Assessing evidence in a practical investigation

These guidelines may be used to assess student work in practical investigations.

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| Section | Evidence | Specific features |
| Deconstruct and Design proposal | Note: *Evidence of deconstruction outlining the deconstruction process, the method chosen as most appropriate, and a justification of the plan of action, must be a maximum of 4 sides of an A4 page. This evidence must be attached to the practical report.*  An investigable question or hypothesis is formulated that relates to the purpose of the investigation.  A method is designed that includes:   * a list of all equipment required (with details of sizes and quantities), * describes how the independent variable is varied, * describes how the dependent variable is measured * states the number of trials to be conducted. * procedures to identify how to keep other factors constant * identification of factors that cannot be controlled * procedures to manage ethical and safety considerations.   A rationale or justification for the details in the procedure, based on theoretical considerations, safety considerations, student pre-trials or other considerations, should be included. | IAE1 |
| Introduction | Explanation of relevant science concepts that relate specifically to the hypothesis.  The purpose of the experiment, the hypothesis or investigable question, the independent, dependent and controlled variables are identified. | KA1 |
| Results | Data is represented in appropriate formats.  Tables with relevant column headings and including units.  The number of significant figures used is appropriate.  Graphs with labelled axes (with units), appropriate scales, an appropriate size, and in a format to suit the type of data. | IAE2 |
| Discussion | Trends in the data are identified and an explanation of these trends in terms of relevant concepts is provided.  An evaluation of the experimental method and its effect on the data is included.  Sources of uncertainty, including random and systematic error, which could have affected the data, are identified and their significance on the validity and reliability of the data is discussed.  The effects of factors that cannot be kept constant on the data obtained are considered. | IAE3  IAE4 |
| Conclusion | Indicates whether the hypothesis is supported or rejected and states the overall trend indicated by the data. Reasoning based on the data for supporting or rejecting the hypothesis is provided.  Limitations of the conclusion may be discussed and recommendations based upon the conclusion can be made. | IAE3 |
| Communication | The correct format for the structure of a report is used.  Information is communicated clearly.  Appropriate science terms, equations and conventions are used.  External references (if used) are acknowledged appropriately. | KA4 |