VCE Physics: Performance descriptors

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| **PHYSICS****SCHOOL-ASSESSED COURSEWORK** |
| **Performance descriptors** |
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| ***Unit 3******Outcome 3******Investigate motion and related energy transformations experimentally, analyse motion using Newton’s laws of motion in one and two dimensions, and explain the motion of objects moving at very large speeds using Einstein’s theory of special relativity.*** | **DESCRIPTOR: typical performance in each range** |
| **Very low** | **Low** | **Medium** | **High** | **Very high** |
| Very limited collection and presentation of data and representation of experimental findings related to motion and related energy transformations. | Limited collection and presentation of relevant data and representation of experimental findings related to motion and related energy transformations. | Appropriate collection and presentation of relevant data and representation of experimental findings related to motion and related energy transformations. | Purposeful collection and clear presentation of relevant data and representation of experimental findings related to motion and related energy transformations. | Highly proficient collection and presentation of relevant data and representation of experimental findings related to motion and related energy transformations.  |
| Very limited use of the Newtonian model in analysing motion in one and two dimensions in limited contexts. | Limited use of the Newtonian model in analysing motion in one and two dimensions in several contexts. | Satisfactory use of the Newtonian model in analysing motion in one and two dimensions in several contexts. | Mostly proficient use of the Newtonian model in analysing motion in one and two dimensions in a broad range of contexts. | Highly proficient use of the Newtonian model in analysing motion in one and two dimensions in a broad range of contexts. |
| Very limited understanding and description of the motion of objects moving at high speeds. | Limited understanding and description of the motion of objects moving at high speeds. | Sound understanding and description of the motion of objects moving at high speeds. | Well-developed understanding and description of the motion of objects moving at high speeds. | Comprehensive understanding and description of the motion of objects moving at high speeds. |
| Very limited understanding of the difference between the Newtonian model and Einsteinian theories of motion. | Limited understanding of the difference between the Newtonian model and Einsteinian theories of motion. | Satisfactory understanding of the difference between the Newtonian model and Einsteinian theories of motion. | Well-developed understanding of the difference between the Newtonian model and Einsteinian theories of motion. | Thorough understanding of the difference between the Newtonian model and Einsteinian theories of motion. |

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|  | Very limited collection of relevant data and very limited use of data from experiments, texts, tables, graphs and diagrams to answer questions, to draw conclusions and to recognise experimental errors and limitations. | Limited collection of relevant data and some use of data from experiments, texts, tables, graphs and diagrams to answer questions, to draw conclusions and to recognise experimental errors and limitations. | Appropriate collection of relevant data and sound use of data from experiments, texts, tables, graphs and diagrams to answer questions, to draw conclusions and to recognise experimental errors and limitations. | Purposeful collection of relevant data and accurate use of data from experiments, texts, tables, graphs and diagrams to answer questions, to draw conclusions and to recognise experimental errors and limitations. | Highly proficient collection of relevant data and insightful use of data from experiments, texts, tables, graphs and diagrams to answer questions, to draw conclusions and to recognise experimental errors and limitations. |
| Very limited use of physics terminology, units, representations and conventions.  | Some appropriate use of physics terminology, units, representations and conventions.  | Appropriate use of most physics terminology, units, representations and conventions.  | Effective and appropriate use of physics terminology, units, representations and conventions. | Proficient and highly appropriate use of physics terminology, units, representations and conventions.  |

KEY to marking scale based on the outcome contributing 30 marks

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| Very Low 1–6 | Low 7–12 | Medium 13–18 | High 19–24 | Very High 25–30 |