NE705 Teaching practical science: chemistry

Requisition list

If you would like to take part in the practical work explored during this course you will need the following equipment. Advice on how the equipment is used is provided within the course.

For all the practical activities, appropriate eye protection should be worn (safety glasses or goggles). Good ventilation of the practical space is also important and take care when following the instructions. Use local health and safety guidance where appropriate.

Week 1. Electrolysis

- Sodium chloride solution (around 100ml, 5g salt/100ml)
- Bench power pack (DC supply)
- Carbon electrodes (as shown above) with leads
- Universal indicator
- Two HB or 2B pencils, sharpened at both ends
- Petri dishes with lids
- Battery pack (2-4 x 1.5V D cells)
- Small crocodile clips with leads
- White paper or white tile
- Carbon ‘kite’ rods
- Borosilicate tubing (0.5mm thick walls, 6mm external diameter)
- Metal ruler
- Thin permanent marker
- Bunsen burner and heatproof mat
- Propelling pencil lead (thin carbon pencil lead)
- 0.5M copper (II) sulfate solution (about 100ml)
- 0.1M potassium iodide solution (about 25ml)
- Phenolphalein indicator solution (dropper bottle)
- Starch indicator solution (10g soluble starch in 100ml hot distilled water)
- 9V PP3 battery
- Masking tape

Week 2. Rates of reaction

- Eight 200ml beakers
- Hydrogen peroxide solution 10 vol (100ml)
- 0.1M potassium iodide solution (16.6g/1000ml)
- Potassium persulfate solution (13.50g/1000ml)
- Sodium thiosulphate and starch solution (0.25g sodium thiosulfate in 100ml of 1% starch solution)
- Glow sticks
- Three 600ml beakers
- Ice-cold water
- Kettle
- 1M hydrochloric acid
- Magnesium ribbon
- Glass trough half-filled with water
- 100ml conical flask
- Bung and delivery tub
- 100ml measuring cylinder
- Clamp, boss head and stand
- Stop clock
- Calcium carbonate (powdered, and as medium and small marble chips)
- Weighing boat
- Digital balance (0.00g)
- Hydrochloric acid (various concentrations 1M – 0.1M)
- Plastic tray
- 24 marbles in two colours, plus one large marble
- 1M sodium thiosulphate solution (approx. 250ml)
- 250ml conical flask
- White tile with black cross in marker pen in centre
- 5ml syringe
- Plastic take-away box with lid
- Two glass vials
- Thermometer (glass rod type)
- 1.5M sodium carbonate solution with universal indicator (500ml)
- 800ml beaker
- 1ml syringe
Week 3. Salt preparation

- 1M sulfuric acid
- Copper (II) oxide (max 10g)
- 100ml beaker
- 100ml measuring cylinder
- 250ml conical flask
- Filter funnel
- Filter paper (fluted)
- Evaporating basin
- Bunsen burner, heatproof mat and tripod with gauze
- Spatula
- Glass rod
- Boiling tube
- Metal tongs
- Petri dish
- 1.4M sulfuric acid (100ml)
- 25ml measuring cylinder
- Anti-bumping granules
- White tile
- 0.1M sodium hydroxide solution (250ml)
- 0.1M hydrochloric acid (250ml)