping you to accomplish your goals.

**K:** So what are you suggesting instead then?

**M:** Well, I think you can learn more from pursuing your interests outside of school. Joining clubs – that kind of thing.

**K:** So you're saying that everything we learn in school is a waste of time. Are you serious? How can you get on in life without having an education?

**M:** Yeah, of course you need qualifications and so school's important for that. But it's not only knowledge that helps you flourish; you need skills too. Apparently, these days most employers say the key skills are communication skills, creativity, team work, digital skills and so on. Those are the kinds of things you learn from recreational activities, aren't they?

**K:** I don't know. Give me an example.

**M:** Well, loads of sports require team work and the ability to communicate well. Any arty activity encourages you to be creative.

**K:** Hmm, I guess.

**M:** And hobbies present new challenges, which push us to achieve and give us confidence. If you underperform or something goes wrong, you learn to get over it and start again. And there are always other people to help you overcome those setbacks – friends, team mates, people online and so on.

**K:** Woah, you've thought about this a lot! I still think you can do all that at school, sorry. You do team sports at school, and there are art lessons and technology lessons. We do group work all the time.

**M:** Yes, but art lessons tend to cover a fairly narrow range of art. You don't do things like, er, origami or ... or ... design and making your own clothes. Schools can't cater for everyone's interests or talents, so lots of students have to do out of school activities to fulfil their potential.

**K:** Well, OK, I see what you mean, but you can't focus solely on what you do outside of school. That's like focusing only on school. I think the key thing is not to let homework occupy all your time but do other things too, so you learn from both school and the things you love doing outside of school.

## 1.5 and 1.6

**N = Narrator B = Boy G = Girl M = Man W = Woman**

**1**

**N:** You hear two teammates talking about playing American football.

**B:** Welcome back to the team! I'm glad your campaign worked. It was dumb not to let you play just cos you're a girl.

**G:** I know. You soon forgot I was a girl once I'd knocked you down! I accept I'm not the best player in the team and it wasn't really about letting me be part of a winning team, even though you probably have a sneaking suspicion I could make a difference. It was about the people making the rules treating me in the same way they always tell us to treat each other – with respect, and that wasn't happening in team selection.

**B:** So is the campaign over now?

**G:** Not really, though I'm not sure where to take it from here. They've compromised and let me play, but not other girls.

**B:** You should keep fighting then. I reckon you have a few options. You'll obviously continue your internet petition, but it might not get

much further than it already has. You could try to get on TV to highlight the issue there, one of those popular daytime chat shows or something – they'd love a story like this. A demonstration near city hall could work, but you'd need a lot of people and if you couldn't get them then no one would notice. I guess it's a tricky one, but it's important to get it right.

**G:** Sure, thanks. Something to think about, anyway.

**2**

**N:** You hear two friends discussing opportunities for Olympic athletes.

**W:** I'm reading this article on sportspeople who overcame big challenges before competing in the Olympics. There's a javelin thrower who had to teach himself to throw via YouTube videos and a runner who grew up in a boiling hot refugee camp with no gym or running shoes!

**M:** Well, I have to say that's pretty heroic – to put so much effort into overcoming obstacles like that. In fact it just goes to show, that you don't need to have the best of everything to be competitive on the world stage.

**W:** You'd think so, wouldn't you? But both of them were sent off to train with excellent facilities and expertise once their talent had been spotted. Their efforts should be celebrated, but I wonder whether they'd have got to the Olympics without that kind of funding.

**M:** Good question!

**W:** I bet there are loads of naturally talented people who end up not fulfilling their potential, just because they're not seen by the right people at the right time. It makes you question whether it's a level playing field at all, and it must be particularly bad in some of the poorer regions of the world too. I wonder just how fair big global sporting events really are. It's not that these people aren't gifted though, and hopefully things will change.

**3**

**N:** You hear two friends talking about some research into sports and child development.

**M:** This research says that kids who develop early tend to get picked out as promising sports stars and those who develop late are ignored.

**W:** OK, well, there's nothing too shocking there when you think of our competitive school sports system. What happens when those early developers fail to live up to expectations?

**M:** Well, nothing really. Apparently, the child and everyone else believes they're talented, so they get the best coaches and train really hard. Ultimately, they achieve success while the late developers believe they're no good at an early age, so just give in.

**W:** Hmm, that's tough. Nothing will change though. Not enough people in education are aware there's an issue. Does it give any suggestions on dealing with it?

**M:** Not really. You know, when I think about me and sports at middle school, I was so uncoordinated. I was glad to give it up. Maybe I could have been an athlete if I'd worked at it like those sporty kids – but I'll never know now. Still, according to this research, early developers tend to focus solely on their sports and improve less in other areas, but I concentrated on my studies and did well there, so I can't complain.

## 1.7 and 1.8

- The main assumption people make about gaming is that it's for kids and that you'll grow out of it by the time you hit your twenties. But it's not true! It's relatively unknown but the average gamer is actually in their early thirties and there are supposedly more gamers over the age of thirty than under the age of eighteen, so it's not just a young person's pastime at all. You have to remember that kids were playing the first computer games in the eighties and many of those people are still playing now – in their forties. *They* didn't grow out of it!
- Games are generally considered to be a waste of time by people who don't play them. But why? What makes them different to watching a film or listening to music? Those things are much more passive than being immersed in a game where you're actually doing something active. It's frustrating cos gaming is really popular, so how could so many people be getting it wrong? No matter how many people play it, it's still looked down on.
- A misconception I often hear is that games are for lazy people who have no intelligence. You know, the kind of image of a teenager who plays games all day instead of studying and then flunks out of college. Just think about the intelligent people involved in the gaming industry. Most of them love games, which is why they make them. Lots of games push you to use your brain and I've learnt loads of interesting things about the world through them too, stuff I've then read up on later to learn more. So games have greatly increased my intelligence and I haven't even started on the *skills* you learn through gaming yet.
- If you asked people to describe a gamer, I reckon they'd describe a boy every time. Yes, fewer girls play than boys, that's true, but plenty of girls like it too. I have female friends who spend hours playing puzzle apps and yet they still insist they're not gamers. They are! It's a misconception that consistently annoys me. Girls like gaming too!

## 1.9 and 1.10

**Ela:** I'd probably go to Cairo.

**Ben:** We tend to spend time outside. We like to experience enjoyment by participating in team sports such as football or rugby as competition has always been a key aspect of our friendship.

**Rei:** One where I can spend all day just chilling out at home with my friends, playing a few games, listening to music – that kind of thing. Doing stuff outdoors isn't really my thing. I prefer hanging out with a small group of friends and having a laugh with them.

**Martin:** I'm not that great, to be honest, but it depends on the activities. I can do my homework with music on, for example, but I'm rubbish at doing things when I'm talking. For example, when I'm out chatting with my mates, we end up going in the wrong direction because I just can't concentrate on directions at the same time.

## 1.11 and 1.12

- I couldn't write any Chinese at all when I started learning the language. I had to learn [beep].
- If you really love sport, adventure and the outdoors, then mountain biking is something you should [beep].
- Hmm, I can run long distances pretty fast. I won our local junior marathon last year. I guess that's my biggest [beep].
- When people work really hard at something, it's amazing what they can [beep].
- My sister really annoys me sometimes. I think she does it on purpose, so I try hard not to get angry and to [beep].
- I live at a boarding school during the week but I go home at weekends because it's not too far away. This is great for me because I spend time with friends and family. I think I get [beep].

## 1.13

I've loved painting all my life and so this year I'm trying to turn what is essentially my hobby into a job. I've painted over ten paintings in recent weeks in an attempt to create a collection that I can sell. Every now and then, to see how attractive people think my paintings are, I take them to the local arts market where I try to sell them. I've sold around ten so far, which I feel really positive about. People like them! I'd like to spend more time selling them but for the time being, I'm concentrating on producing as many as I can to sell on my stall. I've been working hard, and my productivity has improved over the last few weeks. As well as having my stall, I also have a website where people can buy them online. Several times a week, I check to see how many visitors I've had to my site so I can gauge how popular my work is. Three people are looking at it as we speak, which is exciting!

## 2.1 and 2.2

Researchers have been asking some very interesting questions about the brain recently. The invention of brain-scanning techniques has revolutionised our understanding. Never before have we had such rich information available. For years scientists prided themselves on observing the world without any emotion. Nowhere was this better illustrated than in characters from popular culture, such as Sherlock Holmes, whose powers of observation were second to none. But we now know that seeing is not necessarily believing. What happens is that information is filtered through our senses and then through different sections of the brain, and that may not be very reliable. It's possible, and actually quite common, to look directly at something, and not understand what we see. You would think that something as obvious as a gorilla would show up anywhere. What we now know is that gorillas can be hidden almost anywhere.

## 2.3 and 2.4

We believe that we're able to separate our senses, and see, hear, and taste clearly. And on the surface of it, this is often true. However, those sensations we get from the world around us aren't always translated into neutral thoughts. Put very simply, our brains get in the way. A very good illustration of this is an experiment with cherry-flavoured drinks. We've come to expect cherry drinks to be red in colour. When scientists altered a cherry flavoured drink to be orange in colour, testers had the impression that it was orange-flavoured. In fact, our perception of food and our expectations are so strong that anything unexpected can make us feel ill. Participants in an experiment were enjoying a meal of steak and chips in a restaurant. What they didn't know was that researchers had played with the lighting in the restaurant so that the dish looked its normal colour. When the lights were lifted, they saw that the steak was in fact blue, and the chips were green. Before that, they had no concept of what the real colour was. Many refused to continue eating, and some even reported feeling ill. This experiment gives us a clear insight into how much our brain filters information coming from the senses.

## 2.5 and 2.6

For me, it has to be the smell of bread baking in the oven. My mum baked every week on Wednesdays and there would be warm out-of-the-oven bread and homemade jam greeting me when I got off the school bus. It was the best thing ever, and I used to munch it while struggling with my homework in my room in the evening. Even now when I walk past a baker's, whenever I notice that scent, it smells like comfort and security all mixed in together. It's like I'm running off that bus again! I'd love to be back in that situation now. Whatever the future brings, I know it'll be fine.

## 2.7

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- There's one scent that makes me stop whatever I'm doing and take a few moments. It makes me think I should ignore the pressing matters of my life and take time to just let my mind wander, remember how everything has a solution. That scent is the smell of a little purple flower. I grew up in Kerala in India and there was a tree that overhung a tiled pool in front of the temple. Sometimes I had to hang around outside waiting for my brother, and I used to enjoy watching those little flowers drop into the water. It was so relaxing smelling the trees

and watching them float around against the bright white tiles, making patterns. My school days were so happy.

