

PART 8

You are going to read a magazine article in which five people write about how they became scientists. For questions 47 – 56, choose from the scientists (A – E). The scientists may be chosen more than once.

Mark your answers on the separate answer sheet.

Which scientist

claims they have always had the characteristics of a scientist?

47

says that their work experience helped them with their studies?

48

criticises a certain aspect of education?

49

says that the subject they studied initially at university failed to live up to their expectations?

50

expresses amazement at the potential effects of their work?

51

compares their present work with a childhood experience?

52

planned their university studies so as to make later specialisation possible?

53

says they were unexpectedly inspired on a particular occasion?

54

describes imitating what someone else had done?

55

changed their career plans for a reason beyond their control?

56

How I became a scientist

A Jeremy Sanders, psychologist

As a child, I loved reading novels, so I went to university to study English, fully intending to become a journalist, and perhaps specialise as a theatre critic. But I went along with a friend to a public lecture on the psychology of personality, just to keep him company, and it was so riveting I was determined to learn more. So, despite some regret at giving up English, I persuaded the university to let me make the switch. The clincher for me, as regards a career in psychology, was carrying out research: I found the whole process fascinating, from constructing a hypothesis and designing experiments to analysing the results. There's no substitute for that kind of experience. Too often, students have to memorise information that will soon be obsolete, instead of developing the appropriate way to think.

B Margaret Jefferson, neuroscientist

I got into science more or less by chance. As the daughter of two teachers, for years I expected to take the easy option and follow in their footsteps. But when I was 16 I needed a summer job, and just for the sake of experiencing something different, I applied to work in a lab. Much to my surprise, it suited me perfectly. Since graduating, I've engaged in lab work, and specialise in investigating the causes of glaucoma – a health condition that a close family member suffered from. It's basic science: we're trying to understand how the brain functions and eye conditions develop. It's very demanding work that requires discipline and intellect, and the drive to understand is what motivates us. It's awe-inspiring to think that what we do can save the eyesight of millions of people.

C Scott Matthews, astrophysicist

At school I was interested in all sorts of subjects, and read about everything under the sun. So when the time came to apply to university, I couldn't decide what subject to choose. In the end I took a pragmatic approach: I studied Computer Science, thinking it would be useful, whatever direction I decided to focus on after graduating. But although I enjoyed creating computer programs, I soon realised the course wasn't really what I wanted. I was spending far more time on the introductory Astronomy course I was taking than on Computer Science, so I made

up my mind to change to that. I was really keen to learn more, whether or not I could find work in that field. And that eventually led me into astrophysics. Now I realise that the desire to learn, wanting to ask questions and understand, is what makes a scientist.

D Marina Endicott, biochemist

When I was nine or ten, I started having piano lessons. Once, when the piano tuner came, he took the piano apart and demonstrated to me exactly how each component worked. I was fascinated, and when he left, I took the piano apart myself, to see if I could make the parts do the same thing for me. I was desperate to understand how things worked, everything from telephones to flutes. Gradually I became interested in how living things functioned, and that led to me studying biochemistry. In my job now, instead of pianos, I take proteins apart, and play different 'tunes' by changing the amino acids that form the 'keyboard'. I've realised that I didn't become a scientist: I was born one. It's how I relate to the natural world, wanting to understand everything.

E Ian Macmillan, pharmaceutical chemist

As a teenager I wanted to be an astronaut, which required a degree in Science and Maths. But when I was on the point of applying to university I discovered that my eyesight wasn't good enough. I was really disappointed, and it left me with the dilemma of where to go from there. I decided to defer studying, and work for a year first, in the hope that would give me enough time to take stock. I managed to get a lowly position in a drugs company, and didn't look back. The following year I started a degree in pharmaceutical chemistry, and found that working in the drugs company shed light on the subject. At university I also learned how to think in a scientific way. When I graduated I returned to the same firm. It's very satisfying to know my work can change people's lives.