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91923



Draw a cross through the box (☒) if you have NOT written in this booklet

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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Science 2025

91923 Demonstrate understanding of science-related claims in communicated information

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of science-related claims in communicated information.	Explain science-related claims in communicated information.	Examine science-related claims in communicated information.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

Choose ONE context from the Resource Booklet to answer ALL parts of the task in this booklet.

Pull out Resource Booklet 91923R from the centre of this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

Do not write in the margins (//////). This area will be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Achievement

TOTAL 04

Page 1

Make sure you have the paper Resource Booklet 91923R.

INSTRUCTIONS

This task is made up of two parts. You must answer BOTH parts.

Choose ONE context from the resource booklet and use both resources provided to complete this assessment.

- Context One: **Personality tests**
 - Resource A: **Scientific American** magazine article
 - Resource B: **Myers-Briggs** website
- Context Two: **The future of plastics**
 - Resource A: **Good News Network** article
 - Resource B: **BioPak** website

Context Two: The future of plastics ▾

Use information in the resource booklet for your chosen context to answer ALL parts of the task.

PART ONE

Use Resource A from your chosen context to respond to the following:

(a) Who published this information?

B *I* U

This article has been published by Andy Corbley

(b) Why was this information published?

B *I* U

This information has been published to inform the reader on new research being done around the new revolutionary "living plastic"

(c) What is a science-related claim in this resource?

B *I* U

There is a claim that two researchers, Han Sol Kim and Jon Pokorski believe they have found a way to make plastic biodegradable yet more durable by adding bacterial spores. Therefore making it better for the environment.

(d) What are the science language or conventions used in support of this claim?

B I U ☰ ▾ ☰ ▾ ↶ ↷ ⓘ

Within this article, the claim that two researchers "believe they have found a way to make plastic biodegradable yet more durable by adding bacterial spores. Therefore making it better for the environment." This claim is backed up by the use of many scientific language features which proves the claim has been scientifically researched and tested. Using the following words such as Thermoplastic polyurethane (TPU) and Bacillus aubtilis aren't words regularly used which makes the reader believe that the scientists know what they are talking about. Other words such as biodegradability, microbially active and germinate. Convince the reader that the claim has been tested and tried before the article was written, making it seem a valid claim. Within this information are also science conventions, these numbers and visual representations make the claim interesting and believable. Stats such as "90per cent broken down within five months." referring to the plastic when composted with water and nutrients. This significant information makes the "living plastic" seem beneficial for the environment. Visual images are also included within this article, providing images of Han Sol Kim "testing the stretchability and strength of the living plastic." Proving that the claim had been scientifically tested and studied. The second image of the article provides the reader with an insight to what Thermoplastic polyurethane pelets look like as well as the bacillus spores which work together to create this biodegradable yet durable plastic which is better for the environment. Overall this claim includes many scientific languages and conventions which support the claim.

(e) How well do the science language or conventions used in the information support the claim that you identified in part (c)? Use evidence to support your response.

B I U ☰ ▾ ☰ ▾ ↶ ↷ ⓘ

The claim that two reasearchers "belive they have found a way to make plastic biodegradable yet more durable by adding bacterial spores. Therefore making it better for the environment." is supported by the use of a variety of scientific language and multiple conventions working together to make the claim seem scientifiacly reasearched and reliable. Near the bottom of the page the claim also states that the reasearch was orignially published on "nature communications" which is a peer- reviewed scientific jornal. Knowing that this information has come from a peer-reveiwed website which is also linked at the end of the artcile, this removes the chance of personal biases, missleading information and the drive to sell a product. Overall the claim has many reasons as to why is is a reasearched and reliable claim.

PART TWO

Use Resource B from your chosen context to respond to the following:

(a) Who published this information?

B *I* U     

There is no direct author of this article but the information comes from BioPak, a company which produces plant-based compostable packaging products.

(b) Why was this information published?

B *I* U     

As this information has been published by a company, there will be a financial drive behind this article, to promote their product and give exposure to their business. This information has also been published to inform the reader on misleading marketing to "biodegradable" products.

(c) What is a science-related claim in this resource?

B *I* U     

The scientific claim is that, BioPak "believe that compostable packaging is a more trustworthy and sustainable option than biodegradable packaging."

(d) What are the science language or conventions used in support of this claim?

B *I* U     

Within this article, the claim that BioPak "believe that compostable packaging is a more trustworthy and sustainable option than biodegradable packaging." This claim is backed up by the use of many scientific language features and conventions which proves the claim has been scientifically researched and tested. Using the scientific language such as Biodegradable, oxo-degradable, pro-oxidant and manganese. This scientific language helps the reader to believe that the information has been scientifically studied and research to make the claim reliable. Within this information there is also scientific conventions. The claim includes a diagram comparing The different kinds of plastics. This is a well labeled diagram comparing conventional plastics to biodegradable plastics. this claim also includes information from a second source which claims biodegradable plastics will add to the microplastics in the ocean, causing pollution problems. Persuading us to stay away from the use of biodegradable plastics but use compostable plastics instead.

(e) How well do the language or science conventions used in the information support the claim that you identified in part (c)?

B *I* U     

Within this article, the claim that BioPak "believe that compostable packaging is a more trustworthy and sustainable option than biodegradable packaging." Is well supported by the use of a variety of scientific language and multiple conventions working together to make the claim seem scientifically researched and reliable. The only flaw in this article is that is mainly talks about the negatives of bioplastics and its harms to the environment, the claim does not provide information on the compostable packaging. From this, the reader can only view one side of this claim making it seem biased.

Achievement

Subject: Science

Standard: 91923

Total score: 04

Grade score	Marker commentary
A4	The response identifies the source of the information and describes the purpose of the communicated information. The response describes science language and identifies science conventions around statistics, visual representations, peer review, and bias. To gain Merit, the response should include an explanation of how the science language or conventions had supported or not supported the claim.