

Field Notebook

The following is a guide to help you with the format of your field notebook. Joseph Grinnell, field biologist and the first director of the University of California's Museum of Vertebrate Zoology, developed the basis for this format. Today, this is a standard format taught to biologists across the world. We will use a modified version of his format (see below). Grinnell's philosophy was that field notes were a permanent record; a record which could be used by other researchers. As such, he argued that a standard format is necessary to help find information quickly and easily.

Detailed field notes are an extremely valuable part of natural history collections. They are used extensively for museum research, conservation, and management. For example, because the distribution and abundance of plants and animals changes over time — due to natural causes as well as human-mediated impacts on the environment, we can document the changing status of biodiversity in a given area by looking back at field notes from 100 years ago.

Learning goals:

1. To be able to create a clear record for yourself, and possibly for others, of what you observed or what data you collected.
2. To collect objective and systematic data collection, and organize these data.
3. To take creative notes about what you observe: to notice the subtle, to consider the unconsidered, to hypothesize, to critically evaluate, to speculate about what you saw, or to consider how your observations can be interpreted.

The notebook

GENERAL SETUP

You will use a composition notebook or similar (just make sure the pages cannot be removed). But you should know that there are many other viable options, including notebooks with waterproof paper, smaller notebooks which can fit into your pocket (which I prefer), or digital notebooks.

—On the outside front of notebook, use a sharpie to put your full name, and date-range of use (e.g., Spring semester 2029).

—On the inside cover, put your full name, phone number, and e-mail.

—In the upper right page write the page number throughout the notebook (you can do this as soon as you get your notebook)

—Print and tape/staple this PDF into your notebook for later reference.

—I recommend using a pen, although some biologists love the pencil.

—Either use military time, OR append am/pm to all your times

—Write on only one side of the paper (important!).

—Never remove a page. This 'rule' was originally favored to prevent unscrupulous researchers from "losing" data that might not have been favorable to their research objectives, but is just a good practice so that you have a *complete* record of all your work. Along the same lines, if you make a mistake, draw a *thin* line through the word or number rather than obliterating the entry with an eraser a blob of ink or white-out.

—Leave a generous left margin for ad hoc notes

NOTEBOOK ENTRIES

—For each day's entry, you will start a new page.

—For each day's entry, write the date to the left of the margin. Use date format: '18 May 2026' or 'May 18 2026' (with abbreviation for month, and 4 digits for year).

—For each entry, write the locality to the right of the margin. Note the full detail. Go from the most detailed item in your locality, heading to the most general, ending with the county and state. Underline the locality with a wavy line. This is important to easily keep track of where you were.

—On the top of the page, write the 'type of entry' (the three sections of a notebook will be explained below): 'Journal', or 'Catalog', or 'Species account'. You should divide your notebook into 3 unequal parts (~1/2 for journal, ~1/4 for Catalogue, and ~1/4 for Species accounts).

A. Journal

The journal is like a diary. You will create a new entry each time you go to the field (seriously, each time!!, including during your independent project). Usually, the journal will be added to throughout your time in the field - but you can fill in gaps afterwards. Be accurate. If you must guess about something, identify your guess as a guess. Sketches and drawings and diagrams are a must.

Your journal entry should include (and should be bullet pointed and numbered):

OVERVIEW

- 1) Date (see above)
- 2) Location (see above)
- 3) Hours of observation
- 4) Participants
- 5) Weather conditions
- 6) Route of travel, or locations of collecting, including a drawn map if possible
- 7) Habitats and/or topography (make sure you are thorough on this point)
- 8) A general description of your activities (e.g., trapping mice)

ACTIVITIES (THIS IS WHERE YOU WRITE NOTES AND NOTES AND NOTES, AND SOMETIMES PARAGRAPHS AND PARAGRAPHS)

- Your observations
- Your general impressions and thoughts, questions about organisms (may include: natural history, ecology, evolutionary history, adaptation, mechanisms of doing the thing they are doing, interactions with other conspecifics/heterospecifics, etc.)

SPECIES LIST

—List of species seen, and estimated numbers of each (estimated numbers is generally filled in at the end of journal entry, or it is done as a tally). Be detailed and quantify your data as much as possible. "few ducks on the pond" is not as useful as "saw 12 pintail (7 males and 5 females) on the southeast end of Olcott Lake about 5 m from the shore."

Alternatively, you may use an online 'community science' application, such as Ebird, to record this list. If online app is used, the reference info should be included in this section.

B. Catalog

The catalog section of the field notebook is for data collection. It is a place to record data, both when working on a data-collection project as a class and when you are working independently on your big project. For example, this section will be used on field trips when animals captured and marked, so that you can record all relevant data (species, morphometrics, locality information, etc.). This section can also be used to collect data for your research projects (e.g., number of caterpillars on each stem). Alternatively, you may use an electronic method, such as a spreadsheet, to collect data for your projects. Please set this up with me beforehand.

C. Species Accounts

A species account is devoted to a more detailed description of a particular species. Create a page (or a set of pages) for each species you observe. This is the place in your notebook for more in-depth descriptions and observations of an individual (or group) of one particular species. This is an important place to be creative. Take notes about what you observe. Notice the subtle, consider the unconsidered, hypothesize, critically evaluate, speculate about what you saw, consider how your observations can be interpreted. I strongly encourage you to draw sketches—no matter how rough your artistic skills—of your observations. You might consider writing about: what is the species phenotype (sounds, smells, textures, patterns, sizes, shapes, colors, and movements), what it sounds like (feel free to give it human-words, i.e.: 'phoebe' for a chickadee call), where is the species found (habitat, height in canopy, distance from shore, etc.), What is it doing? Who is it interacting with? Are there specific traits/behaviors of note? Are there repeated patterns of behavior worth noting?

You must create **10** species accounts.

Specific instructions about this section: write the species name and scientific name on top of the page. Start a new page for a each species. Write in complete sentences and paragraphs—think of your entries as a letter to someone seeing what you are seeing 20 years later. If you do not know what species you're looking at, you should describe the organism as best you can.