**MYP 5 Science - Criterion B: Inquiring and Designing Name:\_\_\_\_\_\_\_\_\_\_\_\_**

Use the following task-specific clarifications to help you with your car safety-feature lab.

\*IDV = Independent variable

\*DV = Dependant variable

\*CV = Controlled variable

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| **Achievement Level** | **Level Descriptor** | **Clarifications** |
| **0** | The student does not reach a standard described by any of the descriptors below. | The student does not reach a standard described by any of the descriptors below. |
| **1–2** | The student is able to;   1. **state** a problem or question to be tested by a scientific investigation 2. **outline** a testable hypothesis 3. **outline** the variables 4. **design** a method, **with limited success.**  |  | | --- | |  | | * I attempted to **state** a research question with some variables * I attempted to **state** a hhypothesis. * I attempted to write a method |
| **3–4** | 1. **outline** a problem or question to be tested by a scientific investigation 2. **formulate** a testable hypothesis **using scientific reasoning** 3. **outline** how to manipulate the variables, and **outline** how **relevant data** will be collected 4. design a **safe method** in which he or she **selects materials and equipment**. | * I **outlined** a problem or question to be tested that contained the IDV and DV * I **formulated** a hypothesis that contains the IDV and DV with a simple explanation * I **outlined** how to manipulate the IDV; collect the DV; how to control the CV’s * I have **outlined** a method which collects multiple sets of data points for the identified variables * I have **designed** a method that is safe and contains the equipment used |
| **5–6** | 1. **describe** a problem or question to be tested by a scientific investigation 2. **formulate and explain** a testable hypothesis **using scientific reasoning** 3. **describe** how to manipulate the variables, and **describe** how **sufficient, relevant data** will be collected 4. design a **complete and safe method** in which he or she selects **appropriate materials and equipment**  |  | | --- | |  | | * I clearly **describe** a focused problem or research question that contains the IDV and DV * I have **formulated**  a hypothesis that contains the IDV and DV and **explained** it scientifically with some errors * I have **described** how to manipulate the IDV (4 data points); collect the DV (including units and measuring equipment); how to control the CV’s * I have **described** how to collect the multiple sets of the data * I have **designed** a detailed method which collects data for at least 4 data points, that is safe, and contains the equipment (amounts and sizes) used. |
| **7-8** | 1. **explain** a problem or question to be tested b y a scientific investigation 2. **formulate and explain** a testable hypothesis **using correct scientific reasoning** 3. **explain** how to manipulate the variables, and **explain** how **sufficient, relevant data** will be collected 4. **design** a **logical, complete and safe method** in which he or she **selects appropriate materials and equipment** | * I clearly **explained** a focused problem or research question that contains the IDV and DV and **explained** why it’s important * I have **formulated** a hypothesis that contains a IDV and DV and clearly **explained** it scientifically * I have **explained** how to manipulate the IDV (5 data points); collect the DV (including units and measuring equipment); why and how to control the CV’s * I have **explained** how to collect the multiple sets of the data * I have **designed** a detailed method which collects data from at least make the best use of available equipment and repeated measurement of at least 5 data points |

**Command Terms**

**Design:** Produce a plan, simulation or model

**Describe:** Give a detailed account or picture of a situation, event, pattern or process.

**Explain:** Give a detailed account including reasons or causes.

**Formulate:** Express precisely and systematically the relevant concept(s) or argument(s)

**Outline:** Give a brief account.

**State:** Give a specific name, value or other brief answer without explanation or calculation.