

Bristol ChemLabS Science Workshops

Hands-on science practicals to engage and enthuse students. Turn a classroom into a laboratory with activities led by young research scientists. The investigations help develop pupils' measuring, observation, co-operation & experimental skills.



“There was a huge buzz in the air, it was fascinating to see every single pupil so absorbed in working collaboratively in brand new activities, and able to talk coherently about what they were learning!”

A Primary Headteacher

“The workshops were brilliant, pitched at just the right level and the children loved using equipment that they would otherwise be unable to use in a primary school environment.” A Primary Science Coordinator

Workshops are available on a variety of topics, can generally accommodate a class of up to 36 pupils at a time and last between 45 mins and 2 hours. All laboratory kit and chemicals are brought to the school and safety equipment is provided for everyone taking part.



The Team: A qualified and experienced Bristol ChemLabS staff member is accompanied by postgraduate research chemists for the visit. Everyone is criminal record checked through the Disclosure and Barring Service (DBS, formerly CRB) and trained under the STEM Ambassadors Programme.

Contact primary-chemlabs@bristol.ac.uk for details of costs & availability
www.chemlabs.bristol.ac.uk/outreach/primary



Workshop Options

For a full Science Day, workshops can be combined with a whole school Demonstration Assembly

Circus of Practical Experiments

A circus of 3 experiments lasting 1½ – 2 hours in total (or shorter single/double experiment sessions lasting ¾ – 1¼ hours). The experiments are most suitable for Years 5 & 6, but some can also be delivered for younger pupils.

Our most popular workshop consists of the first three of these experiments: Plastic & Polymers; Iodine Clock Challenge; The Mystery Acid; Sugar in Soft Drinks; Thermochromic Paints; Chromatography of Pens (more details overleaf)

Bubbles Workshop

This flexible workshop is suitable for Years 1 to 6 and lasts 1 – 2 hours. It is particularly suitable for Years 1 to 4.

Pupils carry out 3 different experiments investigating the science behind bubbles. They take a closer look at their shape and colour and investigate the structure and stability of bubbles. Year 3 & 4 pupils can also make a bubble mix to take home; using their measuring skills in order to get the best solution possible.

Perfume & Particles Workshop

A short introduction to the topic of atoms, molecules & bonding; most suitable for Year 5 & 6 Gifted & Talented (G&T) pupils and lasting 1 – 1½ hours.

Pupils learn about particles and atoms to build molecular models of various fragrance compounds found in perfumes, toiletries, food, drink and nature.

Fragrance Making Workshop

*A half-day session specifically designed to enthuse and raise aspirations amongst Year 5 & 6 pupils. **This workshop can also be held at the University of Bristol and include a tour of the School of Chemistry.***

Following a demonstration talk on smells and perfume chemistry, pupils prepare a fragrance of their choice (weighing out components, bottling and packaging) and build models of some fragrance molecules.

Circus of Practical Experiments

Pupils work in pairs in small groups and each experiment is led by an experienced postgraduate chemist.

Plastic & Polymers

A fun 'slime'-making experiment where pupils explore the effects on the physical properties of a polymer (plastic) by varying the proportions of the ingredients. They also investigate the properties of a thermoplastic called '*Polymorph*', which changes shape when heated, and make a model out of it to take home.

Iodine Clock Challenge

An investigation into a colourful chemical reaction. Two clear solutions are mixed together and then suddenly change colour! Pupils use their measuring and observational skills to make the colour change happen at a specific time. They must work together to make predictions and ensure that it is a fair test.

The Mystery Acid

Pupils observe and investigate the chemical reaction between magnesium metal and hydrochloric acid. By using discover different strengths of acid and accurately timing the length of the reaction, they can then go on to work out the strength of an 'unknown' acid. They are also shown the '*squeaky pop*' test for the hydrogen gas produced by the reaction.

Sugar in Soft Drinks

By very accurate weighing pupils will discover the amount of sugar present in fizzy drinks like lemonade and cola. In this experiment pupils have the opportunity to handle advanced equipment including a sensitive balance and a glass volumetric pipette as well as using a calibration graph to interpret their results.

Thermochromic Paints

This experiment introduces an example of a 'smart material' – thermochromic paint. Pupils investigate the temperature at which the paints change colour and then decorate their own polystyrene beaker with multiple colours.

Chromatography of Pens

An analytical experiment in which students investigate whether felt tip pens contain a single colour or several. Using a special chemical solution they must carry out the experiment carefully and safely.

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