

Create a data sheet

Before we start learning about data structures, let's take a minute to think about where data comes from. Reflect on your background in environmental science and think about a time you were responsible for collecting or using data. Consider:

- Field work (e.g., counting songbirds on a nature reserve)
- Lab work (e.g., testing water samples for heavy metals)
- Surveys (e.g., asking residents for their opinions on home solar panels)

Instructions

Create a data sheet

1. Make a list of four **variables** describing your data. E.g., the species of songbird or the concentration of heavy metals in a water sample. Put the names of these variables in the header row of the data sheet on the next page.
2. Fill in the three rows below the header with fictional **observations**. Pretend you're collecting these data yourself - what are some reasonable values for the variables you chose?

Create a data dictionary

1. The first column of the data dictionary contains the names of the variables in your data sheet. Put your variable names in the first column.
2. The second column of the data dictionary describes the variables in your data sheet. Put a short (~1 sentence) description of each variable in the second column.
3. The last column of the dictionary is the type of the variable. Although every variable is unique, they fall into broad categories. How would you describe the types of your variables? Put those in the third column of the data dictionary.

Data Sheet

Data Dictionary

Variable	Description	Type