

Measure judgment under constraints.

Explore scientific evaluation that makes the trade-offs, missing evidence, and next experiment part of the task.

Task and inputs

Assess a research evidence pack, compare competing explanations, and propose the smallest experiment that could distinguish them.

An evidence pack with measurements, methods, uncertainty, candidate explanations, and resource limits. A chemistry example can include activity, selectivity, exposure, and synthesis constraints without assuming complete evidence.

Working steps

1. Check units, experimental conditions, missing controls, and whether apparently comparable results were measured in comparable ways.
2. Separate observations from proposed mechanisms. Weigh competing objectives and identify the assumption most likely to reverse the decision.
3. Propose a focused follow-up experiment, its controls, expected alternatives, and a decision rule for interpreting the result.

Deliverables

- Evidence pack
- Decision rationale
- Dimension-level rubric
- Expert review record

Review and acceptance

Distinguish observations from inference and score each decision against the evidence available at that point.

- Claims remain within what the supplied measurements and structures can support.
- Scoring distinguishes data interpretation, feasibility, uncertainty, and the quality of the next experiment.
- Independent review checks the reasoning and records unresolved disagreements rather than hiding them.

Delivery boundary

This is an evaluation design, not a validated discovery or treatment recommendation. New experimental results and specialist approval remain separate from the illustrative task.

This guide describes a project approach. It is not a customer result, a performance benchmark, or a statement of certification.

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