

## Assessment Schedule – 2025

### Science: Demonstrate understanding of science-related claims in communicated information (91923)

#### Assessment Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<p><i>Demonstrate understanding of science-related claims in communicated information</i> involves:</p> <ul style="list-style-type: none"> <li>describing the source and intended purpose of the communicated information</li> <li>describing science-related claims in communicated information</li> <li>describing science language or conventions used in the communicated information.</li> </ul>	<p><i>Explain science-related claims in communicated information</i> involves:</p> <ul style="list-style-type: none"> <li>explaining how science language or conventions are used to support science-related claims in the communicated information.</li> </ul>	<p><i>Examine science-related claims in communicated information</i> involves:</p> <ul style="list-style-type: none"> <li>evaluating the use of science language or conventions used to support science-related claims in the communicated information.</li> </ul>

N1	N2	A3	A4	M5	M6	E7	E8
The response lacks enough evidence to show understanding, or is substantially reproduced with little mediation by the candidate.	The response is substantially produced by the candidate, but demonstrates little understanding. One part of the required response may be completely missing, or several parts may be weak.	The response shows <b>understanding and describes</b> the science-related claims, <b>although some descriptions may be partial or weak.</b>	The response <b>securely shows understanding and describes</b> the science-related claims.	The response <b>explains</b> the science-related claims, <b>although some parts of explanation may be partial or weak.</b>	The response <b>securely explains</b> the science-related claims.	The response <b>examines</b> the science-related claims, <b>although some parts of discussion may be partial or weak.</b>	The response <b>securely examines</b> the science-related claims.

**N0** = No response; no relevant evidence.

#### Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0–2	3–4	5–6	7–8

## Sample Evidence

What follows is not a complete list of all acceptable responses, nor is it an indication of the exact wording required. Assessment judgments are based on the level of understanding shown.

Context One: Personality tests			
Part	Achievement	Achievement with Merit	Achievement with Excellence
ONE (a)	Researchers for <i>ClearerThinking.org</i> wrote and published in <i>Scientific American</i> .		
(b)	They published this information to tell people about the accuracy of personality tests in predicting life outcomes and to promote their website and research.		
(c)	Claims examples: <ul style="list-style-type: none"> <li>• Most people cannot be divided into two distinct categories for each trait.</li> <li>• Personality tests would be better at predicting life outcomes if they allowed more than two traits.</li> </ul>		
(d)	Science language: <ul style="list-style-type: none"> <li>• Normally distributed, classified.</li> </ul> Science conventions: <ul style="list-style-type: none"> <li>• They had a large sample size of 559 participants.</li> <li>• There are no units on the graph.</li> <li>• The graph has clear labels.</li> <li>• The numbers on the graph axes are evenly spaced with 0.38 between each set of numbers.</li> <li>• Self-published; may not be peer-reviewed.</li> </ul>	<ul style="list-style-type: none"> <li>• While the graph does not have units, it does follow the other conventions of having clear labels and evenly spaced numbers on the axes. This makes the graph look more scientific and legitimate, therefore it is more likely people will believe it.</li> <li>• The names and the qualifications of the researchers are not all given, meaning we do not know if they have the knowledge to be able to make these claims. This makes the claim less believable.</li> <li>• A large sample size makes the claims more believable, as a lot of people were tested. This is important because the experiment was repeated many times and had similar results. If they used the results of only one or two people, it might be a fluke and may not be accurate.</li> </ul>	

(e)			<p>The researchers are people who self-publish, meaning that we don't know if they have had their work checked by other people in a peer review. This is important as it allows other people to make sure that what they are writing is correct.</p> <p>These researchers may have tried personality tests in the past and not liked the results, so they may have a bias and will be more likely to say negative things about them. If we don't have any evidence that their research has been checked, then we can't be sure how accurate it is.</p> <p>However, as it has also been published in the <i>Scientific American</i>, a popular open-access science magazine, these researchers will want to maintain a good reputation so they can publish more – this would not happen if they published incorrect information, so it most likely is accurate.</p>
TWO (a)	<i>Myers-Briggs</i> published this on their website.		
(b)	They published this information to tell people about their personality test.		
(c)	<p>Claims examples:</p> <ul style="list-style-type: none"> <li>• The <i>Myers-Briggs</i> personality test can be used as a tool for individual development and self-awareness.</li> <li>• It is rare for personality preferences to change.</li> </ul>		