- 3 If I think of nostalgic smells, for me it's the smell of roller coasters, when you get to the last part of the line and you're inside and nearly on the ride. I have to admit, it's a kind of cool feeling, mixed with the oily smell of the rails. It was a relief that the wait was nearly over. It's not so much associated with a particular memory. But when I think back to the thrill and goose bumps of that moment, it helps me to keep other things in perspective – to stop showing off for others or worrying about their opinion, and focus on myself. It's so easy to get hooked up on ambition and work.
- 4 My first paid work, while I was still at school, was in an old distribution warehouse. It was hard going because I had to make sure packages went out fast and I was all new to it. There were a number of smells around the building, but there's one combination that just grabs my attention and takes me straight back there – the smell of cardboard and car engines. It was an unmistakable combination. Even now, I can't ignore it. Now I've got a real career, I remember just how far I've come in life and how much further I may still have to go.
- 5 There were lots of smells around me growing up, some of which still make me feel emotional even now. The scent of slightly boggy woodland in springtime is my favourite. I don't get to smell it that often, now I live and work in the city, but when it does come my way, it just stops me right there in my tracks. The childhood memories of exploring the land around my grandparents' home come flooding back. We felt we were unbeatable and up for anything. That scent just gives me the same feeling of confidence we had back then and helps me to feel able to deal with things. They were happy times.

## 2.8 and 2.9

Well, I was looking for something for a biology project, and I heard about this incredible new piece of research on elephants. The researchers were working with elephants who lived alongside two different African tribes, Kamba and Massai. Whenever the elephants saw someone from the Kamba tribe, they were relaxed. The Kamba are quite friendly towards elephants. Their neighbours, the Massai, however, have a much more aggressive history towards the animals around them, sometimes attacking elephants, as a result of which, relations with them have suffered. Whenever an elephant detected a Massai, it would run away. The researchers know that these animals have a highly evolved sense of smell, and the Massai and Kamba have quite distinct diets, which would give them a different odour. Others suggested they could recognise the distinctive red colour that Massai wore, but the elephants even ran away from a car that had carried a Massai member in the last few days. Whatever the reason, it is the first time that animals appear to be able to classify another species into quite specific subclasses of culture. It's the kind of thing we thought only humans could do.

## 2.10

- 1 I get fed up when people try and set rules for using your phone. I mean, they don't tell you how to behave at any other time, so why should I care what they think?
- 2 All my friends upload photos of their lives, and I sometimes feel a bit left out, so when I go anywhere, I'm always worried about getting the right kind of photo. It sometimes means I don't enjoy the event so much.
- 3 You know, when everyone's worried about how they're going to look in the photos, they spoil it for everyone. I'm just as happy to do without phones.
- 4 I don't know how I feel about videoing my friends. I guess if something really funny's happening, you want to share that moment, but sometimes I just want to live the moment.

## 2.11

OK. So, in this photo there are a lot of people at a big event. I think it's a race, or perhaps at a film when they show it for the first time, and all the actors and stars come and walk down the red carpet. There's a kind of fence that you put for this sort of event in front of the crowd. In the second photo there's a girl in class. She's wearing a green and blue T-shirt and she's sitting next to a boy wearing a checked shirt. The girl has a phone hidden under the desk and she's looking at that and not paying attention to the teacher.

## 2.12 and 2.13

OK, so, obviously, the thing that links these photos is people using their mobile phones when they probably shouldn't. I suppose at a big public event, it's probably understandable that people would want to use their phones to take photos to share with friends later. But in the first picture, everyone in the crowd is watching the event through their phones, and not really 'in the moment', I think you'd say. There's an old lady in the crowd, and she looks as if she's enjoying it because she seems to be giving it her full attention. It could be that she's just from a different generation. In the other photo, there's another young guy and I guess he's out on a date, but either he doesn't like the girl and so he's ignoring her or it could be that he's not very smart because he looks like he's been spending the entire time checking his phone. She's just as bad, though, to be honest. I guess they won't be seeing each other again any time soon. At least in the first photo, no one's got a real problem with the phones. I think that the two photos show how using mobiles has become a kind of automatic habit these days, and we're not really paying attention to what's around us.

## 2.14 and 2.15

- 1 My brother thinks his trainers smell alright, but I think they're [beep]! I can smell them from the bottom of the stairs – they're so bad!
- 2 I don't think you can ever go by first impressions. I think appearances can be really [beep] and you need to take time to get to know someone before you start making judgements.

- 3 I don't read a newspaper or watch the television news any more. There was a time when they gave people valuable [beep] into what was happening in the world, but that's just not true anymore. They all tell you what they want you to hear.
- 4 My sister was cooking a chocolate cake and there were some [beep] smells coming from the oven. I couldn't wait to try it!
- 5 The dog ate one of my shoes while I was out one day. It had holes in it by the time he finished, and it was covered in slobber. I think it was [beep] that I wasn't going to be able to wear that shoe again!

## 2.16

- A:** OK, so the plans for the festival are going well. We just have to get approval from the local council. Did you get the results of the survey?
- B:** Yes, it's all looking very positive. I mean, whatever you do, there'll always be some local opposition, but there seems to be a lot of support for the general idea of a festival. At no time did any of the locals in the village say that they were against the festival taking place. They were all in favour.
- A:** Great. What I don't understand is why the local council want us to hold the festival inside. What did the people you spoke to say about holding it outside?
- B:** That got a lot of support, to be honest. I think we might be able to persuade the council to change their minds. In no way is it possible to tell whether they have reached a final decision about holding it inside.
- A:** And how many did you speak to in the end?
- B:** We interviewed around twenty people, many of whom said that they would definitely come along and support the festival.
- A:** That's brilliant! So, I think we're ready to take out proposal for the biggest water fight festival back to the council. It's going to be absolutely brilliant!

## 3.1 and 3.2

**P = Paula B = Benjamin**

- P:** So, today we're talking about those fake news stories that seem to do the rounds on social media. No matter how obviously fake they are, they still go viral. I'm joined by media professor Benjamin Thompson.
- B:** Hello, Paula.
- P:** Hello. So Benjamin, why do these stories even exist?
- B:** Well, some fake news stories are simply an example of humour – they're supposed to be making fun of real news stories – a kind of satire. But others want to publicise their website. They create those stories to get visitors to their website because advertising there makes them money. They use sensational headlines to make this a more attractive option.
- P:** Oh, like 'You'll never guess what this lady did next' type headlines?
- B:** Exactly.
- P:** So, why is it so hard to make these news stories disappear from social media?

- B:** You've asked a good question. I mean, experts tend to blame the readers but before we start doing that, we need to understand why readers believe and share the stories. There are a few key reasons, actually. The first one is that people simply don't read the stories. They read the headline, think it sounds interesting and then share it with all their friends without actually going any deeper than that.
- P:** Really? That's surprising but actually, I've probably done it myself.
- B:** If people read the article in full, they might realise it's fake and expose the lie. Er, another reason people believe these stories is that people don't look at the source of the story. The source can often tell you if it's a legitimate story or not very quickly. Something from the BBC, for example, is clearly going to be a lot more reliable than something written by a blogger you've never heard of before.
- P:** That's true. Anyone can publish something online now and claim it's correct.
- B:** Exactly. Another problem is that fake stories often have related content that are legitimate stories. If someone sees a sensational headline to a fake story, clicks on it and sees links to legitimate stories from legitimate sources on the same page, they immediately assume the fake story is legitimate too.
- P:** Right, I think I fall for that trick too.
- B:** I expect we all do. Confirmation bias also has a role to play in fake news stories.
- P:** What's confirmation bias?
- B:** Well, people like to confirm their existing ideas and opinions. So if they read something that does this, they tend to believe it without trying to critically analyse it.
- P:** Oh I see. 'It says what I already think, so it must be true.'
- B:** That's right. Let's say there's a high-profile person you've never liked. If you read an article exposing some kind of scandal that person has been involved in, it'll confirm your existing beliefs that they're bad. We don't really want to read things that go against what we already know or think, so you don't want to read an article saying that this public figure contributed money to a good cause.
- P:** I guess you're right. I've never actually thought of that before.
- B:** The final reason is that when something goes viral, social media users see it over and over again. This gives readers the sense that it's legitimate. People tend to think that groups of people can't all be wrong, so their assessment of the story as being true must be correct. It provides some kind of objective reality and yet, as we've just discussed, there are lots of reasons why groups are incorrect about stories being real.
- P:** Very interesting. OK, so the next question then is how we can deal with this issue and help people to be more critical of what they read.

### 3.3

- 1** I always think I know more than other people. So, if someone corrects me, I don't take it on board until I've double checked it elsewhere. It's a terrible habit, really.

- 2** I look up information online all the time but hardly any of it sticks in my mind. I guess I don't try hard enough to memorise it.
- 3** Why do we have to do this test? The teacher didn't say so. I'm beginning to think there's some kind of hidden agenda.
- 4** If you saw someone using their mobile to look up information in an exam, would you tell the teacher or turn a blind eye?
- 5** The grades on my report card were all wrong, so I went straight to the school office to set the record straight.

### 3.4

**I = Interviewer P = Paul S = Sally**

- I:** With me today is Sally Cahill, expert on false beliefs, and Paul Roberts, professor of political science. So, Paul, let's start with you. You developed a website on false beliefs. Why did you do that?
- P:** Well, false beliefs are facts that people think are true but actually aren't. For example, it was once falsely claimed that former president Obama didn't have a US birth certificate and as a result, his mother is still thought by some to have given birth to him outside the country despite his birth certificate saying otherwise. While I was at university, one political campaign caused so much misinformation to go round that I launched my website to try to set the record straight. I didn't really get anywhere though because once false information is believed to be true, it sticks in people's minds. That's what my new book's about.
- I:** Sally, what do we know about false beliefs or misinformation?
- S:** There's a little research on it but most of it has been done in artificial conditions rather than in the real world, which might be less effective. One good study suggests that our brain views different kinds of misinformation in two ways. If the truth is no threat to us, then we're happy to be corrected and take the correction on board. But if the truth poses a threat to us in some way, we turn a blind eye to it and hold onto the false belief, even if we're told the information's wrong soon after we hear it.
- I:** Well, that's interesting. So it's about how willing we are to accept the correction. Have there been any studies on it?
- S:** There was one done in Australia, where the participants heard details of a crime or heroic event. They were given some wrong information which was quickly corrected. However, some participants still tried to give that incorrect information when reporting it later, despite giving the other facts correctly. Researchers concluded that it was the people's values that determined whether they did this, not their personality or any hidden political agenda.
- I:** So, how should misinformation be corrected?
- S:** People need to concentrate on getting people to understand how their values can affect how they take in information. Clearly, the more willing they are to accept different people and ways of life, the more able they are to recognise false beliefs.

- P:** You know, apparently, if you recall a time you felt good about yourself, it actually makes you more open-minded and therefore able to report information accurately. Of course, it's unrealistic for people to go round thinking about something positive before they read information but it's an interesting idea and one we must focus on. Simply correcting information is definitely not the answer and the theory suggests we should probably also avoid appealing to political ideas that reflect who we are.
- I:** So how exactly would this work in practice? Do you have any examples?
- P:** Well, there's the interesting case of raw milk. It's said that there are health benefits to drinking raw milk by some raw milk lovers but health experts say it's three times more likely to cause medical problems if handled incorrectly. Now, if I were those experts, I wouldn't try to present the correct facts. I'd emphasise that we've drunk pasteurised milk for decades and it's not been harmful to us or our children at all. That way we avoid any reference to self-identity.
- I:** Sally, is there anything else you think can help to stop false beliefs?
- S:** Yes. It's much harder to do when leading public figures without any expertise send out false messages. What you need is all the people with the right knowledge to agree on what the right information is. When this happens, the correct messages spread broadly without interference. However, this can be tricky now that social media makes it easy for anyone to be heard, knowledgeable or not. Members of different political parties, for example, like to have their say but they don't always have the facts and rarely agree.

