

MESTRADO EM CIÊNCIAS DA SAÚDE 2016

Prova de Inglês

Segunda-feira dia 19 de outubro

08h às 11h

PART ONE

Please answer questions 1 to 10 with reference to Text 1. There is one and only one correct answer to each question.

Q1. The title of the article suggests that

- A. not enough goals have been scored by the countries in the United Nations.
- B. there are many UN development goals to be achieved.
- C. the new development goals recently proposed by the United Nations are under-ambitious.
- D. a private company called “Galore” is responsible for implementation of the UN's new development goals.

Q2. The subtitle of the article suggests that

- A. the United Nations has recently become the target of various criticisms from national governments.
- B. development goals have not yet been translated into the various languages spoken at the UN.
- C. government policies are already pursuing the aims outlined in the UN development goals.
- D. the new UN goals require the development of concrete policies, if they are to be achieved.

Q3. According to Paragraph 1, what is the difference between 'targets' and 'goals'?

- A. Targets are more specific and there are many more of them.
- B. Goals are the responsibility solely of the UN Security Council, while targets are expected to be met by national governments.
- C. Goals address poverty reduction and environmental sustainability, while targets are related to other issues.
- D. The aim is to achieve the targets by 2030 but the goals are expected to be met within the next five years.

Q4. Which of the following statements is true according to Paragraph 1?

- A. Beyoncé and Pearl Jam performed a Bob Marley song to promote the launch of the new UN goals.
- B. Beyoncé has donated large sums of money to development charities.
- C. Bob Marley's 'Redemption Song' was written to promote the UN development goals.
- D. The support of pop stars can generate trillions of dollars for international poverty reduction initiatives.

Q5. Which of the following statements is NOT true, according to Paragraph 2?

- A. Development workers started writing a manifesto for human justice and environmental sustainability in 1992.
- B. The initial eight Millennium Development Goals were adopted eight years after the Rio Summit of 1992.
- C. Reducing poverty by 50% by 2015 was one of the goals adopted in the year 2000.
- D. The recent announcement of new development goals is reminiscent of the manifesto set out in 1992.

Q6. According to Paragraph 3, which of the following may pose obstacles to investment in the new development goals?

- A. Over-efficient regulatory systems.
- B. Lack of clarity as to the aspirations underlying the UN's development agenda.
- C. Insufficiently trained workers.
- D. International conflict.

Q7. According to Paragraph 4, which group of people needs to contribute to the identification and implementation of development policies?

- A. The general public.
- B. University teachers and researchers.
- C. Poor people themselves.
- D. Corrupt politicians.

Q8. The terms 'just that' and 'this important field' in Paragraph 5 refer to which of the following?

- A. Contesting the existing rigorous testing methods.
- B. The identification of effective and politically viable strategies in which to invest scant resources
- C. Increasing investment in development by 200%.
- D. Questioning the ability of governments to produce accurate data.

Q9. What, according to Paragraph 6, is going to happen in Paris in December 2015?

- A. Global leaders will come together to resolve the issue of climate change once and for all.
- B. Academics will attempt to tell the world that global warming is not caused by human beings.
- C. A global climate summit will be held.
- D. World leaders will be forced to invest in reducing carbon emissions on pain of prosecution at the international court of justice.

Q10. Which of the following phrases best sums up the tone of the article with regard to the UN's new development goals?

- A. indignantly critical
- B. utterly contemptuous
- C. cynically populist
- D. cautiously optimistic

TEXT 1

Goals galore

The latest global targets from the United Nations must be translated into realistic policies.

