NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Stage 2 Physics**

**Design Experiment**

For this task you are required to design and undertake a physics experiment. This will be completed in three stages:

**Planning**: A physics context will be deconstructed and an experiment will be designed.

**Experiment**: The experiment that was designed will be undertaken.

**Practical Report**: The data will be recorded and analysed, and any conclusions will be discussed.

You may work in groups up to a maximum of three people, however, each member needs to submit their own plan and experiment report.

You can choose any independent variable to investigate provided that appropriate equipment is available.

**Deconstruction and Design**

* Choose the Physics context/concepts you will be investigating.
* List all variables that could be involved.
* Which of these variables can be manipulated? Describe how and what outcomes would be expected.
* Choose independent and dependent variables, and form a hypothesis.
* How will other variables be controlled? Discuss potential effects of any variables that may be difficult to control.
* Design an experiment to test your hypothesis, including equipment, steps, data to be collected, and plan for representation and analysis.

**Report**

Each member prepares and submits an individual practical report. Your practical report should include:

* Introduction with relevant physics concepts, a hypothesis and variables, or investigable question
* Materials/apparatus, method/procedure outlining any trials and steps to be taken\*
* Identification and management of safety and/or ethical risks\*
* Results\*
* Analysis of results, identifying trends, and linking results to concepts
* Evaluation of procedures and data, and identifying sources of uncertainty
* Conclusion with justification

The report should be a maximum of 1500 words, if written, or a maximum of 10 minutes for an oral presentation, or the equivalent in multimodal form.

\*The planning/deconstruction and the five asterisked sections above are excluded from the word count.