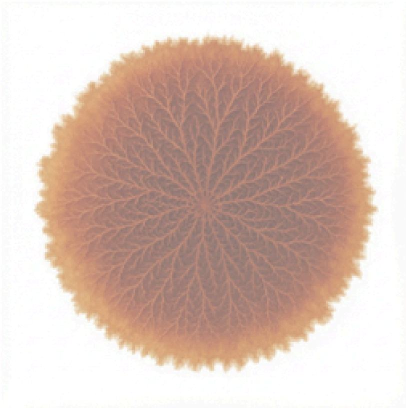
Reactive Surface Experiments (RSE)

Classroom Field Kit

A Shared Laboratory

Reactive Surface Experiments — Commons Edition

Program 2 — Dilution



Program 2 — Dilution

Strength Does Not Equal Reach

Purpose of This Program
This program introduces dilution as a governing condition in reactive surface experiments. Participants examine how changing concentration alters movement, timing, and pattern — not simply color intensity.
Dilution is often treated as a way to make reactions weaker or stronger. In reactive work, dilution more often determines **how far**, **how evenly**, and **how predictably** a reaction can travel once entry is achieved.
The goal is not to find an ideal strength. The goal is to observe how dilution reshapes behavior.

What This Program Explores
Participants investigate how a single reactive solution behaves across multiple dilution levels when all other conditions are held constant.

Typical comparisons may include:
- Saturated vs diluted solutions
- Narrow vs wide dilution steps
- Equal application volume at different strengths

Chemistry is held constant. Only concentration is allowed to change.

This program makes visible how dilution affects:
- Rate of visible change
- Migration distance
- Edge formation
- Uniformity or collapse of pattern

Suggested Approach
Prepare a single reactive solution and divide it into several dilutions.

Apply each dilution to comparable surface conditions using the same application method and volume.
Observe carefully:
- Where reaction begins
- How far it travels before arrest
- Whether color appears immediately or after delay
- Whether pattern sharpens, softens, or fragments

Participants are encouraged to resist choosing a "best" result. Each dilution represents a different behavior, not a better or worse outcome.

What to Pay Attention To
When documenting this program, give particular attention to:
- Dilution ratio or relative strength
- Differences in movement before fixation
- Changes in edge clarity or feathering
- Areas where reaction weakens or disappears

Lower strength does not mean lesser data. Sometimes dilution reveals structure that strength conceals.

Why This Program Comes Second
Once entry is understood, dilution becomes visible as a secondary control — not of color, but of behavior.

Without understanding entry, dilution adjustments are guesswork. With entry established, dilution reveals its role as a spatial and temporal modifier.

Reactive Surface Experiments (RSE)
Lab Sheet — Community Submission

Lab Sheet Code ______

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Experiment Title: ______________________________

Section A — Experiment Identification

Field	Entry
Program Type	☐ Law of Entry ☐ Dilution ☐ Time-Series ☐ Atmosphere ☐ Application ☐ Substrate ☐ Failure ☐ Edge ☐ Repeatability ☐ Open
Date	__________
Contributor / Class Code	__________

Small type note: Not all fields are required. Record what is known.

Section B — Reactive Chemistry

Field	Entry
Reactive Substance (chemical name)	__________________
Solution Type	☐ Aqueous ☐ Other
Dilution / Concentration	__________________

Section C — Substrate & Surface Condition

Field	Entry
Substrate Type	☐ RSE Paper ☐ Other
Paper Batch / Source (if known)	__________________
Surface Condition	☐ Dry ☐ Pre-wet ☐ Other
Surface Preparation Notes	__________________

Section D — Application & Entry Method

Field	Entry
Method of Application	☐ Brush ☐ Mist ☐ Cascade ☐ Submersion ☐ Other
Estimated Volume	☐ Drops ☐ mL ☐ Light ☐ Heavy
Application Speed / Notes	__________________

Section E — Environment

Field	Entry
Ambient Temperature	______ °C / °F
Ambient Humidity	______ % / □ Low □ Med □ High
Drying Condition	□ Open Air □ Boxed □ Covered □ Forced

Entry determines reaction. Everything above describes what was allowed to enter.

OBSERVATION & INTERPRETATION

(What happened, when, and how it was perceived)
This page privileges **language and attention**, not correctness.

Section F — Time & Change

Field	Entry
Time to First Visible Change	□ Seconds □ Minutes □ Hours □ Unknown
Total Observation Duration	__________________

Section G — Visual Outcome (Descriptive, Not Evaluative)
Color Description (words, not codes):

Pattern / Behavior Observed:
□ Bloom
□ Migration
□ Edge Darkening
□ Collapse
□ Uniform
□ Other: __________
Uniformity:
□ Even □ Uneven □ Localized

Section H — Unexpected or Partial Outcomes
□ No
□ Yes → Describe:

Unexpected results are valid data.

Lab Sheet Code

QR placeholder

Section I — Images (Uploaded Separately)

Field	Entry
Image Type	◻ Still ◻ Time Series
Image Timing	◻ Immediate ◻ Delayed ◻ Multiple
Notes on Images	______________

Section J — Confidence & Uncertainty

Field	Entry
Confidence in Recorded Data	◻ High ◻ Moderate ◻ Low
Known Unknowns / Estimates	______________

Section K — Open Notes & Questions

Not everything needs to be explained. Some things only need to be observed — together.