we the curious
Workshop

Colourful Chemistry KS2 & KS3

Duration: 1 hour, max capacity: 30 students

An illuminating, lab-based insight into the wonderful world of chemistry and some of its real-life applications. Students use sparklers, universal indicator, glowing reactions and more to explore a variety of contrasting and highly visual reactions.

Key Words:

Chemistry, Reactions, Colour, Light, Laboratory, Chemiluminescence, Atoms, Compounds

Learning objectives

KS2 & 3

Develop an understanding and recognition of laboratory hazard symbols.
Apply observation skills to a variety of chemical reactions to describe what is happening.
Distinguish between an atom and an element, and compound (KS3)
Distinguish between reactants and products.
Identify that chemical reactions involve a transfer of energy (KS3) and result in the formation of new materials.
Recognise that chemical reactions can result in a colour change due to new products that are formed.

KS3

Understand the chemical equations for reactions conducted during the workshop
Appreciate some practical applications of chemistry
Understand that reactions can be represented in the form of equations, using words or symbols

Content

KS2

Observe and describe the physical properties of a variety of chemical substances.
Identify the colours associated with metal salts when heated.
Conduct and observe an experiment to investigate chemiluminescence.
Conduct a precipitation reaction to illustrate a way in which paint pigments are produced.
Consider the effects of the environment on a chemical reaction.

KS3

Observe and describe the physical properties of a variety of chemical substances
Investigate chemiluminescence and bioluminescence
Carry out a precipitation reaction to illustrate pigment production
Use of microscopes and light polarising filters

Curriculum Links:

KS2

Science: States of Matter

Compare and group materials together, according to whether they are solids, liquids or gases

Science: Properties and changes of materials

Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning

we the curious
Workshop

KS3
KS3 Chemistry
Atoms, elements and compounds:
Differences between atoms, elements and compounds
Chemical symbols and formulae for elements and compounds

Chemical reactions:
Chemical reactions as the rearrangement of atoms
Representing chemical reactions using formulae and using equations
Combustion, thermal decomposition, oxidation and displacement reactions

Energetics:
Exothermic and endothermic chemical reactions (qualitative)
The Periodic Table: the principles underpinning the Mendeleev Periodic Table

Potential Hazards and accessibility
Students will use glassware and chemical solutions.