Performance Standards for Physics

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|  | Investigation, Analysis and Evaluation | Knowledge and Application |
| **A** | **Critically** deconstructs a problem and designs a **logical, coherent,** and **detailed** physics investigation.  Obtains, records, and represents data, using **appropriate** conventions and formats **accurately and highly effectively.**  **Systematically** analyses and interprets data and evidence to formulate **logical** conclusions with **detailed** justification.  **Critically** and **logically** evaluates procedures and their effect on data. | Demonstrates **deep and broad** knowledge and understanding of a **range** of physics concepts.  Applies physics concepts **highly effectively** in new **and** familiar contexts.  **Critically** explores and understands in **depth** the interaction between science and society.  Communicates knowledge and understanding of physics **coherently,** with **highly effective** use of appropriate terms, conventions, and representations. |
| **B** | **Logically** deconstructs a problem and designs a **well-considered** and **clear** physics investigation.  Obtains, records, and displays data, using **appropriate** conventions and formats **mostly accurately** **and effectively.**  **Logically** analyses and interprets data and evidence to formulate **suitable** conclusions with **reasonable** justification.  **Logically** evaluates procedures and their effect on data. | Demonstrates **some depth** **and breadth** of knowledge and understanding of a **range** of physics concepts.  Applies physics concepts **mostly** effectively in new **and** familiar contexts.  **Logically** explores and understands in **some depth** the interaction between science and society.  Communicates knowledge and understanding of physics **mostly coherently**, with **effective** use of appropriate terms, conventions, and representations. |
| **C** | Deconstructs a problem and designs a **considered** and **generally clear** physics investigation.  Obtains, records, and displays data, using **generally appropriate** conventions and formats with **some errors** but **generally accurately and effectively.**  Undertakes **some** analysis and interpretation of data and evidence to formulate **generally appropriate** conclusions with **some** justification.  Evaluates procedures and **some** of their effect on data. | Demonstrates knowledge and understanding of a **general range** of physics concepts.  Applies physics concepts **generally** effectively in new **or** familiar contexts.  Explores and understands **aspects** of the interaction between science and society.  Communicates knowledge and understanding of physics **generally effectively**, using **some** appropriate terms, conventions, and representations. |
| **D** | Prepares a basic deconstruction of a problem and an **outline** of a physics investigation.  Obtains, records, and displays data, using conventions and formats **inconsistently**, with **occasional** accuracy and effectiveness.  **Describes** data and undertakes some **basic** interpretation to formulate a **basic** conclusion.  **Attempts** to evaluate procedures or **suggest** an effect on data. | Demonstrates **some basic** knowledge and **partial** understanding of physics concepts.  Applies **some** physics concepts in **familiar** contexts.  **Partially** explores and **recognises** **aspects** of the interaction between science and society.  Communicates **basic** physics information, using **some** appropriate terms, conventions, **and/or** representations. |
| **E** | **Attempts a simple** deconstruction of a problem and a procedure for a physics investigation.  **Attempts** to record and represent **some** data, with **limited** accuracy or effectiveness.  **Attempts** to **describe** results **and/or** interpret data to formulate a **basic** conclusion.  **Acknowledges** that procedures affect data. | Demonstrates **limited** recognition and **awareness** of physics concepts.  **Attempts** to apply physics concepts in **familiar** contexts.  **Attempts** to explore and identify **an aspect** of the interaction between science and society.  **Attempts** to communicate **information** about physics. |