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SUPERVISOR'S USE ONLY

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91922



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

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Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Level 1 Science 2024

**91922 Describe features of science that have contributed to the development of a science idea in a local context**

Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Describe features of science that have contributed to the development of a science idea in a local context.	Explain features of science that have contributed to the development of a science idea in a local context.	Examine features of science that have contributed to the development of a science idea in a local context.

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

Pull out Resource Booklet 91922R from the centre of this booklet.

**Choose ONE science idea from the Resource Booklet to answer ALL parts of the task in 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 2–7 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**

**INSTRUCTIONS**

This task is made up of three parts. You must answer ALL three parts.

Choose (✓) ONE science idea from the resource booklet to complete this assessment.

- ☒ Science Idea One: Using long-term studies to research human development
- ☐ Science Idea Two: How are the oceans affected by increasing carbon dioxide in the atmosphere?

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



## PART ONE

For part one, focus on **these two** features of science:

- the development of science ideas in response to new evidence or varied perspectives, such as Māori and Pacific knowledge systems
- linking new evidence to existing models, theories, and ideas.

Using the information from your chosen science idea, discuss the following:

- (a) How does EACH feature of science mentioned above contribute to the development of the science idea?

- (i) <sup>Linking</sup> ~~The~~ New evidence <sup>to existing ideas</sup> contributes to the development of long-term studies to research human development, by getting data that researchers will be able to use, to see if there are common causes for various illnesses.
- (ii) ~~This data can help to answer the question: how can we grow old in a healthy way.~~  
~~Linking new evidence to existing models, theories and ideas contributes to the science idea~~  
 (Back of booklet)

- (b) Why are these features of science important to the development of the science idea?

These are important because they get new data which can create answers to questions and ~~with~~ with multiple perspectives they can make sure the answer is correct.

- (c) How do the two features of science work **together** to support the development of the science idea?

Varied perspectives and linking new evidence to existing ideas work together to support the development of the science idea by making sure the correct answers are found. The two different perspectives of the Dunedin study and Te kura mai i Tawhiti have worked together to create the question "how might a strong sense of Māori identity and behaviour make Māori communities better?"  
 (back of book)



## PART TWO

For part two, focus on **these two** features of science:

- interpreting patterns and interactions
- the influence of the development and use of technology on science.

Using the information from your chosen science idea, discuss the following:

- (a) How does the interpretation of patterns and interactions add to the science idea?

~~The pattern of ~~the~~ as the mean cortical thickness~~  
~~increases, the mean IQ and gait speed increases.~~

When we get older, our cortical thickness decreases, adds to the science idea by showing that this can be associated with parkinson's disease.

- (b) How does the development and use of technology add to the science idea?

In April 2017, 904 people completed an MRI scan. Before then, the MRI technology was not available. Without it the researchers wouldn't be able to get a good picture of their brains.

- (c) Why are these two features of science important to the development of the science idea?

The development and use of technology is important because without MRI scans the researchers wouldn't be able to get a good picture of their brains before the ageing process. This would mean none of the cortical thickness would have been found. The interpretation of patterns is important because researchers wouldn't have found that ~~any~~ cortical thickness is associated with parkinson's disease.

- (d) How does one feature of science **support** the other in the development of the science idea?

The development of technology supports the interpretation of patterns because if the MRI scans weren't made the researchers wouldn't have found that age is related to cortical thickness. This means they wouldn't have found that it can be associated with parkinson's disease.



## PART THREE

For part three, focus on **these two** features of science:

- the influence of the development and use of technology on science
- using specific language, symbols, and conventions.

Using the information from your chosen science idea, discuss the following:

- (a) How do the use of technology and specific language, symbols, and conventions contribute to the science idea?

The use of technology contributes by doing MRI and gait tests. Specific language contributes by using abbreviations such as "MRI" so we don't have to write ~~Maart words such as when just and waanau so Maari out~~ the entire words. ~~people can feel included.~~ (back of booklet)

- (b) Why was each feature of science significant to the development of the science idea?

~~Each of them~~ ~~the specific~~ The specific language, symbols, and conventions were significant as they helped people understand the work. ~~and~~ The use of technology was significant because it provided needed data.

- (c) How do these two features of science work **together** to develop the science idea?

The use of technology worked together with specific language, symbols and conventions because if the dates weren't used, we wouldn't know when the technology was used. If the abbreviations of MRI weren't used it would ~~take up a lot of space~~ <sup>be annoying to say or</sup> write out magnetic resonance imaging when referring to the technology. ~~specific~~ If the figures 4 and 5 weren't used, we wouldn't ~~be~~ be able to see the results the technology provided.



Extra space if required.  
Write the question number(s) if applicable.

QUESTION  
NUMBER

### Part one

(a)(ii) Varied perspectives contribute to the long-term study to research human development by getting ~~the researchers~~ ideas from different researchers. This can result in new data ~~and~~ and it can ~~get~~ create new questions.

(c) Linking new evidence ~~to~~ from studies can be used to find the answer to this question.

### Part three

(a) Specific symbols contributed by giving dates such as "April 2017" which helps by giving us the knowledge of when something happened. Specific conventions contributed by giving us Figure 4 and 5. These helped show the pattern of the cortical thickness compared to IQ.

## Achievement

**Subject:** Science

**Standard:** 91922

**Total score:** 04

Grade score	Marker commentary
A4	This response identified examples of how varied perspectives contributed to the science idea by verifying answers. The response highlights the role of how both patterns and technology contributed to the science idea. It identified the features of science but did not explain how they contribute to the science idea.