

**A2.S.1: Analysis of Data: Understand the differences among various kinds of studies (e.g., survey, observation, controlled experiment)**

- 1 Which task is *not* a component of an observational study?
  - 1) The researcher decides who will make up the sample.
  - 2) The researcher analyzes the data received from the sample.
  - 3) The researcher gathers data from the sample, using surveys or taking measurements.
  - 4) The researcher divides the sample into two groups, with one group acting as a control group.
- 2 A market research firm needs to collect data on viewer preferences for local news programming in Buffalo. Which method of data collection is most appropriate?
  - 1) census
  - 2) survey
  - 3) observation
  - 4) controlled experiment
- 3 A doctor wants to test the effectiveness of a new drug on her patients. She separates her sample of patients into two groups and administers the drug to only one of these groups. She then compares the results. Which type of study *best* describes this situation?
  - 1) census
  - 2) survey
  - 3) observation
  - 4) controlled experiment
- 4 A school cafeteria has five different lunch periods. The cafeteria staff wants to find out which items on the menu are most popular, so they give every student in the first lunch period a list of questions to answer in order to collect data to represent the school. Which type of study does this represent?
  - 1) observation
  - 2) controlled experiment
  - 3) population survey
  - 4) sample survey
- 5 Howard collected fish eggs from a pond behind his house so he could determine whether sunlight had an effect on how many of the eggs hatched. After he collected the eggs, he divided them into two tanks. He put both tanks outside near the pond, and he covered one of the tanks with a box to block out all sunlight. State whether Howard's investigation was an example of a controlled experiment, an observation, or a survey. Justify your response.

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**Answer Section**

1 ANS: 4 REF: 011127a2

2 ANS: 2 REF: 061301a2

3 ANS: 4 REF: 061101a2

4 ANS: 4 REF: 011406a2

5 ANS:

Controlled experiment because Howard is comparing the results obtained from an experimental sample against a control sample.

REF: 081030a2