4 Complete the sentences 1–5 using no more than three words from the passage below. The answers follow the order of the questions. Remember to look for paraphrases in the text.

1 Jane Goodall has attained global recognition as a role model for _____.
2 Her studies have had far-reaching consequences, one of them being that we might have to accept that some animals should be treated _____.
3 Goodall believed that the main reason why women made good field scientists was their natural capacity _____.
4 _____ have been encouraged to become field scientists by the example of the three sisters in science.
5 Even today, when women are more visible in the field of science, their role is limited and they do not tend to be the _____.

It is 50 years since Jane Goodall first dipped her toes in the waters of Lake Tanganyika, in what is now the Gombe National Park in Tanzania. Since then she has been responsible for the most comprehensive study of wild chimpanzees – and become an idol of contemporary women scientists around the world.

In 1962, at a time when no woman in the world held a PhD in primatology, Goodall started a PhD in ethology – the scientific study of animal behaviour – at the University of Cambridge. Her resulting thesis, *Nest Building Behaviour in the Free Ranging Chimpanzee*, included the observations that chimps use tools and eat meat. Goodall had redefined our understanding of the origins of Man. Louis Leakey, the famous palaeontologist and Goodall's mentor, said of her work: 'Now we must redefine "tool", redefine "Man", or accept chimpanzees as humans.' Goodall's work, and that of two other female pioneers in primatology, Dian Fossey and Biruté Galdikas, was made possible by the example of Leakey. Born to British missionaries in Kenya in 1903, he was the first white baby the Kikuyu people had seen and he spoke their language before he learnt English. He grew up to be an ardent palaeontologist, archaeologist and anthropologist at the University of Cambridge and, later, with his wife Mary Douglas Nicol.

Leakey thought that the attributes that made a good field scientist were innate to women. Because women were pre-programmed to be mothers, he thought, they had three crucial traits: they were patient, they were better able to understand an animal's desires by observing social non-verbal cues and they were less aggressive than men – all beliefs later echoed by Goodall. He also felt that men were more concerned with conquering nature than committing themselves to detailed field studies.

Goodall's career began in the late 1950s, when she worked as secretary to Leakey at the Coryndon Museum in Nairobi, of which he was the director. In 1960, after the 26-year-old Goodall had assisted on a fossil dig at Olduvai Gorge in Tanzania, she was sent by her mentor to study chimpanzees in the wild. At the insistence of the British Government she arrived in Gombe with her mother, Vanne, in tow. Spending day after day among the primates, she became fascinated by their behaviour and began informal studies. But at the insistence of Leakey, who warned that she would need to formalise her work to gain scientific credibility, she applied for a place at Cambridge.

Since then Goodall and her two sisters in science, Fossey and Galdikas, have paved the way in primatology, a field that is now dominated by women. Gombe is one of the longest running research studies of wild animals anywhere in the world: it has produced 35 PhD theses, more than 30 books and 200 research papers and nine films. Furthermore, according to Julie Des Jardins, the author of *The Madame Curie Complex: the Hidden History of Women in Science*, 78 per cent of all PhDs awarded in primatology in 2000 were awarded to women. Goodall, Fossey and Galdikas have

helped to inspire generations of women to pick up their binoculars and take to the world's fields and forests.

Goodall comes from a dynasty of strong women and describes her mother and grandmother as 'those two amazing, strong women, undaunted'. Goodall's mother did not laugh at her daughter when she said she was going to Africa. 'My mother used to say: "If you really want something and you work hard and never give up, you find a way",' Goodall says. "She was definitely the greatest inspiration that I had.'

If only science's old guard had had the same attitude. Today's scientific community was formalised by men. As a consequence of the scientific 'revolution' of the 17th and 18th centuries, science moved from the home to laboratories, universities and hospitals, establishments to which women were denied access, irrespective of their aptitude or contribution. In most fields of scientific research, most of the big players continue to be men. According to the UKRC (the body responsible for advancing gender equality in science, engineering and technology), in the 2007–08 academic year, in STEM – science, technology, engineering and maths – subjects, about one third of researchers were women. But in the higher reaches of the academic world, the numbers fall away. About a quarter of lecturers and fewer than one in ten professors are female.

Perhaps this under-representation of women in science has in part been caused by a lack of prominent role models. The women who flourished under the guidance of Leakey, however, provide ample proof that if women are given opportunities, they can surpass all expectation. They can tread their own path through the forest and conduct credible research with far-reaching and long-lasting implications.

Jane Goodall still believes that her mother's words about working hard to achieve a goal have the power to inspire young women who dream of becoming scientists. 'I would say to them what Mum said to me,' she says. Clearly, it works.

## Part 3: Exam practice

*Using NO MORE THAN THREE WORDS from the passage, complete each gap in the diagram below.*

Holidaymakers faced disruption yesterday because of new plumes of ash from an Icelandic volcano, which forced the closure of airports in Spain and Portugal.

The cancellations – which mainly affected Ryanair and easyJet services operating out of Stansted and Gatwick – came as scientists produced the first internal map of Eyjafjallajokull's network of magma chambers, which extend 12 miles below the ground.

A new ash cloud has risen 30,000ft into the air and drifted south after a pulse of meltwater and ice poured into the Eyjafjallajokull volcano last week. The water caused huge explosions as it hit the hot lava, generating more ash plumes. European aviation regulators have imposed a maximum safe limit of 0.002 grammes of ash per cubic metre of air, meaning that if levels rise above this, flights cannot enter that airspace.

The map shows how the volcano's tubes plunge deep down through the earth's crust to the start of the mantle, which is made of semi-molten rock. It reveals the huge scale of the eruption and the potential for a far greater one. This is because the magma chamber of Eyjafjallajokull is dwarfed by the much larger one under Katla, a volcano 15 miles to the east. Two of Katla's eruptions, in 1612 and 1821, are thought to have been triggered by those of its neighbour. While Katla is not part of the same underground network of magma channels and chambers, it is close enough to be affected by changes in pressure in Eyjafjallajokull's system. There is also a chance that a horizontal sheet of magma, known as a dike, beneath Eyjafjallajokull could stretch out far enough to penetrate a magma chamber beneath Katla. Hitting the roots of its neighbour would almost certainly trigger an eruption. The three eruptions of Eyjafjallajokull on record have each been associated with a subsequent eruption of Katla. There have, so far, been no signs of turbulence beneath Katla's surface but, having last erupted in 1918, vulcanologists say that a new blast is overdue.

The workings of the volcanoes have been provisionally drawn up by Professor Erik Sturkell, a geologist at the Nordic Volcanological Centre, University of Iceland. Sturkell suggests the Eyjafjallajokull eruption has been building since 1994, when new lava began rising, forming two reservoirs three miles beneath the volcano. A surge of earthquakes under Katla mean it has experienced a similar influx of lava, Sturkell said. 'This suggests the volcano is close to eruption.'