

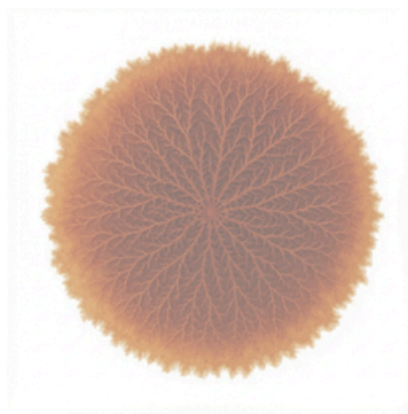
Reactive Surface Experiments (RSE)

Classroom Field Kit

A Shared Laboratory

Reactive Surface Experiments — Commons Edition

Program 4 — Atmosphere & Dry-Down



Program 4 — Atmosphere & Dry-Down

Reaction Does Not Occur in Isolation

Purpose of This Program

This program introduces ambient conditions — particularly humidity, airflow, and drying environment — as governing influences on reactive surface behavior.

Reactive experiments do not occur in a vacuum. The surrounding atmosphere affects evaporation, oxidation rate, migration, and arrest.

The goal is not to control the environment precisely. The goal is to recognize its influence.

What This Program Explores

Participants compare how the same reactive setup behaves under different atmospheric conditions.

Typical comparisons may include:

- Open air vs covered drying
- Still air vs moving air
- Low vs high ambient humidity

Chemistry, dilution, surface, and application are held constant. Only the drying environment is allowed to change.

Suggested Approach

Prepare comparable reactive samples and place them in different drying conditions immediately after application. Avoid adjusting or correcting outcomes.

Observe:

- Rate of drying
- Changes in pattern formation
- Differences in oxidation timing
- Evidence of arrest caused by rapid evaporation

Atmospheric effects may be subtle. They often become clear only when results are compared side by side.

What to Pay Attention To

When documenting this program, give particular attention to:

- Drying condition (open, covered, boxed)
- Perceived airflow
- Relative humidity (measured or estimated)
- Differences in edge formation or collapse

The same chemistry can produce different outcomes under different air.

Why This Program Comes Fourth

Once entry, dilution, and time are understood, atmosphere becomes impossible to ignore.

This program prepares participants to recognize that some differences between experiments are environmental rather than chemical — a distinction essential for meaningful comparison.

If you approve this **tone and depth**, next logical steps are:

- Draft **Programs 5–7** (Application, Substrate, Edge)
- Then **Programs 8–10** (Failure, Repeatability, Open)
- Or tighten these three to exact page length if you want layout precision



Experiment Title: _____

Section A — Experiment Identification

Field	Entry
Program Type	<input type="checkbox"/> Law of Entry <input type="checkbox"/> Dilution <input type="checkbox"/> Time-Series <input type="checkbox"/> Atmosphere <input type="checkbox"/> Application <input type="checkbox"/> Substrate <input type="checkbox"/> Failure <input type="checkbox"/> Edge <input type="checkbox"/> Repeatability <input type="checkbox"/> 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	<input type="checkbox"/> Aqueous <input type="checkbox"/> Other
Dilution / Concentration	_____

Section C — Substrate & Surface Condition

Field	Entry
Substrate Type	<input type="checkbox"/> RSE Paper <input type="checkbox"/> Other
Paper Batch / Source (if known)	_____
Surface Condition	<input type="checkbox"/> Dry <input type="checkbox"/> Pre-wet <input type="checkbox"/> Other
Surface Preparation Notes	_____

Section D — Application & Entry Method

Field	Entry
Method of Application	<input type="checkbox"/> Brush <input type="checkbox"/> Mist <input type="checkbox"/> Cascade <input type="checkbox"/> Submersion <input type="checkbox"/> Other
Estimated Volume	<input type="checkbox"/> Drops <input type="checkbox"/> mL <input type="checkbox"/> Light <input type="checkbox"/> Heavy
Application Speed / Notes	_____

Reactive Patinas™ — RSE Program

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



Section E — Environment

Field	Entry
Ambient Temperature	_____ °C / °F
Ambient Humidity	_____ % / <input type="checkbox"/> Low <input type="checkbox"/> Med <input type="checkbox"/> High
Drying Condition	<input type="checkbox"/> Open Air <input type="checkbox"/> Boxed <input type="checkbox"/> Covered <input type="checkbox"/> 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	<input type="checkbox"/> Seconds <input type="checkbox"/> Minutes <input type="checkbox"/> Hours <input type="checkbox"/> 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:

<p><i>Unexpected results are valid data.</i></p>
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Section I — Images (Uploaded Separately)

Field	Entry
Image Type	<input type="checkbox"/> Still <input type="checkbox"/> Time Series
Image Timing	<input type="checkbox"/> Immediate <input type="checkbox"/> Delayed <input type="checkbox"/> Multiple
Notes on Images	_____

Section J — Confidence & Uncertainty

Field	Entry
Confidence in Recorded Data	<input type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low
Known Unknowns / Estimates	_____

Section K — Open Notes & Questions