

Local Authority equipment

As was the case in 2015, SSERC has been able to source pieces of science and technology equipment which we will give to local authorities on a permanent loan basis. Further details of the various items are given in the articles that follow.

Local Authority physics equipment 2016

Two years ago, SSERC loaned every local authority a Vernier Labquest 2 data logger and spectrophotometer to lend out to schools. Last year, a fibre optic probe was supplied, making it much easier to study emission spectra with the apparatus. The Labquest 2 isn't designed solely to work with the spectrophotometer. We are taking advantage of that fact this year and supplying a range of sensors.

Looking at Figure 1 and working from the top left, we have a UV-A sensor, voltage probe, Geiger-Müller tube, light sensor, gas pressure sensor and magnetic field probe.



Figure 2 - Possible set up for sun cream investigation.

The following table gives some suggested uses but it is not intended to be in any way exhaustive. We are sure you can think of many other ideas.

We chose these sensors based on requests from teachers to borrow equipment from SSERC and from our own experience. If you want to know who to contact in your local authority to arrange to borrow the equipment, please get in touch with us at SSERC. We hope that you and your students find this addition to your pool of apparatus very useful.

Local Authority chemistry & biology equipment 2016

We are pleased to say that we are providing an additional set of 5 Mystrica colorimeters to each Local Authority.

Colorimetry is a valuable analytical technique in many areas of biology and chemistry particularly for students in the senior phase.

Sensor	Possible use
UV-A	Sun cream experiments for Researching Physics Skin Cancer topic (Figure 2).
Voltage probe	Capacitor and inductor voltage/time graphs.
GM tube	Researching Physics Environmental Radiation topic (balloon experiment, etc.).
Light Sensor	Researching Physics Exoplanets topic (Note that the units used by the sensor are Lux. This is like irradiance but readings are weighted according to the human visual response to different wavelengths. Provided the spectral distribution of your light source does not change during an investigation, all relationships, proportionalities, etc. should be the same).
Pressure sensor	N5 Gas Law experiments.
Magnetic field sensor	Advanced Higher core experiments and investigations.



Figure 1 - Sensors supplied in 2016.

The colorimeters are robust and easy to use and can be connected to PCs, iPhones, iPads and Android devices thereby allowing greater flexibility.

More details on how these colorimeters can be used can be found in the accompanying article in this issue of the Bulletin.

Local Authority technology equipment 2016

Our Technology department has found the so-called 'Band Saw Buddy' to be a particularly useful piece of equipment (see accompanying article in this Bulletin) and so we are delighted to be able to announce that we will be providing one to each Technology Department in Scotland. Keep an eye on our website and social media pages for further information.



Figure 3 - Mystrica colorimeter.