**Stage 2 Physics** NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assessment Type 1: Investigations Folio – Magnetic Flux Density**

For this task you are required to design and undertake a physics experiment to test the effect of a variable on the magnetic flux density produced by a solenoid. This will be completed in three stages:

**Planning**: The 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**

* 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. Include *justification* for your method, such as comparing with alternative approaches and giving reasons for steps.

**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, taking into account limitations

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.

A summary sheet outlining the deconstruction process should be attached to the report\*. Suggested formats for the summary sheet include flow charts, concept maps, tables or notes.

\*The five asterisked sections of materials/apparatus, method/procedures, risks, results and deconstruction are excluded from the word count.