

## Fizzy drinks

Download the teacher notes, PowerPoint presentation and student workbook that accompany this resource at [rsc.li/3o5OV1P](https://rsc.li/3o5OV1P).

Read our health & safety guidance, available from [rsc.li/3IAmFA0](https://rsc.li/3IAmFA0), and carry out a risk assessment before running any live practical.

Supply safety glasses for all learners.

Remind learners to not consume drinks in the lab.

The safety equipment suggested is in line with CLEAPSS requirements. For non-hazardous substances, wearing lab coats can help to protect clothes. The safety rules might be different where you live so it is worth checking local and school guidance.

This list assumes a class of 30 learners.

**Disposal:** all solutions are safe to dispose of down the sink with running water.

### **Acknowledgements**

This resource was originally developed by the University of Reading to support outreach work delivered as part of the Chemistry for All project.

To find out more about the project, and get more resources to help widen participation, visit our Outreach resources hub: [rsc.li/3CJX7M3](https://rsc.li/3CJX7M3).

## Activity 1: cola and milk (demonstration)

### Equipment/preparation

- Cola in 500 ml bottle
- 1 pint of whole milk

Milk is mixed into the cola bottle, so no need for beakers or stirrers.

## Activity 2: pH of soft drinks

**Note:** the drinks listed here are just recommendations. You could use any alternative sugary drinks that are available.

### Equipment

- 10 × bottles of universal indicator
- 12 × 5 ml syringes (two syringes for each of the six 250 ml beakers and each syringe should be labelled with the soft drink in the beaker)
- 6 × 250 ml beakers labelled with the six different soft drinks used
- 60 × 50 ml beakers
- 10 × glass pens
- Tap water

### Preparation

- 330 ml Coca-Cola®
- 330 ml Coca-Cola® zero sugar or diet Coke®
- 330 ml Lucozade®
- 330 ml Lucozade® zero
- 330 ml Oasis®
- 330 ml Oasis® zero

## Demonstration: sugar in soft drinks

### Equipment

- 2 × Bunsen burners
- 2 × tripods
- 2 × heat mats
- 2 × gauze
- 2 × silicone kitchen spatula
- 2 × oven gloves
- 2 × large evaporating basins

### Preparation

- 100 ml Coca-Cola®
- 100 ml Coca-Cola® zero sugar

## Activity 3: sugar or no sugar?

**Note:** the drinks listed here are just recommendations. You could use any alternative sugary drinks that are available.

### Equipment

- 7 × 250 ml beakers
- 70 × glucose test strips
- 70 × 50 ml beakers
- 14 × 5 ml syringes (reuse from Activity 2 and add two for the water beaker)
- Tap water
- Marker pen

### Preparation

- 330 ml Coca-Cola®
- 330 ml Coca-Cola® zero sugar or diet Coke®
- 330 ml Lucozade®
- 330 ml Lucozade® zero
- 330 ml Oasis®
- 330 ml Oasis® zero