### 3.5

- 1** Mount Everest is understood to be the highest mountain in the world but in fact, it's only the highest mountain above sea level. Mount Kea in Hawaii is actually the highest mountain in the world when you count the part of it that's underwater.
- 2** It's often believed that body heat mostly disappears through the head, which is why our parents told us we had to wear a hat in winter. But we lose as much heat per square centimetre from our heads as any other part of our body.
- 3** Elvis Presley is understood to have had naturally black hair but in fact, he was born with blond hair, which turned brown as he got older. He dyed it black.
- 4** Blood without oxygen is known to be red and this is a true fact. It's bright red when it passes through the heart and becomes darker as it moves further away. However, because our veins look blue, there's a false belief that our blood is actually blue when it's deoxygenated. This isn't true and is simply a trick of the light.
- 5** The Great Wall of China is believed to be the only man-made object visible from space but this is a false belief. There are many man-made objects that can be seen from space and in fact, the Great Wall of China is one of the most difficult to see because it isn't very high.

- 6** People are considered to have more than five senses. We talk about sight, sound, taste, smell and touch but there are other senses too. For example, nociception is the ability to sense pain and proprioception is the ability to connect two parts of the body without visual confirmation – for example, the ability to touch your nose when you have your eyes closed. Poking yourself in the eye is an example of a proprioception fail.
- 7** Albert Einstein is believed to have done badly at school but in fact, he was successful and his grades were good. When he was seven, his mother wrote that he received good grades and was again top of the class.
- 8** Water is reported to drain in different directions on each side of the equator. You can even pay people at the equator to demonstrate this using a bucket on one side and another bucket on the other. The fact is, the direction the water drains really depends on the shape of the bucket – or sink or bath – and the angle at which the water enters. Those buckets at the equator are specially made to attract tourists.

### 3.6 and 3.7

**E = Examiner A = Anja H = Hisham**

- E:** How influential are these people on a child's development?
- A:** OK, let's start by talking about parents.
- H:** OK, well, I think they're extremely influential. It ... It's your parents that you look up to when you're little and so, whether you like it or not, they influence your character. Our parents make us who we are to a large degree. Would you agree with that?
- A:** Yeah, absolutely. Also, they teach us about what's right and wrong and these values are massively important because they continue with us into adulthood.
- H:** That's very true. OK, shall we move on to the next one – teachers?
- A:** Yeah, I think teachers have a great influence on us intellectually. Not that parents don't, but the purpose of school is to open our minds to new things, new ways of thinking. When I was at primary school, I had this lovely teacher who got me interested in science. I'm hoping to become a vet one day because I'm really interested in biology and animals and, well ...
- H:** That's great! Good for you! Er, getting back to what you were saying, teachers certainly can inspire children to think in new ways. Like parents, I also think they help to shape our character because we spend so much time with them.
- A:** Yeah, they're definitely very influential. Er, I'm trying to think how much our neighbours influence us though. Do you have any ideas?
- H:** Well, er, I think they teach children how to act with adults. We have to have good manners and show respect when they come to our house or we go to theirs.
- A:** I know what you mean but I think it depends on how well you know your neighbours. I don't know mine, so I'm not sure they've had much of an influence on me. What about friends?
- H:** Friends influence our actions more than anything, I'd say.

- A:** What do you mean exactly?
- H:** Well, we try new activities because our friends are doing them, so they push us to do different things. Of course, that sometimes means they encourage us to do things we shouldn't do because we want to impress them or whatever.
- A:** Yeah, peer pressure can be a negative influence, can't it?
- E:** Thank you. Which of these people do you think have the biggest influence on children?
- A:** Hmm, good question. What do you think?
- H:** Er, I'd say parents because they raise you as a child and teach you about morals. You learn language from them. You basically learn to be you.
- A:** Yeah, that's true, though I think you spend a lot of time with friends over the years and some people are closer to them than they are to their parents.
- H:** Yeah, and teachers are also there with you during the most important time in your childhood but I still feel their influence has less of an impact because you change friends and teachers over time.
- A:** That's a good point. Celebrities can influence you to a degree. When I was young, I was really obsessed with this boy band. I had all their posters up on the wall and my friends and I talked about them all the time. All I wanted to do was meet them but, of course, that was impossible ...
- H:** Sorry, can I say something? Celebrities might cause a few obsessions! And influence our tastes in music and our clothes, but they don't stick around for the whole of your childhood, do they? And neighbours come and go too. As you said, we might not even know them.
- A:** So, we've decided on parents. They have the biggest influence, right?
- H:** Yeah, I think so. With friends a close second.

### 3.8 and 3.9

- 1** My dad pays me for cleaning his car but not at a very high [beep]!
- 2** I love performing on stage – singing, dancing, acting – everything! If I was offered a part in a musical on Broadway, I'd jump at the [beep].
- 3** I remember faces really well but I can never remember names. For some reason, they just don't [beep].
- 4** Ben fell asleep in class again today but Mr Smith either didn't notice or he turned a [beep].
- 5** Why does everyone love Brendan so much? They think he's hilarious and follow him around everywhere. I really don't understand his [beep].
- 6** I really enjoyed the festival on Saturday. The music was great and there was loads to do. All in all, it was a really fun [beep].
- 7** My grandparents can't see why social media is so important these days. They just don't understand the [beep].
- 8** Are you sure this is the best way to do this experiment? I'm not sure it's a very effective [beep].

### 4.1

Dharavi is a neighbourhood like no other. Located in the city of Mumbai in India, it's home to almost a million people. It's hard to estimate exact numbers because there are so many arriving from poor rural areas daily. It's also an economically active area, bringing in up to a billion US dollars a year. The pottery and textile workers continue a tradition passed down over more than a century. And more recently, jobs have appeared in the recycling industry, employing around a quarter of a million people. Despite the size of the economy, Dharavi is a slum, with high levels of poverty, and so it has many problems caused mostly by poor housing and overcrowding. Average annual incomes are only a thousand dollars a year per person. And there are other problems too. The neighbourhood floods regularly, and although it's supplied by fresh water, gas and electricity, thefts of these basic resources are common. Diseases are also a major concern. But, against the odds, Dharavi has become a popular tourist destination visited by travel groups from all over the world. The slum sits on what is now an expensive patch of land in central Mumbai. Many in the local government want to move the residents and sell off the land to developers. With these threats to its existence, it's not surprising that this rare community is attracting global interest before it disappears forever.

### 4.3 and 4.4

Midnight in the deserted streets of Mumbai, and Krishna Pujari was just about to clock off from work. He was working nights to support his studies at university, and was dead on his feet. But a group of young British backpackers had just come into the restaurant, and Krishna was the only one there who could speak English. Their meeting should have started and ended there, but it turned out to be significant for Krishna and for one of the travellers, Chris Way. Chris and his friends were keen to stay away from the touristy parts of the city. When they bumped into Krishna again at a cricket match the following day, both their lives changed forever. In the following weeks Chris completely threw himself into life in Mumbai and soon took the decision to extend his trip. Over the next couple of years, the two became close friends.

One day, Chris came to Krishna with a plan. He wanted to start a travel company showing people around Mumbai, but he wasn't interested in the standard attractions of the city. Chris wanted to take people into the slums of Dharavi. Krishna was appalled at the suggestion. In school, Krishna had learnt that Dharavi was one of the dirtiest places in the world. It was not a place where tourists would be able to soak up the culture. But Chris was determined. He'd seen slum tourism work in other parts of the world and felt certain that there were more people like him, who'd be interested in seeing more than the standard attractions offered on a package holiday.

Eventually, Krishna gave in and agreed to accompany him one afternoon. It was a part of the city he hadn't even visited before. Expecting the visit would change Chris' mind, Krishna was shocked by what they found as they wandered around the slum. There were stalls selling crafts and a thriving business area, and the people were friendly and welcoming. After that

one visit, Krishna didn't need to think twice. Together, they set up Reality Tours and today they take around eighteen thousand visitors into the slums each year.

#### 4.5–4.7

Hi, I'm Marisa and I'm here to talk to you about virtual reality. Did you know that it's been used in manufacturing for ages but only recently gained mainstream interest? In its current form, it's most closely associated with gaming but I don't doubt that there are other uses that will become more commonplace in future. So, that's why I decided to go on a virtual reality adventure – an adventure I want to share with you today.

To help me decide where to go, I tried an atlas, then a map but only really found success when I used a popular app that allows you to virtually walk down streets all over the world. Eventually, I decided to go on a balloon ride across the Serengeti National Park.

Let me tell you this, I won't forget the experience in a hurry. A couple of friends who'd tried something similar told me they were scared by the experience and I'd read an article which described it as surreal, but for me the whole thing was spectacular and I recommend you all try it.

When the balloon took off, I truly felt as if I were leaving the ground and flying high into the sky. I'd expected to see dry, dusty land, not the fertile land in front of me. It was certainly different to the scenery I'm used to in the real world, which I'd say is mostly hilly.

I looked at the picturesque view. The horizon was sparkling so much I actually had to squint. I could make out something below us. At first, I thought it was bushes but then realised it was a huge herd of wildebeest. It must have been the season for migration, which is sometime in late May or early June, just before the summer.

I've heard experts say that for virtual reality to really work and feel like the real world, you need to be able to touch things. But even without that, my brain tricked me into thinking I was really on that balloon ride. I even tried to lean on the basket at one point and almost fell over!

So, all in all, the experience had a big effect on me. There was one negative issue that came up though. The media has reported that users can get dizzy when wearing the headsets. I was fine with that but I was really tired when I'd finished. Fortunately, I didn't get the eye pain some doctors predict.

So, there's a lot of talk about whether VR will benefit the tourist industry in future. What I think it will do is result in more effective decision-making. Before booking a trip, travellers will be able to virtually explore resorts and hotels. Of course, virtual reality will also present opportunities to people who can't fly. This is an exciting prospect and I'm looking forward to seeing where it takes us, both in the real and virtual sense! So now, any questions?

#### 4.8 and 4.9

You reach the peak of Mont Blanc. Stunned by the amazing view, you remind yourself you're not actually on a mountain top but in your bedroom. Next stop: the world's

longest roller coaster ride. Virtual reality (VR) has been identified as a technology that will play a significant role in our lives. But can VR experiences ever fully replace real-life ones? Could it get to the point where, thrilled with the exciting virtual experiences we have, we become unhappy with the real world?

