

READY FOR READING AND USE OF ENGLISH PARTS 5–7

Introduction

In this section, we will focus on the techniques and approaches you should adopt in Reading and Use of English Parts 5, 6 and 7.

Reading and Use of English Part 5 Multiple choice

- 1 SPEAK** Work in pairs. What do you know about citizen science?
- 2 Quickly read the text about how citizens are contributing to scientific research. Were any of your ideas in Exercise 1 correct? If not, what did you learn about citizen science?

We're all in it TOGETHER

From NASA to Greenpeace to Médecins Sans Frontières via a host of other organisations both governmental and charitable, citizen science has been taking the world by storm. Its benefits as a research tool are nothing short of startling, but what exactly is this phenomenon and why has it become so widespread? In a nutshell, citizen science is a way of harnessing volunteers from all walks of life to help scientists gather data and answer real world questions, and it has made some surprising discoveries along the way.

An often-cited example is NASA, which uses legions of amateur astronomers to scour the night skies for celestial bodies of potential importance. Contrary to popular belief, it turns out that computers aren't really up to the job of spotting patterns in the stars or changes to gas swirls in nebulae. They may well be a whizz at number crunching and processing colossal quantities of information, but it is the human eye that NASA is after to help them spot anomalies in matters of the universe.

Citizen science features heavily in environmental fields too, not least because of the vast network of volunteers always ready, willing and able to assist. Think of the National Bird Survey from the RSPB in the UK to which over half a million people lend their eyes and ears every year. Yet, in some regions citizen science works not because of the hordes of well-meaning volunteers desperate to play a role in conservation, but because of those who have tended the land for generations and therefore possess knowledge indispensable for scientists who may be working from theoretical rather than experiential data. While the former may be involved as a result of a guilty conscience, the latter has an obvious impetus to join the cause.

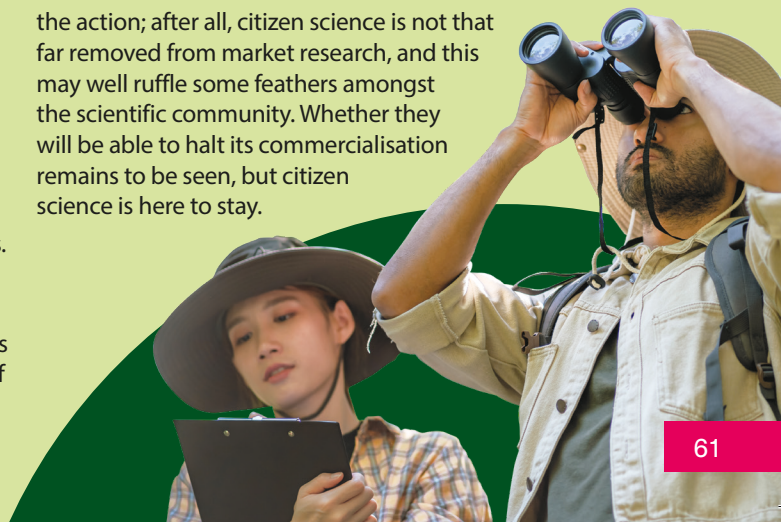
One such example worth a closer look is China insofar as it demonstrates how locals and scientists can be brought together by NGOs (non-governmental organisations) effectively. Rightly, local residents can be suspicious of outside scientists advocating complex methods, but this is where citizen science can help bridge the gap between traditional and more scientific practices. While scientists conduct their studies, local residents can still apply their traditional expertise. Much of this, from monitoring wildlife populations to tracking desertification, can be carried out via smartphone apps making setting up initiatives and recruiting participants more straightforward without endless ethics forms clogging up the process.

Technology, as one would expect, plays a vital role in citizen science, probably accounting for its recent exponential growth. Smartphone apps are the obvious game changer, but websites, amateur telescopes and digital cameras feature heavily too. Less obvious is the addition of gamification to the tool set. As the name implies, gamification brings

elements of games to activities which could otherwise be deemed rather dull. *Worms Watch* is a tool which harnesses the power of gamification to provide data to the medical sector. Citizen scientists play a game where they click on a digital worm whenever it lays an egg, providing insight into the human brain and genetics. These digital approaches remove the need for participants to go to a laboratory, thereby saving the researchers from getting bogged down in a sea of time-consuming documentation.

Although historically Europe and North America have dominated the citizen science landscape, the infiltration of contemporary smartphones has accelerated its use in other regions where the urgency of assessing the quality and quantity of wildlife has escalated. *Green Power* is an organisation in Hong Kong focusing on butterflies and their surveys have been invaluable over the last decade. More recently, in 2023, The Pench Tiger Reserve in central India embarked on a large-scale bird survey, the first of its kind, to investigate biodiversity and species density with 125 volunteers recording sightings on an app. Citizen science has even extended its reach to conservation holidays, which levy a fee to take part in projects such as the tropical butterfly survey in Cameroon run by the African Conservation Foundation.

These latest developments are hallmarks of the ever-evolving nature of citizen science, which shows no signs of slowing down or stagnating. The near future will likely see it mature into a more formalised type of investigation as well as harness emerging technologies and social media. Businesses too will want in on the action; after all, citizen science is not that far removed from market research, and this may well ruffle some feathers amongst the scientific community. Whether they will be able to halt its commercialisation remains to be seen, but citizen science is here to stay.



What to expect in the exam

- In Part 5, you have a text followed by six multiple-choice questions. The task checks your understanding of the main ideas and purpose of the text, as well as smaller details. It also tests your ability to gauge the attitude, opinion or tone of the writer and deduce meaning from context.
- The multiple-choice questions include options that are distractors. Once you have selected all your answers, double-check them against the relevant passage in the text.

- 2** You are going to read an article. For questions 1–6, choose the answer (A, B, C or D) which you think fits best according to the text.
- The author highlights the fact that technology is
 - being challenged by the success of citizen science.
 - no match for certain human capabilities.
 - less effective at data processing than people think.
 - an indispensable tool for observing changes to the universe.
 - What does the author imply about those who take part in citizen science projects?
 - Volunteers often do not fully grasp the context.
 - Scientists are biased towards certain groups.
 - Some have a stronger incentive than others.
 - Sections of society are not evenly represented.
 - Charitable organisations are getting involved in citizen science in order to
 - foster collaboration between disparate groups.
 - channel research to environmental issues.
 - ensure it is carried out more rigorously.
 - provide educational programmes for local people.
 - What effect has gamification had on data collection?
 - It allows more relevant research areas to be addressed.
 - It means participants can be drawn from a wider pool.
 - It facilitates the use of more innovative methods by scientists.
 - It diminishes the requirement for completing paperwork.
 - The author implies that some parts of the world have been slow to adopt citizen science because
 - the technology used to be prohibitively expensive.
 - richer nations denied them access to resources.
 - citizens were largely indifferent until recently.
 - it is hard to implement in areas with limited resources.
 - When discussing the future of citizen science in the final paragraph, the author
 - predicts its deepening reliance on technology.
 - makes a firm assertion that it will become invaluable.
 - envisages a development likely to alienate one sector.
 - warns of its possible future applications.
- 3** For each question, underline the sections of the text that contain the answer and any that include the distractors.
- 4** **SPEAK** Work in pairs. Compare your answers to Exercise 3 and discuss any similarities and differences in meaning between the questions and distractors.
- 5** Part 5 questions often contain verb + noun collocations related to understanding the author's intention, as in question 1 above: *highlight the fact that*. Go to the **Additional materials** on **Page 203** and do the exercise.