



Overview of a Field Study

Field research, field studies, or fieldwork is the collection of raw data outside a laboratory, library, or workplace setting. The approaches and methods used in field research vary across disciplines. For example, biologists who conduct field research may simply observe animals interacting with their environments, whereas social scientists conducting field research may interview or observe people in their natural environments to learn their languages, folklore, and social structures.

Field research involves a range of well-defined methods: informal interviews, direct observation, participation in the life of the group, collective discussions, analyses of personal documents produced within the group, self-analysis, results from activities undertaken off- or on-line, and life-histories. Although the method generally is characterized as qualitative research, it may (and often does) include quantitative dimensions.

How is a Field Investigation different from a Controlled Investigation?

Classroom science often overemphasizes experimental investigation in which students actively manipulate variables and control conditions. In studying the natural world, it is difficult to actively manipulate variables and maintain "control" and "experimental" groups, so field investigation scientists look for descriptive, comparative, or correlative trends in naturally occurring events. Many field investigations begin with counts (gathering baseline data). Later, measurements are intentionally taken in different locations (e.g., urban and rural, or where some natural phenomenon has created different plot conditions), because scientists suspect they will find a difference. In contrast, in controlled experiments, scientists begin with a hypothesis about links between variables in a system. Variables of interest are identified, and a "fair test" is designed in which variables are actively manipulated, controlled, and measured in an effort to gather evidence to support or refute a causal relationship.

From Field Investigations: Using Outdoor Environments to Foster Student Learning and Scientific Processes (2009)

Data Collection for Field Studies

Just like type of investigation, a field study can focus on a variety of conditions, factors, and variables (time of day, weather, location, etc.). When creating a data table to collect and organize your data, make sure to determine what information is important to observe/collect *before* you get out "in the field." You may need to collect qualitative data (information collected by using your five senses) or quantitative data (data you collect by measuring with tools) and maybe even both! Remember to take time to plan out your field study, determine what data you need to collect to help answer your research question effectively and plan a data table that will allow you to clearly organize the necessary information.



Sample Field Study Ideas

1. Are there more (animals) insects in a shady or sunny location on our school campus?
2. Do birds prefer to eat in the morning or afternoon? (Count number of birds at bird feeder.)
3. Compare the number of squirrels seen on the ground vs. number of squirrels seen in trees.
4. Make observations of the weather. What is the correlation between the type of weather and the temperature?
5. Observe the number of butterflies seen on school campus. Observe their behavior.
6. Do you see more _____ at the zoo in the morning or afternoon? (You can access a web cam to collect data.)

Websites

Observing Night Pollution Globe@night.org

North American Butterfly Count www.naba.org/butter_counts.html

Study.com- Biological Field Studies <https://study.com/academy/lesson/techniques-for-field-studies.html>

Be a field Scientist! <https://www.youtube.com/watch?v=E6iB5B3Lz9I>

<https://www.nationalgeographic.org/idea/citizen-science-projects/?page=1>

Zoo Websites: <https://nationalzoo.si.edu/webcams>

<https://zoo.sandiegozoo.org/live-cams>

<https://zoowithus.com/live-web-cams/>