30 September 2015

1. The nations of the world approved a new development agenda in New York over the past weekend. The United Nations' 17 Sustainable Development Goals cover topics ranging from poverty reduction to environmental sustainability, and are accompanied by 169 detailed targets that are intended to help governments and aid organizations to focus resources. It is a noble initiative, in principle, and the world would undoubtedly be a better place by its target year of 2030 if these goals were met. But despite the promotional efforts — one of the main side events over the weekend culminated in pop diva Beyoncé and the rock band Pearl Jam performing Bob Marley's 'Redemption song' in New York's Central Park — it remains unclear what impact the goals will have on global affairs.
2. One problem is that there is a sense of déjà vu here. Back in 1992, the world set out a 351-page manifesto for human justice and environmental sustainability at the Earth Summit in Rio de Janeiro, Brazil. Eight years later, the UN adopted the eight Millennium Development Goals, which included halving extreme poverty rates and achieving universal primary education by 2015.
3. The aspirational agenda is still clear, but so too are the barriers to investment — they include corruption, political instability, poor education systems, malfunctioning regulatory systems and the lack of a skilled workforce.
4. The real challenge is to identify and implement realistic policies that will get us where we say we want to be, and this is where academics must engage. The next step for the Sustainable Development Goals is to identify a range of health, economic and environmental indicators that can be used to track progress.
5. That debate is expected to extend into next year, and researchers should work to ensure that governments are collecting and reporting data. Scientists and policymakers must also redouble efforts to identify effective — and politically viable — strategies in which to invest a limited supply of money. Increasingly, development economists are doing just that, complete with rigorous testing, but there is scope for much more research in this important field.
6. The first and perhaps biggest opportunity to address some of these issues in a significant way will come when global leaders converge on Paris for the UN climate summit this December. Attempts to develop a telling international climate regime have languished for a quarter of a century, but there are signs of life, and governments around the world — rich and poor alike — are beginning to engage. The world is unlikely to see a single solution emerge, but the summit could produce a framework that will push all governments to invest in the policies, as well as in the science and technology.
7. Trillions of dollars of investment over the coming decades, public and private, are on the table. Directing that money to the right technologies and the right places would go a long way towards improving lives.

Nature 526, 6 (1 October 2015)

PART 2

Please answer questions 11 to 20 with reference to Text 2. There is one and only one correct answer to each question.

Q11. The term 'citizen scientist' as used in this article means

- A. a scientist who adheres to the proper ethical principles.
- B. a non-specialist who nevertheless contributes to scientific research.
- C. an untrained investigator of pseudoscientific phenomena.
- D. a scientist who has civil rights.

Q12. According to Paragraph 1, which of the following is it now possible for amateurs to do?

- A. Create genetically-modified organisms on the Internet.
- B. Collect data on the temperature of the sea in coastal regions.
- C. Set up a fracking company to reduce air pollution.
- D. Predict future weather patterns by watching the rain from home.

Q13. Which of the following activities is NOT mentioned in Paragraph 2 as one that citizen scientists have already been doing for many years?

- A. Testing the performance of vacuum cleaners.
- B. Counting birds in the winter.
- C. Using free computer processor power to perform mathematical calculations.
- D. Looking for signs of intelligent extraterrestrial life.

Q14. When Paragraph 3 describes professional scientists as being 'sniffy' about the role of amateurs, it means they are

- A. curious
- B. disapproving
- C. envious
- D. smelly

Q15. 'Can citizen science assist digital soil mapping?'

- A. reports on an extensive analysis of soil samples from around the world.
- B. was written by D. G. Rossiter without assistance.
- C. is a paper published in 2015 in a journal called Geoderma.
- D. rejects the idea that amateurs can make a useful contribution to soil science.

Q16. Which of the following groups of individuals is NOT mentioned in Paragraph 4 as a potential source of amateur soil researchers?

- A. Builders
- B. Members of the armed forces
- C. Civil engineers
- D. People who play high-tech treasure-hunting games

Q17. Which of the following volunteer scientist activities is mentioned in Paragraph 5?

- A. Navigating satellites
- B. Recycling litter
- C. Making music that sounds like whales
- D. Catching fish to eat and sending the bones for scientific analysis

Q18. Which of the following criticisms is NOT raised in Paragraph 6?

- A. The scientific community is already overwhelmed by data.
- B. The quality of data collected by amateurs may be poor.
- C. It is not clear how to give volunteers due credit for their work.
- D. Some data may need to be kept secret.

Q19. Paragraph 7 argues that

- A. all citizen scientists have strong views about protecting wildlife.
- B. it is impossible to track fracking-related pollution.
- C. there may be a danger that citizen scientists are biased by political motivations.
- D. the involvement of amateurs in scientific research reduces the risk of conflicts of interest.

