**Example experiments**

We encourage each class to design their own experiment, but here are some suggestions that have worked well in the past with our equipment:

* **Radioactivity versus distance**

Use a scintillation counter to measure gamma radiation from uranium ore at different distances along a ruler. Students can make predictions about how radioactivity changes with distance, and can plot this on a graph.

* **Observing radiation in a cloud chamber**

Observe vapour trails left by naturally occurring alpha and beta radiation, protons and muons. Observe more vapour trails when a thorium welding rod is inserted into the cloud chamber. Students can draw diagrams of vapour trails created by different types of radiation, and estimate the number of vapour trails observed in a given area during a given time.

* **Shielding radiation**

Use a scintillation counter to measure the radioactivity of alpha, beta and gamma radiation sources with different types of shielding, including paper, aluminium, lead and water. Students can test which type of shielding will work best for different types of radiation, or test how the thickness of a particular type of shielding affects transmitted radiation.

* **Radioactivity of different objects**

Use a scintillation counter to measure the radioactivity of various objects. Students can make predictions about the most and least radioactive object, and can tabulate and graph their results.

*Extension: Students can also measure the radiation dose from each of these objects using a personal dosimeter (Note: All our radioactive objects registered a negligible or no dose on a personal dosimeter over a period of 30 minutes)*

**Don’t forget:**

- Please send us your class’ proposed experiment at least one day before the session. We’ll check that it’s feasible for us to do with our equipment in the given time

- Simple experiments work best via videoconference – experiments that have multiple hypotheses and aims tend to run over time and confuse students