

國立中科實驗高級中學雙語部 114 學年度

雙語部小學一般科

第一部分：選擇題

Reading 每題 3 分，共 30 分。

Passage A

Human waste has now reached the deepest point in the Mediterranean Sea: the Calypso Deep, located 5,112 meters (16,772 feet) below the surface in the Ionian Sea. Researchers identified a total of 167 objects on the seafloor, mostly plastic, glass, metal, and paper. Of these, 148 were confirmed as marine debris, while 19 are believed to be of possible human origin. This represents one of the highest concentrations of marine litter ever recorded at such extreme depths.

The Calypso Deep is a depression located 60 kilometers west of the Peloponnese coast in Greece, within the so-called Hellenic Trench, with several similar but shallower depressions. Located in an area of high seismicity due to active faults, it is surrounded by fairly steep, stepped relief and has slopes of thousands of meters and a virtually flat bottom. The inner part of the trench, more than 5,000 meters deep, is kidney-shaped and measures approximately 20 km by 5 km.

“Some light waste, such as plastics, comes from the coast, from where it escapes to the Calypso Deep, just 60 kilometers away. Some plastics, such as bags, drift just above the bottom until they are partially or completely buried, or disintegrate into smaller fragments,” said Miquel Canals, professor at the Department of Earth and Ocean Dynamics, associated with the study.

Unlike other popular places, such as beaches or the coastline, “the ocean floor is still largely unknown to society as a whole, which makes it difficult to raise social and political awareness about the conservation of these spaces,” the expert continues. “It is necessary to make a joint effort between scientists, communicators, journalists, the media, influencers, and other people with social impact. The problem is there, and it has an enormous scope, even if it is not directly visible. We should not forget about it,” concludes Miquel Canals.

1. What is the best title for this reading?

- A. Plastic Pollution in the Tourist Beaches in Greece
- B. Human Trash Found at Deepest Point of the Mediterranean Sea
- C. Exploring the Depths of the Hellenic Trench
- D. The Effects of Climate Change on Marine Life

2. What does Miquel Canals suggest to improve awareness about deep-sea conservation?
- A. Conducting more deep-sea mining
 - B. Reducing all human activities near the ocean
 - C. Making a joint effort among scientists, media, and influencers
 - D. Ignoring the problem since it is not visible
3. What does the statement “This represents one of the highest concentrations of marine litter ever recorded at such extreme depths” imply?
- A. The Calypso Deep contains more marine litter than most deep-sea areas.
 - B. Marine litter is rarely found in deep-sea environments.
 - C. The Mediterranean Sea has less pollution than other oceans.
 - D. Waste in the ocean only comes from coastal areas.
4. Why is it difficult to raise awareness about marine debris in deep-sea environments?
- A. Governments refuse to acknowledge pollution.
 - B. People are more interested in space exploration.
 - C. The ocean floor cleans itself naturally.
 - D. The deep ocean is largely unknown to the public.
5. Based on the reading, which of the following is **NOT** true?
- A. The Calypso Deep is the deepest point in the Mediterranean Sea.
 - B. Most of the waste found in the Calypso Deep comes from marine animals.
 - C. The Calypso Deep is located in the Ionian Sea, west of the Peloponnese coast.
 - D. Plastics in the deep sea can become buried or break into smaller fragments.

Passage B

Meeraa Ramakrishnan, 17, is a high school student in India. In 2019, she cofounded the nonprofit Avaagat to help children and families who cannot afford access to clean water and hygiene solutions. For its positive impact on the UN sustainable development goals, the organization was recognized with The Diana Award at the United Nations 1M1B (One Million for One Billion) Activate Impact summit.

In three years, Avaagat has raised in excess of \$11,000 to conduct educational programs for students, install water filters for over 2,100 people, provide Covid safety kits to 1,500 people, and expand their program into six other countries across the globe. Ramakrishnan, who already has published research articles in scientific journals, plans to pursue studies in biological sciences and business at university.

“Working with Avaagat and other passionate teens has helped me grow from a student to a learner,” says Ramakrishnan. “My ultimate goal in life is to create and

encourage positive social change that is tangible and sustainable, and Avaagat gives me a platform to do just that. I hope other young changemakers collaborate and work together to make a lasting impact because community is all you need to make a small difference.”

6. What is the main focus of Meeraa Ramakrishnan’s work with Avaagat?
 - A. Providing financial assistance to businesses in India
 - B. Promoting clean water, hygiene solutions, and educational programs for underserved communities
 - C. Conducting scientific research in biological sciences
 - D. Organizing political campaigns for social change

7. What does “that” in the phrase “Avaagat gives me a platform to do just that” refer to?
 - A. The goal of creating positive social change
 - B. The opportunity to travel internationally
 - C. The responsibility of managing a nonprofit organization
 - D. The research Meeraa plans to conduct in biological sciences

8. What recognition did Avaagat receive for its contributions to sustainable development?
 - A. The United National Humanitarian Prize
 - B. The Global Youth Award from the UN
 - C. The Indian NGO Excellence Award
 - D. The Diana Award at the UN summit

9. In what year was Avaagat co-founded by Meeraa Ramakrishnan?
 - A. 2017
 - B. 2018
 - C. 2019
 - D. 2020

10. What is true about Meeraa Ramakrishnan?
 - A. She focuses on conducting research in biological sciences and business.
 - B. The organization only operates in India and does not focus on water and hygiene
 - C. Meeraa plans to pursue a career in politics and advocacy.
 - D. Avaagat has raised over \$11,000 and made a significant global impact.

第二部分：申論題，共七十分

Read the following questions carefully and provide responses in English.

1. What single word serves as your primary source of inspiration or motivation in your journey to becoming a teacher? (10 points)
2. Pamela, a student in your phonics class, is able to articulate the individual letter sounds and their corresponding phonemes, such as the vowel sound /æ/ as in “cat” and the consonant sounds /b/ as in “bat,” and /k/ as in “cat.” However, when presented with the word card “cab,” she struggles to correctly pronounce the word. What specific phonics-related challenge does Pamela face? How could AI tools assist in diagnosing and addressing her difficulty? Design an evidence-based activity—either traditional or AI-enhanced—that supports Pamela’s phonemic blending skills. (20 points)
3. Develop a lesson plan centered on Edith Baer's *This Is the Way We Go to School* to introduce students to various modes of transportation. Design activities that incorporate international education perspectives and integrate project-based learning methodologies to enhance student engagement and understanding. (20 points)
4. You are planning to teach Eric Carle’s picture book *The Very Hungry Caterpillar* to a class of 24 Taiwanese third-grade students. Besides English language instruction, what additional subject areas will you integrate into the lesson? Define specific content objectives for each subject and develop instructional activities aligned with these objectives to enhance student learning and mastery. (20 points)