

# Investigation 3.D: An Ecosystem Field Study Answer Key

## Answers to Analysis Questions

1. The written report, poster, or presentation (you may use presentation software), should include detail of the following: location and size of study area; brief site history; a description of methods and tools used; list and analysis of abiotic components; list and analysis of biotic components.

Evidence and examples of living things in soil samples include grass (or other vegetation), leaves, moulds, insects (count and classify), burrows, and scats.

## Answers to Conclusion Questions

2. Sample areas must be randomly selected in order to prevent as much bias and influence as possible, so that the most accurate representation of the sample area can be obtained. If one was to sample only a few selected sites, it is very unlikely that these sites would give a good overall picture of the sample area. Someone interpreting the data would base their assumptions on a very small, biased analysis.
3. If only one area was sampled in an ecosystem, would it truly portray a representative sample of the ecosystem? We can only find out by sampling numerous sites, and then quantifying and qualifying our data based on these observations. From this collected data, trends and species analysis can be found, and then a more accurate and comprehensive description of the ecosystem can be created.
4. Limiting factors that will influence study areas include moisture content of soils, light availability, competition, and predation.
5. Comparison of diversity and abundance between disturbed and undisturbed sites highlight the differences between the sites. Disturbed sites will typically have less species diversity and fewer numbers of larger organisms.
6. You should refer back to your collected data to compare and contrast the two sites.
7. Human influences in the study areas will include recreational uses, mowing, pest control, compaction because of use, removal of native species, invasive species, watering of particular areas, protection of habitat from ATV use, and hunting.
8. You should be able to rate the tools and methods you used, noting which were easy to use and gave you useful results and which were cumbersome, inaccurate, or unreliable.
9. Improvements for the study will address sources of experimental error, identification error, impatience in sampling, precision of instruments used, etc.