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| NATURAL SCIENCES DEPARTAMENT | 1st term Physics and Chemistry 10th grade  |
| Name and surname  |
| Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mark. A\_\_\_\_\_. B\_\_\_\_\_. B\_\_\_\_\_. D\_\_\_\_\_. E\_\_\_\_\_. F\_\_\_\_\_.  |

## Criterion B: Inquiring and designing

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| Level of Acheivement |  | Level Descriptor |
| 0 | The student does not reach the standard described in any of the levels below. |
| 1-2 | The student is able to:i. **state** a problem or question to be tested by a scientific investigationii. **outline** a testable hypothesisiii. **outline** the variablesiv. **design** a method, with limited success | [ ]  The question or problem of investigation is adequate, but it is expressed using minimal scientific vocabulary not based on investigation. [ ]  The hypothesis is broadly defined according to theory.[ ]  Variables have been identified and described, but the distinction between them is incorrect or missing. [ ]  The **method** does not allow the **effective** development of the investigation. [ ]  No reference list is included. |
| 3-4 | The student is able to:i. **outline** a problem or question to be tested by a scientific investigationii. **formulate** a testable hypothesis using scientific reasoningiii. **outline** how to manipulate the variables, and outline how relevant data will be collectediv. design a safe method in which he or she selects materials and equipment | [ ]  The question or problem of the investigation is described in broad terms, and is based on some research. [ ]  The hypothesis is expressed, but not scientifically justified. [ ]  Variables are correctly identified as independent and dependent, but the controls are incomplete. [ ]  The manipulation of all the variables is explained in broad terms.[ ]  The method allows for the collection of relevant data. [ ]  The **method** is safe.[ ]  A complete list of materials, with their proper names, is included.[ ]  A reference list is included |
| 5-6 | The student is able to:i. describe a problem or question to be tested by a scientific investigationii. formulate and explain a testable hypothesis using scientific reasoningiii. describe how to manipulate the variables, and describe how sufficient, relevant data will be collectediv. design a complete and safe method in which he or she selects appropriate materials and equipment | [ ]  The question or scientific problem of the investigation described using scientific vocabulary, based on some research.[ ]  The hypothesis is clearly and systematically expressed, scientifically justified using theoretical background. [ ]  Variables are correctly identified as independent, dependent and controlled [ ]  The manipulation and measuring and controlling of all the variables is explained[ ]  The method allows for the collection of sufficient and relevant data. [ ]  The **method** is completely clear, safe and logically structured.[ ]  A complete list of materials, with their proper names, is included.[ ]  A reference list is included in APA format. |
| 7-8 | The student is able to:i. **explain** a problem or question to be tested by a scientific investigationii. **formulate** and **explain** a testable hypothesis using correct scientific reasoningiii. **explain** how to manipulate the variables, and explain how sufficient, relevant data will be collectediv. design a logical, complete and safe method in which he or she selects appropriate materials and equipment. | [ ]  The question or scientific problem of the investigation is well described using scientific vocabulary, based on previous research.[ ]  The hypothesis is clearly and systematically expressed, scientifically justified using the correct theoretical background. [ ]  Variables are correctly identified as independent, dependent and controlled.[ ]  The manipulation and measuring and controlling of all the variables is well explained. [ ]  The method allows for the collection of sufficient and relevant data. [ ]  The **method** is completely clear, safe and logically structured.[ ]  A complete list of materials, with their proper names, is included.[ ]  A reference list is included in APA format. |

**Title:** Design an investigation on a factor that could affect to the evaporation rate of a substance





**Research question**: The question that you will attempt to answer with your investigation.

**Introduction**: Relevant and useful information on the topic of the research. The level of detail should be enough to fully explain the hypothesis. Include full in-text referencing.

**Hypothesis**: Answer to the research question and scientific justification, based on the previous information.

**Variables**: Independent, dependent and controlled (at least 3 must be considered).

**Materials**: List containing specifically named equipment and chemicals required (with approximate quantities).

**Method**: Numbered instructions.

**References**: In APA format all the resources from which the information has been obtained according to your in-text references.

***Formative assessment****: Tuesday 3rd November*