#### 4.10 and 4.11

A misunderstanding has lost a couple over a thousand pounds after they booked flights for their holiday out of the wrong Birmingham. Expecting a dream trip to Las Vegas, the couple turned up at the busy Birmingham Airport in the UK, only to find that they were booked on a flight leaving from Birmingham, Alabama, over six thousand kilometres away. The airline company said they were sympathetic with the couple's situation, but there was no point trying to get them onto another flight that day, as all flights to the States were fully booked. Returning home in disbelief, the couple have vowed to spend the next few months saving money for new flights and have rearranged their hotel booking for next year. A spokesperson for a travel company said they cannot overstate enough how important it is for customers to preview bookings online before clicking on that final 'Purchase' button, as most people underestimate the number of things that can go wrong if they don't.

#### 4.12

**H = Hayley M = Mark**

**H:** Well, I don't know about you, but personally, I think that the local government should build more cycle paths. If they did that, then more parents would feel better about letting their children cycle to school. The main reason for this is that at the moment kids have to cycle on the roads and because a lot of people drive pretty fast through the city without paying much attention to the speed limit, it puts cyclists' lives in danger. To give an example, where I live there are at least one or two accidents involving cyclists every month. Cycle paths would mean children could get from home to school and back more easily and, above all, more safely, without having to worry about cars. What do you think?

**M:** You've made a really good point, but in my town there are already cycle paths, so this isn't the main issue. Parents find it easier to drive their kids to school, but this just results in more congestion on the roads and is frustrating for everyone. Schools could ban cars from parking near the school. They could also organise cycle trains. This is where an adult cycles through the town and picks up school kids on their bikes as they pass their house. The kids all cycle behind each other creating a kind of train. More parents would be persuaded to let their children cycle because it'd be easier and safer. So schools need to do more to encourage kids to use the cycle paths.

#### 4.13 and 4.14

- 1 The film was a comedy and it was absolutely [beep]!
- 2 The village was so beautiful and [beep] it looked perfect!

- 3 We picked the blueberries from the [beep] and ate them immediately.
- 4 You need to be honest and show [beep] for people to trust you.
- 5 When animals live in a large group, we call it a [beep].
- 6 When you try really hard, you put in a lot of [beep].

#### 4.15 and 4.16

- 1 My worst holiday experience was when I went camping with my mum and dad. I was starving, and so Mum offered me a sandwich, but, bursting to go to the loo, I decided to put the sandwich down for a minute. When I came back, it was covered in ants!
- 2 The school holidays were finally there and I couldn't wait for our beach and amusement park holiday. On the first day, I twisted my ankle hiking. The next day I cut my foot swimming near some rocks. The following day, I was on the roller coaster when it broke down. We stayed stuck at the top for ages!
- 3 I guess it's not really a holiday, but I spent last summer working the vacation, cutting the grass in the neighbours' houses down our street. In one of the houses, I always forgot they watered the grass with a sprinkler system. Just as I started, the thing went off, spraying water everywhere, all over me! The worst thing was it ruined my phone.
- 4 Well, we were on holiday in this really nice villa, with our own swimming pool and everything. Mum had won the holiday in a raffle! We got there in the afternoon, tired but happy but, entering my bedroom, I saw this huge lizard thing! I couldn't relax and sleep properly for the rest of the week!

#### 5.1 and 5.2

So, there's this field of psychology that I work in called mob psychology, or crowd psychology. Around the time cities started expanding, people noticed that we behave differently when we're in crowds than when we're alone. For example, a higher number of people who grow up in a bad neighbourhood turn to criminal activity. Some people started to think that the people around young children in those neighbourhoods had to have played some role in that criminal behaviour. They realised that those children might have seen a lot of crime around them and thought it was normal. That can't have been good for them, and wouldn't have happened if they'd been in a better neighbourhood.

More recent studies have looked at how people behave in a crisis. It seems that when there's a crowd around, people are less likely to help. People will walk past another person obviously in distress, or people who could have easily intervened in a situation just walk on by. You might think that you would behave differently, but there's an easy way to understand this in your everyday life. Imagine you'd ordered a pizza and heard the doorbell ring. Now if you'd known you were the only one in the house, you'd have gone straight to the door, opened it and paid the delivery guy. You could have ignored it, but you knew no one else was

around to pay the guy, so you did it. Imagine that same situation with around five people in the house. The doorbell rang, but you ignored it. Why? You might have been thinking that someone else must have opened the door already and left them to take action. This is mob psychology, or the bystander effect. There's a confusion of responsibilities that wouldn't have happened if you'd been on your own.

### 5.4 and 5.5

- 1 I was working in a shop and this guy came in and tried to buy a microwave with a million dollar note. I mean, I was sure he was just fooling around because they don't make anything bigger than a hundred dollar note. I thought, he must have been having me on, but he insisted on being given, like, a hundred thousand dollars in change. In the end, we had to call the police.
- 2 OK, so I was working at a late night take-away and it was getting quieter, when we got this phone call. The guy on the other end of the phone wanted to know how much money we had in the register. He wanted to know if it was worth robbing us. I mean, like he wasn't going to settle for just a small amount. It made me so mad! I decided to stand up to the guy, but the manager called the police, and they were waiting for him when he arrived. He said he hadn't done anything, but he had all the equipment to come and rob the place.
- 3 My uncle was running a restaurant, and these two guys came in and threatened him if he didn't give them free food and all the money in the till. Anyway, they weren't exactly jumping at the chance to carry out their threat, so my uncle calmly told them he was busy, to hang back a bit and then come back in an hour's time, when he'd have more money in the till. They did, and the police were waiting there to arrest the two men.
- 4 I really hate vandalism – it's such a pointless crime, and vandalism gets to me every time. There was a children's campsite near my home and one night it got vandalised, but the person who did it was stupid enough to leave their name on the wall. At first, the police thought someone was winding them up, but when they tracked down the guy that had done it, they found enough evidence at his house to convict him.

### 5.6

Hmm, the worst gift ever? I bought a hand-made journal for a friend. I'd decorated it and written a special message for her. I was so hurt when she gave it back as my gift on my birthday! I decided to get my own back, kept it and returned it to her again the following year. I guess when it comes to gift-giving, most people get it wrong at some point and now, instead of trying to come up with something that I think they'll like or find useful, I just give up and get them to tell me what they're after. Most people prefer that to the 'thoughtful' gift.

### 5.7

When it comes to giving gifts, just go for what someone likes, even if it means they end up with something almost identical year in, year out – I don't think it matters. My brother can't

get enough of dodgy sci-fi comics, and if they're second-hand and wrapped up in brown paper, even better! By far the worst gift I ever got was a hat from my mum. I didn't want to hurt her feelings, so I made out that I loved it, and gave it to a charity shop later. She asked me later why she'd never seen me wear it!

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- 3 My mum is the queen of giving gifts for the daughter she always wanted. I have a pierced nose, and short spikey hair, and when she gave me a girly pink outfit, she was hoping it'd change my mind about the way I dress. I refused to let it get to me though. Whatever it is you get, I think you have to make sure that you're not building expectations. If you ask me, you should keep the wrapping really plain, and save your money for the actual gift. And try not to push your own choices on the receiver. If all else fails, you can't say you didn't try.
- 4 To be a better gift-giver, you have to be realistic. How many people do you know who've never had a rubbish present? Whatever you get, make sure it's possible to return it to the shop if they don't like it – that means proving where you bought it. If you're going to ask what to get, you might as well just give money. Most people don't even try to work out what others would like. My grandmother once got me a CD for this singer that I hate. Only two weeks before, I'd told her I thought he was annoying, but at least it gave us a laugh. I passed the CD on to my sister.
- 5 Every year I got these thick woolly socks from my aunty. I was thirteen! I was never sure if she'd got me mixed up with someone else. Every year, I hoped she'd get something different. Thank heavens my mum never made me wear them! One year, the dog chewed the parcel and contents before I'd even unwrapped it. That's not to say that I don't appreciate functional things – I think they make the best gift. A friend got me a set of pens, and pens are always handy. They got used more than the one pen I had with my name on it. I was scared to use it.

### 5.10

Skiing experiences, rock climbing and adventure activities have become a normal part of children's birthday parties these days. Making a child's day perfect is far more challenging than it was in the past. So much so, that one mum decided that her son's birthday invite was part of a legal contract. She had organised a special treat for her son and when one of his friends, eleven-year-old Josh Wilton, failed to turn up as promised, the response he received was nowhere near as forgiving as he expected. Josh and his parents almost found themselves in court.

Josh had accepted the invite to attend a skiing party, but on the day his parents decided not to send him. A request for payment for the cost of the missed party was put into his school bag the following Monday. When Josh's mother refused to pay, the family were threatened with legal action. Lawyer Jim Smith said that this was by far the most extreme case that he has ever dealt with and stated that as far as he was aware, a birthday party acceptance couldn't be seen as a legal agreement. Still, it's a strong message to think twice before you next bail out on your friends!

### 5.11 and 5.12

I was walking to school one day, by a route I don't usually take, and I was appalled at the mess the park was in. The rubbish hadn't been cleared for ages and the play area was closed down. I was ashamed of my own neighbourhood for letting it get so bad, so I decided to do something about it. With the help of a teacher, I got together with a group of other students. They were all eager for a chance to help out in the neighbourhood. We cleared the rubbish and repainted. We had to find a qualified builder who was capable of fixing the play equipment because we might have made things worse. I thought it was a great result! Then one of my teachers was so impressed with the project that a month later I got a letter offering me a one-thousand-pound grant over the summer! It was with one condition: the money was subject to us carrying on with the project in another park! It just goes to show that contrary to popular belief, helping others really can help you too. And I was actually intent on doing it for the right reasons anyway.

### 5.13

**S = Susie E = Eric**

- S:** Eric, I've heard your hometown has a really great community spirit. What kind of things do they do there?
- E:** Dunno, really. I guess we have celebrations in the town square for the big festivals.
- S:** I read that they did a lot of community work, like clearing up the parks together and growing vegetables in community gardens. I even heard they do a curry night, where they cook up a big pot of vegetable curry with the things they've grown.
- E:** Nice. Never been. You'd need to ask my mum.
- S:** Oh well, there must be something you've been involved in?
- E:** We had to do stuff with school. I had to sing in a ... what's the word? Well, outside the shopping centre. Dunno why.

- S:** You? Singing in the choir?  
**E:** Yeah. But I like it.  
**S:** Well, I'd love to join you one day. Is there anything coming up soon?  
**E:** Probably. Look online.

## 5.14

- 1** Unlike the other places, this one is very temporary. It's where they collect supplies when there's been a natural disaster and you just need to get food to the people affected quickly.
- 2** I'm not sure where they are. It could be a beach because there's a sea wall. It looks like someone must have left a load of rubbish behind, and the locals are clearing it up. Compared to the others, this is the kind of thing that would drive me nuts – out there clearing up some other guy's mess. It's a lot more unpleasant than the other two jobs, and they look freezing! I guess it's just as rewarding though, seeing the beach clear.
- 3** I think he must have asked people to ... what's the word? It's when your friends and family pay you to do something really hard, like run a marathon. This must be the hardest activity, especially in those ridiculous costumes.

