

# EXERCISES

1. It has been suggested that women and men differ in their political preferences. Women may be more likely than men to prefer Democratic candidates. A political scientist selects a large sample of registered voters, both men and women, and asks them whether they voted for the Democratic or Republican candidate in the last Congressional election. Is this study an experiment? Why or why not?
2. Before a new variety of frozen muffins is put on the market, it is subjected to extensive taste testing. People are asked to taste the new muffin and a competing brand, and to say which they prefer. (The muffins are not identified in the test.) Is this an experiment? Why or why not?
3. You are testing a new medication for relief of migraine headache pain. You intend to give the drug to migraine sufferers and ask them one hour later to estimate what percent of their pain has been relieved. You have 40 patients available to serve as subjects.
  - a. Outline an appropriate design for the experiment, taking the placebo effect into account.
  - b. The names of the subjects are given in Table 15.3. Either use a random digits table beginning at line 131 to do the randomization required by your design or use a calculator's or computer software's random number generator. List the subjects to whom you will give the drug. Explain how you arrived at this assignment.

Abrams	Daniels	Halsey	Lippman	Rosen
Adamson	Durr	Howard	Martinez	Solomon
Afifi	Edwards	Hwang	McNeill	Thompson
Brown	Fluharty	Iselin	Morse	Travers
Cansico	Garcia	Janle	Ng	Turner
Chen	Gerson	Kaplan	Obramowitz	Ullman
Cranston	Green	Krushchev	Rivera	Williams
Curzakis	Gutierrez	Lattimore	Roberts	Wong

Table 15.3. Names of subjects.

4. Determine which of the experiments below are single-blind, double-blind, or neither. Justify your answer.

a. Dr. Colman has a home remedy that he thinks will help his patients recover from colds. He arranges for a colleague to have two sets of identical looking pills made up and bottled – pill A contains his remedy and pill B is a placebo. He recruits some of his patients to take part in the experiment. They are told that they will be randomly assigned to his remedy or a placebo. Dr. Colman does not know which bottles of pills, A or B, contain his remedy. After six months, Dr. Colman interviews his patients to check on the number of colds they contracted and the duration. He then summarizes his results in a report before learning from his colleague which group of participants got his remedy.

b. Pam decides that she wants to know what type of diet cola tastes best – Diet Coke, Caffeine Free Diet Coke, or Coca Cola Zero. So she invites a group of friends over for a taste test. She sets an unopened bottle of each type of soda on a table with some paper cups. Each of the participants pours some cola from each bottle into paper cups, marking the cups with the type of soda. Then they taste each type of diet soda and give Pam their rating – 1 (tastes awful) to 5 (tastes great).

c. Janet wants to know whether her secret recipe for chocolate cake will taste better if she uses cocoa or baking chocolate. She bakes two cakes that appear identical and asks a group of her friends to take part in a taste test. She labels the cake with cocoa as A and the cake with baking chocolate as B. Then she randomly assigns half her friends to taste cake A and the other half to taste cake B. Her friends are then asked to rate each cake from 1 to 10.