

## **Method vs. Procedure**

These terms are often used interchangeably. However, "method" refers to the overall approach or technique used to investigate a scientific question or to analyze data. It is the answer to the questions of “what is being investigated?” and “how does it work?”

A procedure on the other hand refers to the step-by-step process followed to carry out a method. It’s the “what exactly you do” or a “cookbook approach” to work in the lab or field.

	METHOD	PROCEDURE
Answers the Questions	What is being measured / analyzed? How does it work?	What is exactly done?
What does it entail?	Analytical or investigative approach summary	Step-by-step process to carry out a method
Focus	Scientific strategy or analytical approach	Practical, repeatable steps with quantifying measurements
Analogy	Choosing a route on a map	Following the directions turn by turn
It answers questions like	"What kind of method will best determine the age of this rock?"	"How do I prepare this sample for isotope analysis?"
	"Which geophysical method is most suitable for locating subsurface faults?"	"What are the safety and calibration steps for using the SEM?"
Examples	Radiometric dating methods (e.g., U-Pb, K-Ar)	The exact steps to prepare a thin section from a rock sample
	Geophysical methods (e.g., seismic reflection, resistivity surveys)	Detailed instructions for setting up and running a gravimetric survey
	Petrographic analysis methods (e.g., thin section microscopy)	Lab protocol for X-ray diffraction (XRD) sample analysis
Writing Example in a report	"XRF (X-ray Fluorescence) is a quick, chemical analytical method, where elements in the sample react to high x-ray energies with a detectable radiation response, specific to individual chemical elements"	"Rock samples were cut, crushed to <200 mesh, and dried at 105°C before analysis. A 20 mg sample split of this preparation was then ..."

Note: If you need to mention numeric measurements you are usually talking about “Procedure”