

What is Small-scale chemistry?

Reduction of chemical use to the minimum level at which experiments can be effectively performed is known as Microscale Chemistry or Small-scale Chemistry – IUPAC

- Simplified practical activities to enhance understanding with a more personalized experience
- Using inexpensive, reusable plasticware and equipment

Benefits of small-scale chemistry

Uses smaller
quantities of
chemicals

Reduced costs

Easier disposal
of chemicals

Encourages
responsible use
of chemicals

Simpler
equipment

Minimises
breakage

Reduced hazards
– greater safety

Quicker
experiments

Clearer
observations

Encourages
careful
observation

Replace or
supplement
traditional practicals

Small-scale chemistry aligns with UN SDGs



Requirements for the small-scale experiment you will be submitting

1. Chemicals/glassware/plasticware must be readily available.
2. The chemicals must be safe to handle and not be strongly acidic, basic or toxic.
3. It should be possible to do the experiments in an open place without the aid of electricity, water supply or burner (batteries, cups of water, candles are okay). Less than 0.5 mL of water and less than 20 mg of chemicals to be used per experiment. Lesser the better!
4. The experiments will have to be demonstrated multiple times to visitors who may be school children/teachers/parents.
5. The experiments should connect to the chemistry curriculum of Class 9-12 in Indian schools.
6. It should be easy to clean up after performing the experiments with minimum waste generation.

Abstract Format

(Please use Times New Roman 12-point font)

Title of the Experiment

Name of the Author (if multiple authors are involved, please underline the presenting author.

Travel/accommodation will be provided ONLY to one teacher per selected abstract)

School Name and full address

Email address of presenting author

- Abstract (maximum 300 words), single spaced text
- Images, if needed, maximum size 10 cm x 6 cm
- Bibliography (up to 3, no website reference)

Sample Abstract



A demonstration of micro-scale acid-base titration experiments

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Abstract (up to 300 words)

Underserved schools, especially in remote areas of India, lack the resources for teachers and students to carry out even simple chemistry experiments. This led the authors to modification of titration experiments to significantly cut costs. The equipment used is calibrated plasticware and a white plate for observing the end point.

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~~Poiiasdpofasidf opisdufapsdth paodiufasodp-fiyu poiadufapcsdifua possdifuiapsodifu~~

This experiment will demonstrate that using inexpensive apparatus available locally it is possible to do titration experiments with accurate results. Many variations are possible which will be presented on a poster.

Keywords: microscale chemistry; small-scale experiment; titration; indigenous indicator

Insert a clear image of the experiment, or a plot here.

Figure 1: Setup/experimental data from a microscale titration