



Year 12 Suggested practical activities

- Experiments, investigations, demonstrations and exercises – most are from the present 4th Edition of Pearson *Heinemann Chemistry 1 and 2 TRAB* or 3rd Edition TRB for Years 11 and 12.
- These are available as pdfs on the Pearson places website under resources for the Units.

Unit 3

Number	Types of activity	Name of activity	2015 source of activity
1	Experiment	Molar volume of hydrogen	4 th Ed TRAB Chem 1
2	Experiment	Volume-pressure relationships for gases	4 th Ed TRAB Chem 1
3	Experiment	Volume-temperature relationships for gases	4 th Ed TRAB Chem 1
4	Demonstration	Balloon in a flask and the expanding marshmallow	4 th Ed TRAB Chem 1
5	Experiment	Exothermic and endothermic reactions	4 th Ed TRAB Chem 2
6	Demonstration	Chemical oven	4 th Ed TRAB Chem 2
7	Demonstration	Endothermic reaction between two solids	4 th Ed TRAB Chem 2
8	Demonstration	Products of combustion of a hydrocarbon	4 th Ed TRAB Chem
9	Experiment	Energy from different fuels	4 th Ed TRAB Chem 2
10	Experiment	Half-cells and the electrochemical series	4 th Ed TRAB Chem 2
11	Experiment	Order of half-equations in the electrochemical series	4 th Ed TRAB Chem 2
12	Experiment	Fuel cells	4 th Ed TRAB Chem 2
13	Experiment	Measuring the rate of reaction	4 th Ed TRAB Chem 2
14	Experiment	Factors affecting the rate of reaction	4 th Ed TRAB Chem 2
15	Demonstration	Foam column	4 th Ed TRAB Chem 2
16	Demonstration	Catalysed chemical rainbow	4 th Ed TRAB Chem 2
17	Experiment	Discovering the equilibrium law	4 th Ed TRAB Chem 2
18	Experiment	Recovery of silver using competing equilibrium	4 th Ed TRAB Chem 2
19	Experiment	Effect of concentration changes on equilibrium yields	4 th Ed TRAB Chem 2
20	Demonstration	Effect of changes in volume on equilibrium yields	4 th Ed TRAB Chem 2
21	Experiment	Effect of temperature on equilibrium yields	4 th Ed TRAB Chem 2
22	Exercise	Interpretation of graphs	4 th Ed TRAB Chem 2
23	Demonstration	Magic writing	4 th Ed TRAB Chem 2
24	Demonstration	Electrolysis	4 th Ed TRAB Chem 2
25	Experiment	Electrolysis of aqueous solutions	4 th Ed TRAB Chem 2
26	Demonstration	Tin crystals by electrolysis	4 th Ed TRAB Chem 2
27	Experiment	Faraday's first law of electrolysis	4 th Ed TRAB Chem 2
28	Experiment	Determination of Faraday's constant and Avogadro's number	4 th Ed TRAB Chem 2
29	Exercise	Determining Faraday's first law of electrolysis using second-hand data	4 th Ed TRAB Chem 2
30	Experiment	Electroplating	4 th Ed TRAB Chem 2

Unit 4

Number	Types of activity	Name of activity	Source
1	Experiment	Modelling functional groups and organic reactions (probably better done in Year 11)	4 th Ed TRAB Chem 2
2	Experiment/ workshop	Stereoisomers	On CEA website with these resources
3	Experiment	Reactions and properties of some organic compounds (suggest most useful here)	4 th Ed TRAB Chem 2
4	Demonstration	Oxidation of alcohols	On CEA website with these resources
5	Demonstration	Making a condensation polymer to form the amide nylon <i>(re-naming for Making a condensation polymer)</i>	4 th ed TRAB Chem 1
6	Experiment	Preparing artificial fragrances and flavours	4 th Ed TRAB Chem 2
7	Exercise	Analysis of organic compounds by IR spectroscopy – data analysis	4 th Ed TRAB Chem 2
8	Exercise	Interpretation of NMR spectra of a number of organic compounds – data analysis	4 th Ed TRAB Chem 2
9	Exercise	Interpretation of a number of mass spectra of organic compounds – data analysis	4 th Ed TRAB Chem 2
10	Experiment	Determination of the ethanoic acid concentration of vinegar	4 th Ed TRAB Chem 2
11	Experiment	Chromatography of a vegetable extract	4 th Ed TRAB Chem 2
12	Experiment	Analysis of aspirin tablets	4 th Ed TRAB Chem 2
13	Experiment	Analysis of ascorbic acid in vitamin C tablets	4 th Ed TRAB Chem 2
14	Experiment	Making protein models	4 th Ed TRAB Chem 2
15	Experiment	Testing for proteins	4 th Ed TRAB Chem 2
16	Experiment	Action of enzymes	4 th Ed TRAB Chem 2
17	Experiment	Breaking down the starch polymer	4 th Ed TRAB Chem 2
18	Experiment	Reactions of carbohydrates	4 th Ed TRAB Chem 2
19	Experiment	Tests for fatty acids and glycerol	4 th Ed TRAB Chem 2
20	Experiment	Calibration of a calorimeter	4 th Ed TRAB Chem 2
21	Experiment	Energy of a biscuit/peanut	3 rd Ed TRB Chem 2

In blue:

These have been recommended for Year 11 and Year 12.