

本「科學英文」試卷含兩篇英文短文，請閱讀後，分別以英文書寫各篇短文之重點摘要（各篇摘要需少於300字）。

1. Written. (50 points)

Read the following article written by *Sharon Mosher*. Write a short paragraph (< 300 words) summarizing the information in this article.

The most surprising thing I've learned as GSA president must be that dairy farmers are interested in Earth Science Week. It shouldn't surprise me, but like many geologists, I tend to overlook the less obvious connections with earth sciences. Conversely, we geologists often assume that what is so obvious to us is understood by the public and by public officials. When we hear severe budget cuts are proposed for the U.S. Geological Survey and National Science Foundation, we hope the public and public officials will recognize that such cuts are detrimental to society and the economy. Yet even our fellow scientists don't recognize the importance of the earth sciences. Two recent experiences have impressed on me the need to interact more with all scientists, both scientifically and politically. I have been working on Macquarie Island, located 1500 km south of New Zealand. This World Heritage site is a sliver of oceanic crust uplifted at a restraining plate boundary along the Pacific-Australian transform plate boundary and is a unique place to study plate boundary processes. But the island also is home to more than a million penguins, 70,000 elephant seals, numerous species of ground-nesting birds, and unusual vegetation. Most of the 40 scientists who come each year to study on the island are biologists or botanists. Working on the island turns you into a naturalist, if only to survive—for example, knowing the mating habits of elephant seals can save your life! Plus, my students will confirm that the close interaction with other scientists over many months generates a genuine interest in what others are studying. The obvious strong connection between the vegetation, animals, geology, topography, weather, and plate motion leads to scientific discussions on how various processes are linked. Here, penguins really are affected by plate boundaries, because their colonies are being uplifted at 5–16 mm per year, making their trek to the ocean longer every day. Not all of them have been willing to leave their established colony and move to lower elevations, causing unusual penguin living conditions! So yes, penguins and plate boundaries have something in common, but what about politics and geologists? As GSA's president, I am a member of the Council of Scientific Society Presidents, a group very active in influencing science policy. I have found that although there is a strong interest among other scientists in interacting with us scientifically, our peers do not appreciate the relevance of our science. When scientists publish studies on the need for research in environmental sciences, and the words earth science, geology, or geoscience don't even appear, we all lose. Because of the striking

and newsworthy effects that geologic processes have on people, earth sciences are probably the easiest to sell to the public, yet we don't capitalize on this. For example, every news article on a recent earthquake should mention the need to study plate boundaries through such initiatives as Earth-Scope. Other scientists are either not aware of what we do, or they can more easily see the value of biological, chemical, or physical sciences. What can we do? We need to educate our fellow scientists— something we can all do in our day-to-day contacts with colleagues. We need to take every opportunity offered to spread the message that earth science research can provide answers to major scientific and societal problems. And, we need to work together with other scientists to increase public awareness of the importance of all sciences to society and to the growth of our economy, or we will be isolated just like those penguins on a plate boundary we don't understand.

## 2. Written. (50 points)

**Read the following article written by *Kenneth Mahrer*. Write a short paragraph (< 300 words) summarizing the information in this article.**

Successful technical writers are, first and foremost, successful scientists or engineers. Unlike journalists, who may write about subjects of which they have only secondhand knowledge gleaned through interviews, technical writers are the experts. They write about what they do and know. Strong technical writers wrap their pens around strong information that is well researched and well documented — in other words, scientifically sound.

Good technical writers are proficient in laying out both an argument and a manuscript in a manner that makes sense to the consumer. The development is clear and logical. Each piece of information is linked to that which precedes and that which follows. There are no gaps in information, argument, or presentation, and the material is well supported. Weak writers create arguments only they can follow. Strong writers create arguments even those less familiar with the discipline can follow.

Linguistics being the brick and mortar of all communication, successful technical writers understand and use the basics of grammar and the rules governing sentence structure. They possess strong vocabularies and are comfortable using them. Good writers understand that well-chosen and well-placed verbs are a better option than strings of modifiers and prepositional phrases. They also know when to elaborate and when fewer words say more.

Personal honesty is another characteristic found in outstanding technical writers. They understand that not all technical work is suitable for publication. That which is invariably states and solves a real problem or question of interest to the audience. They would not submit unqualified work in the hope of padding their publication lists. If more writers were personally honest, journals would be smaller and more valuable.

Successful writers are sensitive to the needs of their readers. They write to be read.

Talented technical writers know that if a reader cannot understand the material, then the writer has not done a sufficient job. They also seek to make reading painless.

Patience is a virtue that applies to writing. Those who cultivate this quality are more likely to produce successful articles which are well researched, well supported, and well presented. Without a compulsion to rush the paper to press, the writer can allow a new manuscript to rest before editing it. While the article is set aside, the author can change mantles from writer to reader. Subsequent revisions are made with less emotional attachment and more perspective.

Uncommonly competent writers are permanent students. Their ongoing quest for growth crosses over the boundaries of their discipline. These professionals are interested in the world around them. Despite the academic letters that follow their names and the accolades they have received, they have not yet arrived. On the contrary, they are in the middle of a journey for knowledge that has no end.

Finally, well-received writers understand the art of persuasion. Unlike unsuccessful writers, who write believing the science will automatically sell itself simply because it is science, uncommon writers recognize that the value of their work is in its acceptance. These writers know that ideas may be met with skepticism and that readers must be persuaded. They create documents designed specifically to work through the reticence of readers. They anticipate and meet objections with explanations and turn a skeptical audience into believers. Most writers have known the puzzlement or pain of having a manuscript rejected. They have suffered the blow-to-the-belly feeling when holding their wounded work and scouring it for answers to the questions: Why was it returned, and why should I try again? Uncommonly good writers know the answer: It was rejected because it wasn't strong enough. And they try again, because they are.