## 5.15 and 5.16

- 1** I was worried that my friend was being serious, but he was just [beep].
- 2** I tried to not to let her rudeness get to me, but it really started to [beep].
- 3** I love singing, so if the opportunity to go on stage comes up, I'd [beep] the chance.
- 4** You should push for the best. Don't just [beep] for the first thing they give you.

## 5.17 and 5.18

I hate going to parties. I don't mean birthday parties or chilling with a group of friends, but big, noisy parties. They're nowhere near as good as everyone expects them to be. People only do the big house party because movies make them out to be way more exciting than they ever are. It's just a bunch of people standing around in the same boring circle of friends that they already know. Be honest, most kids are just as likely to talk to someone new at a big party as they are sitting in the library or at home. It's not going to happen. They just talk about the same old garbage – if they can scream loud enough over the music. And these days you're twice as likely to end up with a bunch of strangers on the doorstep as before because most kids don't understand social media settings when they post about the party online. It's like a rule that at least one person will go overboard and end up doing something stupid. It's far more interesting staying at home and hanging out with friends. At least I talk to people there.

## 6.1 and 6.2

**Speaker 1:** OK, so we landed in Mexico City for the first time and when we got there, we were very tired travelling from Australia. And we got to a hotel room – and it was the middle of summer – and it had no fans, no air conditioning

and the only window you could crack was fine, but then they were having a party downstairs till about 5 a.m. in the morning. So that was really great landing and not sleeping and then just sweating. So that wasn't too great, but Mexico City was very fun.

**Speaker 2:** OK, so I'm in the Hague in Holland, er, or the Netherlands ... erm ... and I'm on my bike, cycling along with my boyfriend and we're trying to get to the beach. And I'm looking it up on my maps and I think I've found the way ... erm ... and I, y'know, I've taken screenshots on my phone. Erm ... but it turns out I've taken the wrong screenshots. So I'm cycling along ... erm ... and we're sort of going in a direction I think I can see the beach. We ... we're end up at the beach ... er ... but it's the wrong beach and we've gone about three miles the wrong way.

**Speaker 3:** I think one of the best stories was when Jarrod, erm ... went into a store to ask them for a spoon. And he was just doing hand actions cos he didn't know the Spanish word for spoon. And he just kept doing this ... and then they had no idea. They, like, they were, like, 'Do you wanna go on a boat?' They were so confused, it was so embarrassing! We couldn't get a spoon to save our lives!

**Speaker 4:** And when I landed in Bangkok, I landed at about 11 o'clock at night. I thought I was going to land at 11 in the morning cos I was such a naive young traveller, and I walked behind the station and I was just mobbed by people. 'Give me your trade.' 'Come and stay in my backpacking place.' 'Come to my hotel.' 'Get in my rickshaw.' and things. And I genuinely didn't know what to do, so I got on a bus, thinking I was going on a bus in the right place. And it turned out to be a bus going nowhere near where I thought it was going to go. And then I kind of asked for help. I looked around the bus. All very nice people. Nobody spoke English. Apart from one person. Turned out to be a child about this tall – about eleven years old. And he was wearing a boy scout uniform. And I was in the scouts. Basically, he came up and said, 'Can I help you, sir?' You know, I was twenty-one. Nobody had called me 'sir' before!

**Speaker 5:** So, when I was travelling by myself in Milan, on my first night there I got food poisoning, and on the first day I was there by myself and I had to go and get my own medication, so I, food-poisoned, crawled to the pharmacy and the pharmacy person didn't speak any English, and I didn't speak any Italian, and I tried to, like, sign language that I had food poisoning and I felt really ill, and he couldn't understand and I tried to sit down on this beautiful chair and he yelled at me, and I'm not really sure why, and in the end I just, sort of, pretended to throw up on him and he gave me some pills and I walked away. And it was all good in the end, so that's OK!

## 6.3

Like many children growing up in rural India, four-year-old Saroo Brierley rarely had enough to eat and would often travel on trains to beg for scraps with his older brother. But one ill-fated trip changed his life forever. He'd stopped to have a nap at the station with his brother but when he woke up, he found he was alone. He saw a train in front of him with the door

open, so he jumped on board, thinking his brother was on there too. But having looked everywhere, Saroo couldn't find him. He decided to stay on the train until it reached its destination – Kolkata, one thousand miles away. Alone and afraid, Saroo spent four weeks wandering the streets of the city. He tried to find his way back home but had nothing except the clothes he was wearing. It was a dangerous time. He almost drowned in the River Ganges and was almost abducted by a man who wanted to sell him as a slave.

Eventually, he was rescued from the streets and put in a juvenile home. But because he wasn't able to tell carers where he'd come from, he was soon transferred to an orphanage. There, he was adopted by an Australian couple who took him to live in Tasmania. He started a new life with a loving family and grew up to earn a degree and join his adoptive family's engineering firm.

However, while he was growing up, he never gave up hope of seeing his old home again. He knew it was an impossible dream without the name of his village, but he kept in his head images of the streets he used to wander and the faces of his family. He'd spend hours looking at maps for signs of the landmarks that he knew as a child and eventually he turned to Google Earth. Saroo remembered travelling for around fourteen hours in the train to Kolkata. Estimating the speed of the train to be about fifty miles per hour, he calculated that his hometown could be around a thousand miles from Kolkata. Saroo then drew a circle on a map with Kolkata at the centre.

But even after he spotted what he believed to be the town where he'd spent his earliest years, it took months for Saroo to organise a trip to test out his theory, and when he finally did reach his old home in the town, it was empty. It was then that he had another stroke of luck. As he was standing outside his old home, locals began to approach him and ask him his business. He told them his name, and the names of his mother and siblings. About ten minutes later, someone came and led him around the corner. There, there were three ladies. Saroo knew there was something familiar about one of them. It took him a few seconds but he eventually realised it was his mother, looking much shorter than she used to when he was four. They rushed towards each other. Saroo compared the emotion, tears and chemicals in his brain to nuclear fusion.

## 6.5 and 6.6

**1**

**A:** I think fashion designers decide what we wear. Whatever they create seems to end up in the shops and that's what most of us buy.

**B:** Actually, high street fashion is often different to catwalk fashion. I think designers have less impact than we think.

**2**

**A:** I guess I wear what my friends wear. If I see one of them in something really cool, then I'll go out and buy something similar myself.

**B:** Yeah, friends are certainly influential although I think social media has a greater impact on us these days.

3

- A:** I think trends start locally. I mean, you see people on the street wearing something and then you want it.
- B:** Yeah, clearly, that's how trends spread. They start from normal people like us rather than fashion designers.

4

- A:** Fashion magazines are full of ads for designer clothes and accessories, so I suppose they decide what's trendy and what isn't.
- B:** Hmm, I agree that fashion magazines have an impact but not necessarily on people my age. I mean, none of my friends read them and we're all into fashion.

## 6.7

**I = Interviewer D = Danielle R = Richard**

- I:** Today we're talking about how fashion is created. I'm joined by fashion trend forecaster Danielle Mayer and fashion retailer Richard Bale. Now, Danielle, who or what decides exactly what new fashions are and how they're established?
- D:** This might surprise you but there's a group of experts around the world that spend all day every day tracking changes in areas including science, technology and the arts. They come together each year to present evidence about what's next. But this evidence only reflects what's going on globally so, in fashion terms, I know the most important influencers are actually ordinary young people on the streets – the ones who start trends in cities around the world. Such trends are what the experts report on and what those people in fashion, like designers, base their ideas on. It's not a fast process and can go on for two years or more, though that's fine.
- I:** Interesting. So if designers don't exactly create the trends, what's their ultimate aim, Richard?
- R:** Designers want to produce things that will be popular for the short period of time they're around and so they count on the information forecasters gather to identify their key themes. That's why designers often produce similar products made with similar materials – they've all used the same sources of information. In the end, designers want to sell things that will translate into sales and profit. That's their main goal. Of course, they like making things that look great and are well-made and environmentally-friendly as this helps them make a name for themselves. But the bottom line is they're a business.
- I:** Let's talk about the retail side of things now. What do you think makes a successful fashion retailer?
- R:** They need buyers to work out what clothes to order and which to turn down so their shops can meet demand. You know those folders that fashion houses create of their designs each year? Well, forecasters like Danielle provide something similar which is invaluable for top fashion stores – they create an easy-to-follow plan for the season ahead with mood images, print, colour and fabric recommendations. Until we have this, we can't talk to manufacturers about raw materials or colours.

- I:** So if we know what trends are before the start of fashion show season, what exactly do we learn from these shows?
- R:** Probably not as much as people think because their ideas are based on the forecasts of trend experts. What fashion shows mostly do is kick off the season and give shop buyers a clear roadmap as to what will be important to the customer because this is the time when ordinary people become aware of what's going to hit the shops.
- D:** It's hard to say exactly what the biggest sellers will be just from watching models on the catwalk but we definitely get a clearer sense of what people will want to buy in the near future – and, of course, they're fun!
- I:** Danielle, as a trend forecaster, how successful are you at forecasting the trends?
- D:** Well, once the season has come and gone, the team and I look back and reflect on whether we turned out to be right or not. We usually come through with the big trends. We have about a 99.9 percent success rate, I'd say. Having said that, I remember this one time when we said everyone would want to wear flared jumpsuits but people didn't take to them at all. I loved them myself. In a situation like that, you can't blame yourself and no one else in the industry does either. We all move on, which is good because otherwise the pressure of people relying on you would be too great.
- I:** Some people say social media has had a big impact on the fashion industry in recent years. What do you both think about that?
- D:** Well, it's much easier for anyone to have a voice in the fashion world because basically anyone with a camera can do it. What concerns me is that trends are spreading much faster now, so forecasters like me are having to change our research methods.
- R:** I think social media is just an extension of the streets, really. Yes, you can find a lot of stuff online but I think that just means there's something for everyone. And fashion designers can gather their own data too. Clearly, retailers like me are finding it hard to keep up. Trends come and go so fast that our jobs are changing quite rapidly, which we're all a bit nervous about.

## 6.8 and 6.9

In recent years, the Icelandic capital Reykjavik has become known for its trendy music scene and cool places to eat. Last night residents enjoyed a more unusual night time event when street lights were swapped for the Northern Lights. Despite having just a hundred and twenty-five thousand inhabitants, Reykjavik's light pollution means the Northern Lights are not usually noticeable from the city and residents have to travel some distance to see them. So, to make the Lights more accessible, officials opted to turn off street lights and asked residents to do the same. It was a chilly night, so the restless residents were thankful when the Lights were co-operative and put on an exceptional display for them. Officials said they are likely to repeat the event again, so book your plane tickets now. You can find photographic evidence of the stunning event on our website.

