

Secondary Workshop Programme

A “Workshop Day” normally comprises three sessions of the same workshop delivered to three classes. The cost to the school is £435 (+VAT) per day. Please note that there might be a small contribution towards accommodation/travel if the Workshop Leader is not local to your area.

All our workshops support the overall aim of the Curriculum to

- pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility.
- understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas.
- evaluate risks.
- ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience.
- make predictions using scientific knowledge and understanding.
- select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate.
- use appropriate techniques, apparatus, and materials ... paying attention to health and safety.
- make and record observations and measurements ... and suggest possible improvements
- apply mathematical concepts and calculate results.
- present observations and data using appropriate methods.
- interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.
- present reasoned explanations, including explaining data in relation to predictions and hypotheses.
- evaluate data, showing awareness of potential sources of random and systematic error.
- identify further questions arising from their results.
- undertake basic data analysis including simple statistical techniques.

Buggies

Students each build and test a buggy powered by a balloon. They work out all the independent variables and choose one to investigate its effect on a dependent variable.

They can retain their buggies for further testing.

Space required: hall

Time: 90 minutes

Citrus

Students investigate the amount of Vitamin C in different fruits using DCPIP solution. They need to identify and control all variables to produce accurate results.

Space required: room with at least one accessible sink.

Time: 90 minutes

Rollers

Students each build and test a wind-up toy to determine the optimum value for each variable. They can retain their toys for further testing.

Space required: hall

Time: 75 minutes

Solar Circuits

Students investigate different electrical circuits (including the use of different components) using solar cells in lieu of batteries.

Space: classroom and outdoors (weather permitting). Lamps will be used in bad weather.

Time: 60-90 minutes

Space

Students carry out simple investigations into phases of the moon, the solar system, stars, the night sky, and shadows. They also need to evaluate the modelling concepts used.

Space required: hall

Time: 90 minutes

Studying Substances

Students carry out ten simple investigations (all are either physical or chemical changes) which require them to follow written instructions carefully and make accurate observations.

Space required: classroom with sink

Time: 90 minutes

Wind

Students are challenged to design a model wind turbine and then to make it more efficient by investigating different variables. Their wind turbines will be tested using an electric fan.

Space required: hall

Time: 90 minutes

To book workshops, please contact us
on 01582 612214 (answerphone)
or email@spherescience.co.uk