



## Quadrat: Randomized-placement sampling method

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|---------------------------------|---|
| <b>Where you are:</b>           | Freshwater, coastal, and upland ecosystems  |
| <b>What you're looking for:</b> | Plants, animals, insects, algae, crabs, etc.  |
| <b>What you need:</b>           | One 1m <sup>2</sup> quadrat per individual or team<br><b>Note:</b> Quadrats are simple to make yourself. Instructions are available on the <i>Vital Signs</i> website.<br>One 20m <sup>2</sup> transect line per individual or team |

1. Lay out a 20m transect line.  
**Note:** If you are in the rocky intertidal, lay the transect line perpendicular to the shoreline (one end at the high tide line, one end at the low tide line)
2. Generate 1 random number between 1 and 20: <http://www.random.org/>
3. Lay your 1m<sup>2</sup> quadrat down at the random number along the transect (e.g. If your random number is 17, put your quadrat down at 17m. Sample the area between 17m and 18m.)
4. Search the entire square meter for the plant or animal you are looking for.
5. If you want to search a second or third quadrat along your transect line, please do. You can compile all of your findings (and not-findings) from this transect line into just one investigation. Please **write in your Field Notes** the number of 1m<sup>2</sup> quadrats you searched during your field investigation.
6. Use your *Vital Signs* species cards to determine whether you think you found, or think you did not find the species you are looking for. Support your claims with written and photo evidence.

**Note:** It is easy to confuse this sampling method with the Quadrat: User-placement sampling method. Please don't. They both use a 1m<sup>2</sup> quadrat, but otherwise have very little in common. The User-placed method has data collectors put the quadrat in a place of interest them, rather than at a randomly-generated number along a transect line.

**Time-saving hint:** Generate your random numbers *before* you go into the field. Mark these off on your 20m transect line with tape.

**Why use a quadrat?** Randomly-placed quadrats are a simple sampling tool that lets scientists quantify the relative abundance of plants and animals in an area. Use a quadrat if your research question includes "How many..." or "Change over time..." or "Compare..." or "Diversity..." or other words that imply quantities and counting.

Quadrats are also useful tools for "scaling up" to understand more about a larger area. Think of a quadrat as 1 piece of cake. If you eat that piece of cake, you have a pretty good idea of what the rest of the cake tastes like. Similarly, if you sample a 1m<sup>2</sup> slice of your study area, you have an

| idea [of the type and abundance of species](#) that live [in the surrounding area](#). Understand, though, that when scaling up you are making big assumptions about the overall uniformity of an area.