<p>(d)</p>	<p>Science language:</p> <ul style="list-style-type: none"> <li>• Reliability, traits, test-retest correlations.</li> </ul> <p>Science conventions:</p> <ul style="list-style-type: none"> <li>• <i>Myers-Briggs</i> also sell their test on their website, so there may be a conflict of interest here.</li> <li>• The graph does not tell us what the other names stand for (e.g. Big Five etc.).</li> <li>• The <i>Myers-Briggs</i> test has been reviewed thousands of times.</li> <li>• They are quoting themselves rather than including research or information from other sources.</li> </ul>	<ul style="list-style-type: none"> <li>• As the website also sells the tests, there is a conflict of interest. They will want to sell their product, meaning they might ignore any bad things about their product. This makes the claim less believable.</li> <li>• They said that there were 31,000 records for MBTI, but they have not said what these records were for. Some of these may not portray the test in a good way, so this does not back up the claim.</li> <li>• The graph has a lot of information and numbers on it, making the claim look stronger to those people who do not know what a graph should look like.</li> </ul>	
<p>(e)</p>			<p>This is a popular personality test and lots of people have taken it. However, because they are selling it, they are earning money from it. Therefore, it is in their best interests to make the test sound good, because if they said anything bad, then people may not want to buy it, and they would earn less. But on the other hand, they might want to sound reliable and honest as people may start to give bad reviews on the tests if they do not work properly. If this happened, they would also lose potential earnings.</p>

Context Two: The future of plastics			
Part	Achievement	Achievement with Merit	Achievement with Excellence
ONE (a)	This is a summary about an article written by Andy Corbley and published on the <i>Good News Network</i> website.		
(b)	The purpose was to inform people about a new type of biodegradable plastic.		
(c)	<p>Claims examples:</p> <ul style="list-style-type: none"> <li>• Researchers have made a new type of biodegradable plastic that has bacterial spores in it.</li> <li>• Researchers have made a more durable plastic that will be almost fully broken down within five months when in the right conditions.</li> </ul>		
(d)	<p>Science language:</p> <ul style="list-style-type: none"> <li>• Bacterial spores, biodegradable, thermoplastic polyurethane, germinate, polymer, microbially active, sterile, nutrients, <i>Bacillus subtilis</i>, vegetative.</li> </ul> <p>Science conventions:</p> <ul style="list-style-type: none"> <li>• It is from a recent article that was published in February 2024, so it is likely to be up to date.</li> <li>• It has been sourced from the peer-reviewed journal <i>Nature Communications</i>, so it has been checked by other people.</li> <li>• The researchers are from the University of California San Diego, so they will have qualifications in this area.</li> </ul>	<ul style="list-style-type: none"> <li>• The article is up to date as it was published in 2024, strengthening the claim as it is less likely new evidence has been found that contradicts the information that is in the article.</li> <li>• The article is a summary of another article, we do not know much about the author, and they may have some bias and may not include information that does not support the claim. This weakens the claim.</li> <li>• The research was peer-reviewed, meaning that other people checked their work and made sure it was reliable and correct. It would not be able to be published if it contained false information.</li> </ul>	

(e)			<p>The article talks about the plastic being more durable. However, it has not been explained how they have tested this. We have been shown a picture that has the plastic being stretched, but there is no information on how they carried out the tests, how many repeats they did, how they controlled the variables like size, number of spores, etc. For a science investigation to be valid, all these things need to be considered when designing the experiment.</p> <p>As these researchers work at a university, they will have qualifications that make them experts in their fields and will know how to carry out experiments properly; but without being told all this information, we cannot be 100% sure that they did their experiments properly.</p>
TWO (a)	A company called <i>BioPak</i> published this information on their website.		
(b)	The purpose was to educate people about biodegradable plastic.		
(c)	<p>Claims examples:</p> <ul style="list-style-type: none"> <li>• Compostable packaging is better than biodegradable products.</li> <li>• Biodegradable products are still conventional plastic but have some additives that make them break down in the right conditions.</li> </ul>		
(d)	<p>Science language:</p> <ul style="list-style-type: none"> <li>• Biodegradable, plastic, fossil fuels, additive, biobased, biomass, cellulose, oxo-degradable plastics, UV irradiation, oxygen, manganese, polymer.</li> </ul> <p>Science conventions:</p> <ul style="list-style-type: none"> <li>• There is no date to tell us how recent this information is.</li> <li>• This company also sells products so there may be a conflict of interest.</li> <li>• They do not have a list of sources of where they (UNEP) found this information.</li> </ul>	<ul style="list-style-type: none"> <li>• There are a lot of science words in this article (e.g. biodegradable and irradiation). This makes it sound like the author knows what they are talking about, strengthening the claim.</li> <li>• They are selling a product that is in competition with the product they say is bad. They are more likely to say bad things about the product, so people will buy their product.</li> <li>• The diagram is clear, however, there is no explanation about what it is trying to show, making the claim weaker.</li> </ul>	

(e)			<p>There are a lot of science-sounding words in this article (e.g. oxo-degradable plastics, biobased, and biodegradable). For some of these words, they have explained what they mean, making it clearer for the reader, so they fully understand what they read and won't be confused by all the science words. This makes them and the claim more trustworthy. These science words also seem to be used correctly, which shows that the authors are knowledgeable about this topic. This further strengthens the claim.</p>
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