

IB Chemistry IA Rough Draft Template

This template is designed to help you complete the FIRST HALF of your IB Chemistry Internal Assessment before running the experiment. Complete all planning, background research, procedure development, sample calculations, and planned analysis sections before collecting data.

Title of Investigation

Write a clear and specific title including the independent and dependent variables.

Candidate Number

Word Count (Rough Estimate)

1. Research Question (RQ)

Write your complete research question exactly as it will appear in your final IA.

2. Background Information & Scientific Context

Include:

- Topic introduction
- Relevant chemistry concepts
- Real-world applications
- Balanced chemical equations
- Reaction mechanisms
- Literature values and accepted scientific theory

3. Hypothesis / Prediction (State a specific null and alternative hypothesis)

You don't necessarily need this but if you include it you must complete the stats to either reject or fail to reject your null.

State the expected relationship between independent and dependent variables.

Explain WHY the relationship is expected using chemistry principles.

4. Variables

Identify all variables.

Independent Variable:

Dependent Variable:

Controlled Variables:

- What will be controlled?
- How will it be controlled?
- Why must it be controlled?

5. Materials

List all chemicals and equipment.

Be specific with:

- concentrations
- volumes
- uncertainties
- equipment sizes

6. Safety, Ethical, and Environmental Considerations

Include:

- PPE requirements
- chemical hazards
- disposal methods
- green chemistry considerations

7. Methodology / Procedure

Write a detailed step-by-step numbered procedure.

A competent chemist should be able to repeat your experiment exactly.

8. Planned Data Collection

Create all raw data tables BEFORE the experiment.

Include:

- units
- uncertainties
- significant figures
- qualitative observations

9. Sample Calculations

Show ONE sample of each type of calculation you expect to use.

Examples:

- average
- uncertainty

- percentage uncertainty
- K_{sp}
- ΔH
- rate constant
- concentration

10. Planned Data Processing

Explain:

- what graphs will be created
- what calculations will be performed
- what trends you expect
- how uncertainty will be analyzed

11. Planned Data Analysis Discussion

Describe what relationships or patterns you expect to analyze.

Include expected graph shapes and chemistry explanations.

12. Conclusion Planning

Explain what your final conclusion **SHOULD** discuss.

Include:

- relationship between IV and DV
- whether hypothesis is supported
- chemistry explanation
- comparison to literature values

13. Evaluation Planning

Identify likely:

- random errors
- systematic errors
- limitations
- improvements

Explain how each error could impact results.

14. References

Use MLA or APA formatting.

Include all sources used for:

- background information
- equations

- images
- procedures

Example Raw Data Table Template

Independent Variable	Trial 1	Trial 2	Trial 3	Mean

Example Error & Improvement Table

Source of Error	Impact on Results	Improvement

Final Rough Draft Checklist

- ☐ Research question finalized
- ☐ Variables clearly identified
- ☐ Background chemistry explained
- ☐ Balanced equations included
- ☐ Procedure detailed enough to replicate
- ☐ Safety and environmental concerns addressed
- ☐ Raw data tables created
- ☐ Sample calculations shown
- ☐ Graphs planned
- ☐ Evaluation ideas included
- ☐ References formatted properly