

# Kitchen chemistry (KS 2)

## PREPARATION GUIDE

**Find out how to be really messy in the kitchen and discover some science at the same time – play with slime; squash a gooey worm; and keep your eyes on that lemonade!**

(developed as a Science Live lecture for the *Royal Dublin Society*)

Our shows are designed to work flexibly as introductions to a topic or to revise a topic depending on what approach teachers would like us to adopt with particular audiences. Teachers may wish to use this overview to help to prepare their classes before the show. Introducing or revising key vocabulary and concepts in advance of the show tends to increase the learning outcomes from the presentation.



### Key concepts and vocabulary

- if an object has more weight than the same volume of water it will sink in water (we say it is more **dense** than water – more weight for its size); if the object has less weight than the same volume of water it will float in water (it is less dense);
- the “**scientific method**” – make an hypothesis; devise an experiment; carry out the experiment (many times); observe and record; interpret your results; conclude if your prediction agreed with what happened;
- some liquids mix together (we say they are **soluble** in each other), and other liquids do not mix but separate into different layers (they are not soluble in each other);
- some substances are classified by scientists as either an **acid** (eg vinegar) or a **base** (eg baking soda) – they are chemically opposite to each other;
- an **indicator** is a substance that changes colour when it comes in contact with an acid or a base;
- materials that we call **liquids** usually change shape when we give them a push or pull; they also take the shape of their container eg water;
- materials that we call **solids** do not change shape when we push or pull them eg ice;
- changing a solid into a liquid (i.e. melting) is an example of a **physical change** – it can usually be reversed;
- sometimes when you mix two substances they react together in a **chemical reaction** to make a new substance;
- **gases** take up more space than liquids or solids – they spread out to try to fill all of the container;
- **carbon dioxide** is a gas that is heavier than air (more dense than air) so it sinks in air;
- any **fire** needs heat, fuel and **oxygen** to burn;
- to have a ‘**fair test**’ in an experiment you have to keep all the factors that might affect the investigation the same except for the factor you are testing;
- when gases are heated they spread out even more;
- sometimes substances that look safe can catch fire very explosively if you do not treat them correctly.

Further information explaining the demonstrations and concepts used in the show, with some suggested follow-up activities, can be found in the support notes for this show at [www.think-differently.co.uk](http://www.think-differently.co.uk)