Achievement Standard

Subject Reference	Physics, Earth and Space Science 1.2				
Title	Demonstrate understanding of a physical phenomenon through investigation				
Level	1	**Credits**	5	**Assessment**	Internal
Subfield	Science				
Domain	Science - Core				
Status	Approved	**Status date**	December 2023		
Planned review date	December 2028	**Date version published**	December 2023		

Purpose Statement

Students are able to demonstrate understanding of a physical phenomenon through investigation.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of a physical phenomenon through investigation	• Explain a physical phenomenon through investigation	• Analyse a physical phenomenon through investigation

Explanatory Notes

1 *Demonstrate understanding of a physical phenomenon through investigation* involves:
- describing relevant physics concepts
- describing relationships involved in a physical phenomenon, using evidence.

Explain a physical phenomenon through investigation involves:
- explaining how physics concepts relate to the physical phenomenon
- explaining how relationships are involved in the physical phenomenon, using processed evidence.

Analyse a physical phenomenon through investigation involves:
- integrating processed evidence with a discussion of relevant physics concepts and relationships involved.

2 *Evidence* must be gathered through investigation. Evidence must include numerical data and may include observations.

Processed evidence is evidence that has been synthesised by the student to provide more meaningful information.

Examples of processed evidence include:
- calculations
- tables
- graphs.

3 A *physical phenomenon* refers to an observable event or process that involves physics concepts.

Examples of a physical phenomenon include:
- dispersion in a prism
- a falling object
- the brightness of a lightbulb.

4 *Physics concepts* refer to ideas and knowledge related to physics.

Examples of physics concepts include:
- power
- refraction
- acceleration.

5 A *relationship* in physics is a connection between physical quantities that can be observed.

6 Refer to the NCEA glossary for Māori, Pacific, and further subject-specific terms and concepts.

7 This achievement standard is derived from the Science Learning Area at Level 6 of *The New Zealand Curriculum*: Learning Media, Ministry of Education, 2007.

Replacement Information

This achievement standard, AS92044, AS92046, and AS92047 replaced AS90935-AS90939.

Quality Assurance

1 Schools and institutions must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.

2 Schools and institutions with consent to assess must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference 0233