



eye protection must be worn



IRRITANT sodium carbonate



HIGHLY FLAMMABLE phenolphthalein indicator

## 8: The Blushing Buttonhole

● Basic level      ● 30 minutes or less

### Requirements

2.6 g sodium carbonate,  $\text{Na}_2\text{CO}_3$  (**irritant** solid)  
 2 cm<sup>3</sup> phenolphthalein indicator (**highly flammable**)  
 a few white flowers  
 250 cm<sup>3</sup> glass beaker or jam jar  
 10 cm<sup>3</sup> cylinder or graded dropper  
 small glass beaker (just large enough to hold one flower head)  
 plant sprayer  
 test tube

eye protection

### Advance preparation

Dissolve 2.6 g of sodium carbonate in water and dilute to 250 cm<sup>3</sup> to give a concentration of 0.1 mol dm<sup>-3</sup>.

### Method

See pupils' sheet.

### Safety advice

Take care with the spray. Everyone should wear eye protection. Empty the spray afterwards.

### Chemical background

The sodium carbonate solution will have a pH >11. This should have an instant effect on the phenolphthalein.

### Extension

It may be possible to make the magenta pink flower white again by spraying with dilute acid.



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## 9: Fizzy Dancing

● Basic level      ● 30 minutes

### Requirements

400 cm<sup>3</sup> tall beaker or glass jam jar  
 70 g sodium hydrogencarbonate  
 80 cm<sup>3</sup> colourless vinegar or 5% ethanoic acid (0.7 mol dm<sup>-3</sup>)  
 glass stirring rod  
 raisins  
 gooseberries  
 small bits of dry pasta

eye protection

### Method

See pupils' sheet.

### Safety advice

Eye protection must be worn.

