WITCHWARD RISING

THE BOTANICAL STUDY

Plant Structure & Identity Fieldbook

AN OBSERVATION AND IDENTIFICATION FIELDBOOK



Basil (Ocimum basilicum), photographed at Midway Atoll.
Photo: Forest & Kim Starr · CC BY 3.0

Keep the evidence, including the part that did not fit.

BOTANICAL FOUNDATIONS / B-03 · B-05 · B-06 · B-07 · B-08

KNOW THE PLANT BEFORE YOU USE THE PLANT

Use this resource

Choose reliably identified cultivated plants for practice, or use clearly documented botanical reference images. Record the individual plant or image set before recording a name. A useful identification record preserves the characters examined, the key followed, the alternatives rejected, and any point where the evidence ran out. Return to the same record when new structures become visible.

Read B-03, B-05, B-06, B-07, and B-08 alongside these pages. A dichotomous key offers paired alternatives; a diagnostic character is a feature that helps distinguish the candidates being compared. Use a flora or key suited to the region and plants being examined.

Print only what you need. The photographic cover is optional; all working pages use white backgrounds. Print at actual size on US Letter paper. Repeat a selected form for a new plant, batch, visit, or source. Color is not needed to use the records.

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AN OBSERVATION AND IDENTIFICATION FIELDBOOK

Read the attachment points.

Use a reliably identified cultivated plant. Sketch three consecutive nodes—the points where leaves attach to a stem. Mark only structures you can see; put a question mark beside an interpretation that needs a reference. Leave plants rooted and unfamiliar material uncut.

Plant / record code

Date / reference

Three nodes, their leaves, and any visible buds

Leaf attachment and arrangement

Visible leaf features

Observed directly / inferred from a reference

Separate the two. Name the source for any internal structure you discuss.

The photograph or view I still need

READ WITH: B-03: Follow the attachment points | REFERENCES: 2, 3

AN OBSERVATION AND IDENTIFICATION FIELDBOOK

Build a useful photographic record.

A plant portrait and an identification record have different jobs. Plan views that show the structures needed by your chosen key. Keep the plant undisturbed; do not cut unfamiliar material or uproot it for photographs. Use a ruler or other documented scale where practical.

Plant / record code / date

Known identification and its source

View to record	Photo ID / feature visible	Missing detail or limitation
Whole plant / growth form		
Stem nodes and leaf attachment		
Upper leaf surface		
Lower leaf surface		
Flower or fruit, if present		
Relevant distinguishing detail		

Which image answers a particular identification question?

Which view must wait for another visit?

READ WITH: B-03 · B-08 | REFERENCES: 2, 3, 9

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Draw the whole life cycle.

Choose one of the groups discussed in B-05 and use a reliable life-cycle reference. For a two-set (diploid) sporophyte, the one-set (haploid) gametophyte produces gametes, while the sporophyte produces spores by meiosis. Label what you observed separately from what you learned from a source.

Plant group / example / reference

Visible plant stage / source for chromosome state

Connect both generations, gametes, fertilization, meiosis, and spores. Add pollen, ovule, seed, and fruit only where appropriate.

Stages or structures I could actually observe

One stage the image or specimen did not reveal

Explain how the reference fills that gap without presenting it as your direct observation.

READ WITH: B-05 | REFERENCES: 4, 5, 6, 7

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Which stages did I actually see?

Compare a moss, fern, pine, and flowering plant using reliably labeled living collections or reference photographs. For each, separate what the image shows from what the life-cycle source tells you. No wild collection is needed.

Record	Moss	Fern	Pine	Flowering plant

> Use rows for conspicuous stage; reproductive structure; presence of seeds / fruit, with evidence; one stage needing a reference or magnification. Record source IDs beside your entries.

One life cycle: add gametes, fertilization, meiosis, spores, and both generations

Why does one difference matter?

Explain a consequence, rather than writing only a list of structures.

READ WITH: B-05: Draw the missing stages · B-06: a comparison that explains something | REFERENCES: 5, 6, 7, 8

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A name record that can survive a change.

Copy the original name before checking it in a botanical treatment such as Plants of the World Online. Keep the treatment and date beside its accepted name. Use IPNI for publication details about botanical names; do not assume it settles the accepted taxonomy or authenticates your actual specimen.

Plant / sample code / original label wording

Database or flora / URL / date checked

Accepted full name in that treatment / author if supplied

Family / any infraspecific or cultivar information

Relevant synonym and its relationship to the name above

What the second naming source actually tells me

Keep bibliographic information, a taxonomic decision, and physical identification distinct.

Disagreement or uncertainty I have preserved

READ WITH: B-07 | REFERENCES: 10, 11, 12, 13

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The identification that did not survive the evidence.

Use an appropriate regional flora or key and keep the full route. A useful identification record includes the alternatives you considered and the observation that separated them. If a necessary character is unavailable, preserve that uncertainty.

Original name / candidate

Key, region, edition or URL

Couplet / step	Chosen alternative and observed support	Missing or ambiguous evidence

Name accepted by my chosen treatment / date checked

Synonym or competing name / source

Candidate I ruled out—and the character that ruled it out

Where I stopped / what would let me continue

> A name on a label or an app suggestion can guide investigation. It is not a completed identification trail.

READ WITH: B-07: name records · B-08: Keep the route, not just the answer | REFERENCES: 9, 10

AN OBSERVATION AND IDENTIFICATION FIELDBOOK

Continue the route without losing the evidence.

Use this repeatable continuation page when the key takes more steps than fit on the main record. A couplet is a pair of alternatives. Record the chosen alternative and the visible character supporting it. Stop rather than forcing a choice when the necessary evidence is missing.

Plant / linked identification sheet

Key title / edition / region / date

Step / couplet	Chosen alternative and observed support	Missing detail / next step

Endpoint or stopping point / source description checked

READ WITH: B-08 | REFERENCES: 9

AN OBSERVATION AND IDENTIFICATION FIELDBOOK

Make an honest return-visit plan.

An incomplete identification is a result worth keeping. State the level your evidence supports—perhaps a family, genus, or unresolved candidate set—and plan the specific observation that could move the investigation forward.

Plant / location record / review date

Current identification level and evidence

Candidates still possible—and the separating character

Missing structure, view, season, or reference

When and how I can check without damaging the plant

Later visit: new evidence, date, and revised conclusion

READ WITH: B-08 | REFERENCES: 9, 14

References & photograph credit

Numbers match the reference notes on working pages. These original Witchward Rising forms draw on the lessons and the sources below. Online records checked November 4, 2026.

[1] Witchward Rising. Botanical Foundations: The complete 17-lesson collection. November 2026 edition. Companion lessons: B-03 · B-05 · B-06 · B-07 · B-08.
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[3] Clark MA, Douglas M, Choi J. Biology 2e. OpenStax; 2018. Section 30.4: Leaves.
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[12] Royal Botanic Gardens, Kew. Plants of the World Online: Salvia rosmarinus Spenn.
https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:457138-1

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Basil (Ocimum basilicum), photographed at Midway Atoll. Forest & Kim Starr. CC BY 3.0.
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