Achievement Standard

Subject Reference Physics 2.7

Title Demonstrate understanding of physics in an integrated context

Level 2 **Credits** 3 **Assessment** Internal

Subfield Science

Domain Physics

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This achievement standard involves demonstrating knowledge and understanding of physics phenomena, concepts, principles and relationships in contexts that draw from more than one content area.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Identify or describe aspects of phenomena, concepts or principles in an integrated context.	• Give descriptions or explanations in terms of phenomena, concepts, principles and/or relationships.	• Give concise explanations that show clear understanding in terms of phenomena, concepts, principles and/or relationships.

Explanatory Notes

1 This achievement standard relates to *Physics in the New Zealand Curriculum,* Learning Media, Ministry of Education, 1994; Level 7 achievement objectives, p. 24.

2 The demonstration of understanding of the physics involved within the context will be evidenced through the responses to questions/tasks (both descriptive and mathematical) when the context draws from more than one physics content area. Real life situations will be used whenever possible. Requisite information about contexts used will be supplied.

3 *An integrated context* uses or relies on phenomena, concepts, principles and relationships from more than one physics content area. Content areas can include waves, mechanics, atoms and radioactivity, DC electricity, and electromagnetic effects.

4 The following descriptions provide guidance on the typical level of performance for achievement, achievement with merit, and achievement with excellence. Both the complexity of the situation and problem-solving process will determine the grade. Statements, descriptions and explanations can be written, diagrammatic, graphical or mathematical/numerical. The descriptions or explanations could include quantitative discussions.

- Achievement will typically involve single aspects related to phenomena, concepts or principles.
- Achievement with merit will typically involve reasons.
- Achievement with excellence will typically have minimal irrelevancies.

5 A list of formulae relating to the content areas being assessed in this achievement standard will be supplied.

6 Minor computational or transcription errors should not be penalised if the process used to calculate the solution is clearly indicated and is valid.

7 Both negative index (eg ms^{-2}) and slash notation (eg m/s^2) will be acceptable when writing units. Negative index notation should be used when supplying data.

Quality Assurance

1 Providers and Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against achievement standards.

2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference 0226