## 6.10

**E = Examiner A = Ali M = Maria**

- E:** Which two things have the biggest impact?
- A:** Well, they're all pretty important, aren't they? It's hard to choose. Er ... I guess the least important is attractive buildings. We said before we didn't think that was important, didn't we?
- M:** Yes, it's nice but not key. I'd say open spaces are important. Without them, it's hard to escape from the craziness of city life.
- A:** That's true. And they're known to be good for your health. I think there's a lot of research that suggests that. Without them, you don't get to see anything of the natural world, which can have an impact on your physical and mental health.
- M:** Oh yes, and public transport's really important. Without that you can't get around the city, so people have to use cars. The roads get really congested then and everyone sits in traffic for hours on end.
- A:** You also need job opportunities. If people can't find work, they can't afford to live and then you get a lot of poverty with people getting sick. Without people paying taxes, it's hard to help those people.
- M:** Absolutely. I think that ...
- E:** Thank you, you can stop now.

## 6.11

**E = Examiner A = Ali M = Maria**

- E:** Which two things are the most important?
- A:** Well, we said that attractive buildings aren't that important before, didn't we? So we can forget that one.
- M:** Yeah. We didn't talk about open spaces though. Actually, I think that a city needs them. Green areas help people to connect with nature.
- A:** I agree. You can relax there too, do recreational activities, that kind of thing. For me though, public transport is slightly more important. Without it, everyone would drive and there'd be so much congestion nothing would move.
- M:** Well, I agree to an extent. Public transport is useful but without jobs, people wouldn't have the money to pay for the transport or need to get around so much. So for me, job opportunities are far more important. If everyone's employed they can have a good standard of living, which is what you want from a successful city.
- A:** Yes, that's a good point. OK, so job opportunities is our first choice.
- M:** Are open spaces more important than public transport?
- A:** Well, open spaces are useless if the air's horribly polluted, so I think they're less important.
- M:** Good point. So, we think the two most important things are job opportunities and public transport.
- E:** Thank you.

## 6.12 and 6.13

- 1 In summer my neighbourhood's really exciting but in the winter the streets are empty from about 10 p.m. onwards. It's completely [beep].
- 2 I took a brilliant photo of all the skyscrapers across the water in Manhattan. They looked great against the really blue sky. What an amazing [beep]!
- 3 We can't live in our house at the moment as it's being redeveloped. There are workmen everywhere, smashing down walls and putting up new ones. It looks just like a [beep].
- 4 I live right next to a motorway which is always at a standstill because there's so much congestion. The noise from the drivers beeping their horns is [beep]!
- 5 My neighbourhood's had loads of money spent on it in recent years, so now it's quite upmarket, but for much of my childhood it was very [beep].
- 6 We used to live right in the city centre, where not many people lived, but now we've moved to a more residential area outside the centre, which is much more [beep].
- 7 Don't cross the road there. If you go round the corner, you'll find a pedestrian [beep].
- 8 You've never heard of the Eiffel Tower? I thought everyone knew it. It's [beep].

## 6.14

A couple of years ago, my parents and I were visiting my sister in Tokyo, where she was working. My parents had gone out for the day, leaving me with my sister. Unfortunately, while we were having lunch, I broke my tooth. My sister had to go to work but she pointed me in the direction of a dentist. I set off to try and find it. I was in a lot of pain and it felt as if I'd been walking for ages by the time I found the right place – or so I thought. Anyway, it was a kind of studio in the back garden of a house. I couldn't speak Japanese and I'd forgotten to get my sister to write me a note in Japanese, so I used lots of gestures to convey the fact I had tooth pain. He told me to lie down on this bed – not a typical dentist's chair. While I was lying there, I got a sense that something wasn't quite right. Suddenly, he leant over and produced this needle from the table next to him and started waving it near my ear. That's when I realised he wasn't a dentist at all but some kind of acupuncturist. I quickly got up, made my apologies and found my way home. The dentist – and relief from the pain – had to wait another day.

## 7.1

- 1 Well, the club take all the money, don't they? I mean, how much does it cost to actually make those shirts? The staff at the clubs are all overpaid! Ninety nine percent of the fans are fed up with it and want change.
- 2 Well, the government takes its share. Around twenty percent of the cost is always tax. Then I guess a number of people are involved in making the shirts, shipping them and selling them onto the customer.

- 3 The majority of the money goes to the shirt manufacturers, I think. The materials are quite expensive. The workmanship making them is better than most shirts, so I don't think many others take a cut.
- 4 I reckon the number of people making decent money is pretty small. Those shirts are controlled by big sportswear companies, not the clubs, so I reckon around a quarter of the money probably goes to the sportswear company. The media need to do more to get that message across. It's not the clubs exploiting their fans.

## 7.3 and 7.4

OK, so here's the thing. What should you do if you're completely knackered, but your project is due the next morning? Well, the most obvious thing is to reach for an energy drink – it's packed with six times as much caffeine as a cup of coffee, so that's got to wake you up, right? Well, it won't actually do you much good. As well as caffeine, it's full of sugar. One small can contains around thirteen teaspoons of the stuff. That'll give you a massive energy boost, but the benefits are very short-lived and that's no good. You'll just end up with an energy crash an hour or so later. If you really need to work through the night to get that project finished, have a cup of coffee and then take a nap for twenty minutes. The twenty minutes will be the time it takes for the caffeine to start working, and you'll wake up ready to do your best. Think about your posture – sitting straight increases oxygen levels. You could also go and work out for thirty minutes. You might think a workout is the last thing you want to do when you're really tired, but getting your heartbeat going is the best thing to make you feel more alert and ready to get up and go.

## 7.5 and 7.6

OK, so I've got this new product to review here today. We all know sports stars work with their brains as well as their bodies. Well, this latest product, the Halo Sport, is nothing like a positive thinking app that you listen to, which you might expect from a psychology tool. Looking at it, this wearable device could easily be passed off as just headphones, but it's actually much cleverer than that. It sends electric waves into your brain and will actually change the structure of your brain to make it work more efficiently. This makes it respond better to training so that, potentially, you become a better and more successful athlete. It's much more controversial than a baseball cap if you ask me.

The Halo Sport is a new device that can enhance all sorts of skills. It was initially based on technology developed by the military to improve combat skills, and has been trialled in the fields of gaming and mathematics – the latter with some success. None of those results can beat the performance in professional sports though, which is its main application today.

## 7.7

I'm a technology reviewer on the internet. When I first started making videos, I didn't even tell my friends or family about them. I always

saw them as kind of a hobby and so I didn't feel the need to share them. But it quickly became obvious that I could turn this into a proper business by reviewing technology products for companies on my videos. So when all these consumer electronics started arriving at my home, I had to tell people. There's no such thing as overnight success in this business. I have to put a lot of hours into research, which is what fills up my days. Only after a week or so of that, do the technical skills of recording come into play. From there, it's a straightforward job, editing and uploading the video.

In addition to reviews, I make videos called *Over to you*, where I answer users' questions. I also have to do these things called 'explainers', a kind of how-to video. Given the chance though, I do other things called 'advanced projects', which always go viral. They involve creating things with my own equipment at a fraction of the price that my viewers would spend buying commercially produced videos.

I see my job as important because I'm helping people make the right choices, and telling them about products they didn't know existed. One of my most popular reviews was for the Halo Sport. This is a pair of headphones that make your brain more efficient. It was initially tested with the military, then got picked up by a team of wannabe engineers, who offered it commercially. People were so impressed by it that the company had to temporarily stop sales because of supply issues, like cosmetics companies with a new wonder product.

The Halo is a controversial product, though, and I felt it was also my job to get that across. Users get results with very little effort, and scientists are quite rightly concerned about the similarities between this product and untested drugs. We just don't know. The little data that's available is worrying and my viewers might want to think about that. I try to get this across in my videos.

When I make a video, I need to think about the audience and what they know. Gamers will have seen similar devices to the Halo Sport already, but for sports players, it's going to be brand new. Students often watch the videos too, but that's such a broad audience. When a new technology goes to a broader market, I have to find out what people are likely to know already so I don't annoy anyone.

I also have to think about who might be disadvantaged by the products too. The guys who own the Halo Sport have tested it out on students aiming to play professional sports and seen huge increases in the students' muscle strength. In other studies, though, people suffering from depression have seen their problems intensified.

That's been the main change in my job in the last year or so. There are new risks with some of these gadgets and they can catch on incredibly quickly. It's a whole new world. With devices like this one, the sales are often way ahead of any long-term studies into risks. I think a growing part of my role is to stress that above all, consumers should think about safety when considering whether to try innovative gadgets like these.

7.8 and 7.9

- A:** Hi, I was told I could speak to you about the courses here at the Future Health Centre. I'm thinking of applying. Do you have a moment?
- B:** Sure, I'm just waiting for a friend. I've got bags of time. Fire away!
- A:** What do you think's the most exciting thing in future healthcare?
- B:** Well, there's always a great deal of research going on in healthcare. Obviously, most of that's looking at curing existing illnesses, but there are a number of projects which are looking at delivery of healthcare. In the past all of the researchers just assumed humans would deliver healthcare. Now we've got the technology giants getting involved, that's all changing. Every penny counts in healthcare and technology can really reduce costs of monitoring health or passing on advice. I think that's the most exciting area.
- A:** In what way?
- B:** Well, there are no end of computer algorithms out there at the moment that can already diagnose common illnesses more accurately than most doctors. Those are going to become more commonplace over time. And robots are already being built to replace some nursing tasks, like taking blood samples. Neither project is going to be without complication though, but all the projects at the moment are interesting.
- A:** OK, and what's it like to study at school ...

7.10

- Roberto:** Hmm, well, the best time to exercise is probably in the morning. I walk my dog every morning before school. I also play football on a Saturday afternoon or in the lunch hour. They're good times. I don't choose those times. I play then because my friends are around. They're out of class at that time. I don't think anyone really chooses when to exercise. You exercise when you can.
- Susanna:** Erm, well, inevitably, like most people, I just exercise when I can. Whenever I plan to get up early, I end up sleeping through the alarm. That means that I usually end up using my lunch break to run around or, alternatively, staying on after school for sports clubs. While it may not be the best time for everyone, it works for me. Besides, it makes me feel more alert when I do eventually get home and start my homework.

7.11 and 7.12

- 1** The amount of energy that a food produces is measured in a unit called a [beep].
- 2** The substance in tea, coffee and some other drinks that makes you feel alert is called [beep].
- 3** The way you position your body when you are standing or sitting is your [beep].
- 4** An increase in the amount of energy that you have is an energy [beep]
- 5** A rapid decrease in the amount of energy that you have is an energy [beep].
- 6** The feel of your blood moving beneath your skin is known as your [beep].

- 7** When you are able to give all your attention to something, you are [beep].
- 8** One product that is marketed as able to produce higher levels of physical and mental ability is a [beep].

