

Chapter 2, Quiz 2, Form B

Answer Key

1. In an experiment, researchers observe how a response variable behaves when they manipulate one or more factors. However, in an observational study, the researchers do not manipulate any factors. Instead, they observe characteristics of a subset of the members of one or more existing populations.
2. In an experiment, an explanatory variable is one whose value is manipulated or determined by the experimenter; an extraneous variable is not manipulated or determined by the experimenter.
3.
 - a) In each of these experiments we can infer a cause-and-effect relationship because the volunteers were randomly assigned to the two treatments.
 - b) In each of these experiments, we can generalize the results of the experiment to the population of River City since the subjects were randomly selected from the population of River City. Thus, the subjects should be representative of the population in general.
4.
 - (a) The explanatory variable is the presence/absence of the wooden heron model.
 - (b) The response variable is the antipredator behavior (excreting ammonium.)
 - (c) The added noise would be a potential confounding variable. The tadpoles' response may be a startle response to a sudden change in their environment, and not specific to the detection of a predator.