

Plan for successful experimentation

The following steps are helpful when designing an experiment.

1. State the experimental **objective**.
3. Define a **system boundary** or control volume.
4. Further classify experimental **variables** (e.g. independent, measurand, etc.).
5. Estimate the uncertainties in **measurands** and **results**.
(Results are usually variables we compute from measurands.)
6. Perform an **exploratory experiment** and re-analyze the experimental design. If successful, proceed.
8. **Repeat** the experiment to determine if the result is reproducible. If it's repeatable, this is a form of verification. If not, the experimental design must be revisited.