8.2 and 8.3

- Speaker 1:** I think that entertainment will look massively different. Like, there's some obvious things that will have changed. Like the resolution of things will have probably gone up – everyone will be watching 4K films instead of 1080p films. And a lot more people will be using VR and augmented reality, so like holographics and things like that. But then there's probably changes that we haven't even thought of yet – like there's a lot of technology and research going into more immersive 3D audio now, so that things seem like you're actually outside, when you're in a movie. All the sounds are coming from the right directions towards your head. And it changes your entire experience quite a lot.
- Speaker 2:** Erm, I think it's all, it's all on a very personal level at the moment. Erm, everyone, everyone's got a tablet or a smartphone that they're playing on and I think we're just at the point of cutting out everyone in our ... vicinity. I think we're just going to be so focused on what we're doing ... Erm, I think what's set to happen is that the games industry will just go further and further. I know it's already massive and we're getting much more of this sort of virtual reality games coming through and I think that's due to become even bigger in the gaming world.
- Speaker 3:** I mean, I think in terms of graphics, the graphics are going to improve significantly. I mean, they do every year ... erm, on things like games and stuff. I think there may be more improvements on sort of 3D kind of films and stuff. ... Erm, at the moment I don't really see the appeal in it, but I think, I mean, there'll be improvements in that.
- Speaker 4:** Erm, the entertainment industry, I think, is on the verge of becoming less accessible. Erm, because of prices. It's becoming more expensive. Theatre prices going, film prices, music prices – it's all going up.
- Speaker 5:** Erm, I think in the future people will be experiencing entertainment a lot with ... er, virtual reality and augmented reality. Just sort of with the, ... er, I guess recent sort of advances with sort of wearable technologies, such as, you know, Google glasses and watches ... I just think that there'll be an overlap of sort of real life versus ... sort of animated life, and I think that line will get very blurred and it will become highly normal and very entertaining to be in your actual environment, and yet still be playing in a fantasy game.
- Speaker 6:** I think there'll be a really sort of rapid acceleration in the virtual reality sort of market. Cos it's already happening now and I think it will almost be a common sort of item for every home. I think everyone will be using it by the time we're thirty.
- Speaker 7:** I think the only thing that is going to have changed in entertainment is the mediums that we watch them on. I don't think that the stories that we enjoy or, you know, the types of things that keep us gripped are going

to change. I think you can go back to ancient Greece and they were entertained by the exact same stories that we're entertained by now, so, yeah, I think, probably. Maybe it'll be holograms, but I think that might be it.

8.4

- Girl:** I've been asked to tell a funny story about my friend at her birthday party but I'm rubbish at stuff like that.
- Boy:** As long as you practise first, you'll be OK. Remember your voice is important. No one wants to hear a story told with a boring delivery. That doesn't mean that there have to be loads of different tones, though a monotonous one is pretty unappealing. The climax is obviously up there, especially if it comes as a real surprise, but it's no good if everyone's lost the plot. Probably the key thing is to capture everyone's interest right from the word go.

8.5

G = Girl B = Boy W = Woman M = Man

- 1**
- G:** I've been asked to tell a funny story about my friend at her birthday party but I'm rubbish at stuff like that.
- B:** As long as you practise first, you'll be OK. Remember your voice is important. No one wants to hear a story told with a boring delivery. That doesn't mean that there have to be loads of different tones, though a monotonous one is pretty unappealing. The climax is obviously up there, especially if it comes as a real surprise, but it's no good if everyone's lost the plot. Probably the key thing is to capture everyone's interest right from the word go.
- G:** You know, I went to a storytelling event last month. Supposing I'd paid more attention to the storytellers, I'd know what to do now.
- B:** Isn't storytelling for kids?
- G:** Oh, not necessarily. It's fun to be sitting in a group, listening to the same story and yet seeing something completely different in our minds. What makes the experience stand out is the focus on the rhythm of the language as opposed to just the meaning. It's something we miss out on when we read on our own. You know, I even cried at one point – but then I do that at home too.
- 2**
- B:** The toughest thing about launching the paper is going to be getting people to read it. I think we can do that provided we bring people together and create a stronger school identity.
- G:** I'd say that's the result of getting readers rather than the method. Our focus should be on including articles for everyone, not just the people we hang out with.
- B:** I was thinking we need to include funny articles but maybe including varied stories is the way to go. There certainly are a lot of people from different backgrounds at our school, so we'll have lots of source material.
- G:** I love the idea of making people laugh but I think serious, worthy topics have their place too.

**B:** Fair enough. You know, at my old school the newspaper failed because the articles weren't very good.

**G:** How can we avoid the same fate?

**B:** Well, photos draw readers into an article, so we have to choose them carefully, but imagine if we overused them. They'd detract from the writing. Articles that feature personal stories about the lives of students can generate a lot of attention. But then again if they're written like academic essays, it puts readers off, so tone should be our main priority.

**3**

**W:** So, our attempt to appeal to young people has failed and we need to come up with a new strategy. Any ideas?

**M:** Well, we clearly can't rely on our company history any more. Talking about the company founder added an element of realism for our generation but teenagers obviously care more about what we stand for today. I think to appeal to them, we should've shown them what our brand means rather than tell them. What if we'd done something like that adventure clothing brand did recently? We might have been more successful.

**W:** What did they do?

**M:** They set up virtual pop-up shops in these beautiful locations around the world. Adventurous customers that travelled there were able to unlock a prize using their mobile's GPS.

**W:** So, it was the customers that had the adventure, then presumably shared their experience online. It's not difficult to see why it made an impact. It's a novel idea that should be celebrated but, of course, our brand's very different so I'd be very wary of doing something exactly the same. Having said that, if we did something as creative and relevant to us, it could really help youngsters get what we're about.

## 8.6 and 8.7

**A:** Well, I don't think it's acceptable to download any music you want although lots of people do it. I think we assume that if it's online, we can have it these days. But of course, imagine that everyone downloaded everything for free all the time. No one would make any money, so who'd want to make music anymore? Musicians don't just do it for the love of it, they do it to earn a living too so downloading anything you want isn't right at all.

**B:** You're right, it's unfair on the musicians who put all their time and effort into their songs. But then again, you get these large record labels that charge far more than they need to for a song and until that changes, people will just keep downloading stuff. Bringing the price down might make a difference as people would be able to afford to buy the music then. This could lead to more people paying for the songs. That's what needs to happen, really.

## 8.8 and 8.9

**1** We're so lucky to live in this digital age. I mean, there's entertainment wherever you look. And now we have smartphones and tablets, it's right there [beep]. It's impossible to be bored.

**2** I feel sorry for that director. Imagine spending nine months of your life and hundreds of millions of dollars making a film that no one wants to see. You put your whole life into it and then it's a complete [beep].

**3** There's no way I'm performing that song on stage. I try hard to sing [beep] but somehow never manage it.

**4** I love the idea of being a famous movie star. It sounds so romantic – you get to play glamorous parts in films, meet lots of good-looking people, go to lots of parties. But I expect that it's very different [beep]. Lots of people staring at you when you go anywhere, asking for selfies and so on.

**5** I only really watch sci-fi or fantasy type films. I'm just not interested in any other [beep].

**6** My cousin's in a band that's getting a lot of attention online. They're hoping to sign a contract with a [beep] soon.

**7** I've got no idea what film I want to see tonight. I don't know much about any of them, to be honest, so I'm inclined to suggest we just pick one [beep] and hope it's good.

**8** I saw this brilliant band play live last night. They had so much energy and the songs were really catchy. To be honest, it's probably the best [beep] I've ever been to.

## 8.10

According to some experts, machines are set to take over more jobs from humans. Already programmed to do manual tasks, the time will come when robots will be able to perform higher level tasks. In fact, some machines are on the verge of performing intellectual tasks already. By the middle of the century we may have created intelligent machines that make us redundant. This will mean that millions of people around the world will be looking for new forms of employment. One area where you'd think this situation is less likely to happen is in the music industry. After all, it's creative and surely a robot can't perform creative tasks? Well, scientists are already creating robots that make music. So, are musicians on the point of being replaced? I doubt it, but machines are due to have a bigger role in the production of music. We may not go and see our favourite robot band perform on stage, but we might listen to our favourite human band play music created or improved by artificial intelligence.

## 9.1 and 9.2

If, as environmentalists, we intend to move things forward, we need to consider very seriously how to make our message fresh and interesting. If we keep repeating the same things again and again, people will soon resent wasting their time listening to the same old complaints. Of course, we need to recycle more

and we cannot risk harming important natural habitats any longer. But I increasingly overhear audiences saying that the environmental message has become a bit repetitive these days. We need to find ways to make people reconsider the environmentalist movement. We are, after all, facing massive problems.

And the message doesn't need to be boring. For example, do you know where the environmentalist movement all started? Scientists? Hippies in the 1960s? Actually, it was housewives in the late 1950s. They'd noticed soap suds pouring out of taps, caused by chemicals in the water supply. They obliged governments to take action, but once they went public with their complaints, their concerns over pollution quickly became just the tip of the iceberg.

And if you think we're the worst generation that ever lived, well, it depends on the criteria you use. Our ancestors permitted whole populations to destroy forests and saw fertile soil as an endless resource. In many parts of the countryside almost every tree had been chopped down for firewood. There are many things about environmentalism that we still need to talk about.

## 9.3 and 9.4

For a long time, the environment was something people talked about at home and in schools. Most of us will have learnt the three R's at school – *reduce, reuse and recycle*. We studied acid rain and its effects or learnt about the rainforests in geography, and we probably even visited a local conservation area to learn about the species that live there.

But actually working in the environmental field has completely changed in the last ten or fifteen years. With new international agreements on climate change, it's not something for school kids any more. When we talk about environmental work these days, we're talking major national and international economics. The push for sustainable development started with individual companies. Many of them can get tax breaks or gain market advantages from having a positive environmental record, and so we see more and more companies undergoing a green audit, where a record is kept of their impact on the environment, for good or for bad.

Governments are also encouraging better environmental practices. With laws limiting the amount any one company can pollute, emissions trading has become commonplace, particularly in Europe. Companies need a permit to produce emissions and if they want to go over that limit, they have to buy permits from others willing to sell them. A more specialised version of this is carbon trading. When the Kyoto Protocol, an international environmental agreement, put limits on how much carbon any one nation could produce, buying and selling rights to produce carbon took off at an international level.

So, for anyone still thinking that work in the environment is about wandering around on nature reserves, listening to the birds singing, think again. Many new skills are needed in this new global climate.

## 9.5 and 9.6

To be honest, I wanted a cat that was a little more than a lazy ball of fur. My cat hates being alone so much that whenever I take a nap, she likes to bring her toy mouse and put it on my face. Then, when I wake up, she pretends that she's just chilling out, like [beep].

## 9.7

1 To be honest, I wanted a cat that was a little more than a lazy ball of fur. My cat hates being alone so much that whenever I take a nap, she likes to bring her toy mouse and put it on my face. Then, when I wake up, she pretends that she's just chilling out like I do, like nothing happened. It's such a laugh. I found her though a site that matches potential owners to abandoned pets. It was a friend's post online that put me onto it. Over a hundred animal shelters are connected to it, so I knew that they'd have a good chance of finding me a great match.