Q20. As a whole the article

- A. believes that amateurs are providing healthy competition for professional scientists.
- B. expresses extreme anxiety as to the consequences of growing involvement of amateurs in science.
- C. is in favor of more active citizen science so long as it is subject to appropriate oversight.
- D. dismisses amateur scientists as bigoted crackpots.

TEXT 2

Rise of the citizen scientist

From the oceans to the soil, technology is changing the part that amateurs can play in research. But this greater involvement raises concerns that must be addressed.

1. Science is not just for scientists these days. Going on a scuba-diving holiday this summer? Share the temperature data from your dive computer with researchers eager to plug holes in sparse records for inshore areas. Nervous about possible pollution from a nearby fracking project? Ease your concerns by helping to collect and analyze air samples as part of a monitoring project. Stuck at home as the rain pours down? Log on to the Internet and spend a couple of hours folding proteins and RNA to help university scientists work out how biology does it.
2. Citizen science has come a long way from the first distributed computing projects that hoovered up spare processing power on home computers to perform calculations or search for alien signals. And it has progressed further still since the earliest public surveys of wildlife: it was way back in 1900 that the Audubon Society persuaded Americans to exchange their Christmas tradition of shooting birds for a more productive effort to count them instead.
3. Some professional scientists are sniffy about the role of amateurs, but as an increasing number of academic papers make clear, the results can be valuable and can help both to generate data and to inform policy.
4. A paper in *Geoderma* entitled 'Can citizen science assist digital soil mapping?' (D. G. Rossiter et al. *Geoderma* 259–260, 71–80; 2015) makes the case that, yes, non-specialists can help expert soil scientists to track quality, properties and types of soil. It goes further: these amateur soil researchers should be recruited to help with existing and future national surveys. Civil engineers and construction workers routinely view the subsoil, and digging foundations for buildings and trenches for pipelines offers a unique look at the spatial variability of different layers. An army of geo-cachers — twenty-first century treasure hunters — visit harsh terrain and difficult-to-access places, and could collect soil data. And they routinely use satellite navigation to record their journeys.
5. Technology can make scientists of us all. Nature 524, 265 (20 August 2015)
6. Data churned out by the rapid spread of consumer gadgets equipped with satellite navigation, cameras and a suite of other sensors, and the ease of sharing the results digitally, are driving the boom in citizen science. Volunteers can already identify whale songs from recordings, report litter and invasive species, and send in the skeletons of fish they have caught and consumed. But there is more to being a scientist, of course, than collecting and sharing data—especially if the results are to be used to help determine policy.
7. Critics have raised concerns about data quality, and some studies do find that volunteers are less able to identify plant species than are academics and land managers. And there are issues around how to reward and recognize the contribution of volunteers, and around ensuring that data are shared or kept confidential as appropriate. But these problems seem relatively simple to address — not least because they reflect points — from authorship to data quality and access — that the professional scientific community is already wrestling with.
8. More troubling, perhaps, is the potential for conflicts of interest. One reason that some citizen scientists volunteer is to advance their political objectives. Opponents of fracking, for example, might help to track possible pollution because they want to gather evidence of harmful effects. When Australian scientists asked people who had volunteered to monitor koala populations how the animals should be managed, they found that the citizen scientists had strong views on protection that did not reflect broader public opinion.
9. Scientists and funders are right to encourage the shift from passive citizen science — number crunching — to more active roles, including sample collection. But as increased scrutiny falls on the reliability of the work of professional scientists, full transparency about the motives and ambitions of amateurs is essential.

Segunda-feira dia 19 de outubro de 2015

08h00 às 11h00

MESTRADO EM CIÊNCIAS DA SAÚDE 2016

Nome do candidato: _____

RG do candidato: _____

Question	Answer				Question	Answer			
1	A	B	C	D	11	A	B	C	D
2	A	B	C	D	12	A	B	C	D
3	A	B	C	D	13	A	B	C	D
4	A	B	C	D	14	A	B	C	D
5	A	B	C	D	15	A	B	C	D
6	A	B	C	D	16	A	B	C	D
7	A	B	C	D	17	A	B	C	D
8	A	B	C	D	18	A	B	C	D
9	A	B	C	D	19	A	B	C	D
10	A	B	C	D	20	A	B	C	D