2 Me and my family chose Dream Pets to help find a dog because they take time to assess their animals' personalities, or rather traits – energy, focus, confidence and independence. Those ratings say which dog would best fit in with your lifestyle, and they get it right most times! I thought that demonstrated that it was run by people with the right priorities. My dog's full of energy, just like me, which is what I wanted. But he's so funny: after I put on different clothes, he barks anxiously at me because he thinks that I'm a different person! How? It's not like I'm trying to hide something!

3 My dog's crazy. He gets distracted so easily the slightest thing sets him off, and he's running around looking for the source. And I know that all dogs like to sniff each other, but mine tried to sniff a dog on a documentary. It cracked us up, until the dog nearly knocked the screen over. I got my dog from a special dog adoption agency. It cost more than a lot of other places, but I liked it. Being round the corner from my house, it was always a doddle to pop round for a chat during the application process.

4 I decided I wanted a dog from the rescue centre, but that wasn't without problems. A lot of pets need rehoming because of behavioural issues. Moving a pet into a new home can be tough, and they really helped to make that transition easier. I was keen that they provided a wealth of experience and tips to support me in the process. I love my dog to bits, but she's just such a coward! She's afraid of her own bark, and runs and hides between my legs every time, and is terrified of her reflection in the mirror! It shocked me at first. You'd think she'd get it by now.

5 My cat barely shows any interest in the toys I buy him, and rarely wants to be petted, but when my wife is around, the cat runs over to prove that his love is greater than hers. I'd love to know why! I got him from an animal shelter. I liked the fact that within a few days of giving the shelter my profile, I was having an email conversation with someone about which animal might be right for me, and when I could collect it. I found them really efficient in that way.

## 9.8

1 I found a chewed electric cable at the back of the TV and I think the hamster did it. Luckily, it wasn't plugged in at the time!

2 I'm really sorry. It was me that let the cat sit on the laptop. It looks like it's overheated now.

3 I love uploading cute animal photos. I put my dog in a pink ballerina costume, even though he's male. He looked so grumpy. He hated the fact that it slowed him down.

4 My rabbit loves digging tunnels, but I hate the mess, so I put wire fencing under the ground in my garden. Now the rabbit can't understand why it can't get very far.

5 My mum's friend came round and her stomach growled, and the dog growled back. My mum thought I should have stopped the dog – I think it was perfectly reasonable!

6 My dog kept stealing the cat's food. I eventually gave up trying to feed it tins of dog food and just gave it kitty fish chunks for its meals.

## 9.9 and 9.10

1 Well, the moon has always been a source of fascination for people throughout the centuries, and a lot of myths have built up around it. I guess the biggest one is that that the moon landings never happened – that this groundbreaking project was little more than some elaborate hoax. We have the technology now to prove that the videos and photos were, in fact, the real deal, and I don't think there's any truth to this myth.

2 A lot of farmers and gardeners insist that the lunar cycle has a direct impact on the natural development of plants. In fact, the word *honeymoon* comes from the time in the lunar cycle between planting and harvesting, when it was a good time to get married. Although the idea is still popular, there aren't really any university studies that prove this theory.

3 An earth day always seems to last exactly twenty-four hours, but it is actually slowing down by a tiny amount each year. The moon is a great big mass, right next to planet earth, and it's slowed the earth's rotation over the billions of years. Without the moon, the length of our days would be dramatically different. In fact, the moon has such a strong influence on the planet that without it, an earth day would last a mere six to eight hours.

4 A lot of myths and stories appeared in ancient cultures. One of the strongest was that when a full moon fell on a Sunday, it was considered a warning sign, but it was thought to have the opposite effect on a Monday. This is actually where the word comes from – Monday is the moon day. The reasons for this have been lost in time though.

5 Probably the strongest myth is around people's behaviour. From werewolves to being just a bit forgetful, for centuries it was believed that people develop aggressive behaviour around a full moon or are less likely to fall into a sound sleep. There is

absolutely no scientific evidence of the latter and with modern street lights, few people's sleep is still affected by the increased level of light during a full moon.

## 9.11

There's a guy driving a taxi at night. He's unhappy. The other guy is working in a big nightclub, and he's a DJ. I think he probably loves his job. I think he probably likes his job because I can see that he's very good at it. All the people are looking at him and copying him.

## 9.12

Well, the first photo shows a man driving a taxi at night and, to be honest, he's not looking all that happy about it. Now, the second guy is a DJ, and he obviously likes his job much more. He's in a big nightclub and he's got the full attention of the audience. I mean, he should feel great about it because he's obviously good at it, but most people who work as DJs often have to have another job, and so I guess it can be exhausting trying to work two jobs. Maybe just like the first guy, he's having to concentrate a lot. I suppose neither of them get to spend their evenings with their mates or their families, which is what most people like to do.

## 9.13

Well, I see where you're coming from. Any kind of night work involves unsociable hours, and it can be hard to hold down a normal life. But I think being a DJ is different because you can invite your friends along to the nightclub, so you're not missing out. And think of all the people you meet. I think this is a better job!

## 9.14 and 9.15

1 I had a bad feeling about the situation, but I decided to ignore the [beep].

2 The professor was working on a completely new form of image recognition. The project was [beep].

3 There have been a lot of reports of a monster in the Scottish Lake, Loch Ness, but all of the photos so far have just been a big [beep].

4 I wanted to stay awake to watch the sun come up on the shortest day of the year, but I fell into a [beep].

5 The boy was suspended from school for two days because of his [beep].

6 A lack of social contact in the early years can have a negative effect on a child's [beep].

## 10.1

I've been an autograph hunter since I was a boy, seeing signatures as a link to my heroes. But like many, I was taken aback to see President Obama use twenty-two different pens to sign one document! I was unaware that passing such pens on as thank-you gifts was a historical tradition in the States, as the pens associated with important documents often take on an historical value of their own.

There are some people, though, who argue that in the modern era pens should be used for decoration only, not for signatures. I know a

signature is a form of identification, but it has always been problematic because it's so easy to fake. I once had to give a hand scan when I took an exam to confirm my identity before sitting a test. The police have used face scans to distinguish individuals for many years. Pin numbers were introduced as a more secure way of identifying people, but as technology has moved on, dare I say, these will probably soon be outdated, too.

For the police and lawyers, traditional pen signatures have always posed the problem of what many lawyers call 'weak evidence'. Few tests can really prove the originality of handwritten signatures – they're easy to fake. But the key issue, really, is the problem of proving what's known as 'intention'. Signatures simply can't show whether the person really agreed to give their consent.

I read that the computer code to sign documents electronically has been around for many years. It existed long before the need appeared with online shopping. But people were reluctant to use computer signatures, especially for official documents. However, this changed in 2016, when legislation changed. In many countries, computer signing is now recognised as just as valid as traditional pen signatures, or what I like to call 'wet signatures'. The term 'digital signature' is already widely used to record a person's browsing history, and so I think 'electronic signature' is more likely to be adopted for this new official signing.

I'm a fan of the pen version, but I have to admit, I feel that the new online versions provide stronger security. This is because they're protected by passwords, which really offer guarantees. The signing process also automatically goes through a system of checks, and these use the same software that protects our online bank account numbers and credit card details. But I can't help feeling that we've lost the theatre that comes from pulling out a pen. No photographs will ever be taken of world leaders clicking a button, and this is something we've come to take for granted. No one will ever pause to admire a row of computer codes which is, essentially, what the modern signature is.

So, despite the changes, a handwritten autograph is still treasured when it appears on a book. The latest signing of a football contract for a top player still requires a pen to be produced in front of the world's press. And I feel that we're a very long way from persuading anyone to sign their wedding certificate with the click of a button. Such ceremonial processes have lasted generations and are likely to stay for some time.

## 10.2

**I = Interviewer J = Jenny M = Mark**

- I:** Today I'm talking to Jenny Davis, an expert on ancient Roman history, and Mark Strong, an historian. Jenny, you excavate ancient sites. Tell us, what's that like – is it dangerous?
- J:** Well, the bats flying around don't help. I'm not sure it's hazardous, but the rooms have to be dark to preserve what I've come here to see – ancient graffiti written on the walls. They would fade in the sunlight, so I have to work by torch, but it's well worth the effort. To be honest, the main issue is when the guards forget to let me out in the evening. And crumbling old stone columns really don't make the best back rest!
- I:** So Mark, you've studied ancient graffiti. Was that easy to do?
- M:** Well, we've always known that the ancient Romans liked to write on the outside of buildings. I'd read the work of scholars who've been cataloguing graffiti for years now. Their work showed huge promise. But, of course, over ninety percent of the graffiti vanished under the burning Mediterranean sun and we've needed new scientific techniques to help us to access much of it, which we now have.
- I:** So, Jenny, what have you learnt about graffiti in Roman times?
- J:** What we know is that in ancient Rome, graffiti wasn't a kind of vandalism, but more of a public conversation. One rather comical message expressed amazement that the walls hadn't fallen into ruins – there were so many comments up there. Graffiti was even found inside wealthy people's homes, so it wasn't a class thing. The walls are just full of greetings from friends, quotations from popular poems or clever political comments. The people of Pompeii, for example, tended to express far more goodwill than ill will, especially in their wishes for the whole town. It's quite distinct from the official declarations that survive. It's surprisingly supportive of the local government.
- I:** Mark, does graffiti have enough academic value to justify studying these writings?
- M:** I think so. We haven't really needed more about places like Pompeii as we already have many accounts of what happened, thanks to literature. Graffiti doesn't really contradict much of what we already believed. But both records are useful. The first will be more beautiful but the latter will be more sincere. And of course, it's about who did it. Major world leaders aren't given to scratching their names on a wall or confiding their reflections on the side of the public bath houses any more, but they do comment on social media feeds and I think all of these have historic value. Taken as a whole, they offer a fuller view of the official histories we know so well.
- I:** Jenny, have you found any similarities with modern graffiti?
- J:** One thing that struck me as familiar with modern graffiti is the number of declarations of love among the messages. And people weren't shy about offering their opinions on the way the town was run, which is also still the case today. We also saw lots of displays of cleverness in the comments and playful jokes, which can be a bit absent from this form of expression today. We were interested to see that the emperor Nero, was actually more popular than we tend to think. His popularity took a major dive after it became known that he'd kicked his pregnant wife though. Graffiti seemed to have served a similar function to the media, closely examining the private activities of those in power.
- I:** I understand there's now a whole international conference dedicated to graffiti?
- M:** Yes, we'll both be at next year's international conference. Last year's conference actually resulted in a book on the subject, which sold to a very broad audience. It certainly brought more attention to the need to preserve these alternative kinds of documentation. And they're getting busier too. Last year's conference drew so many participants that they ran out of space for everyone. You tend to only get people at these things if it's part of their professional life, as historians, so I think they do illustrate a change in the way researchers see these records.
- J:** Hmm. I think the success of the conferences is a sign of how the role of popular commentary is being revisited. There are a lot of different projects around the world to record these kinds of markings that became popular at various points in history. For many years they've been seen as trivial and were ignored. Now you see people including samples of graffiti in tours of popular tourist sites.
- I:** Well, thank you both!