Name: _____   Date: _____

Samples, Experimental, & Observational Studies

Identify the type of sample described. Then tell if the sample is biased.

1. A newspaper is conducting a survey to find out people's favorite sport. The newspaper selects at random people that walk into the Georgia Dome to watch the SEC Championship Football Game.

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2. A student is conducting a survey to find out people's favorite pet. The student asks every 4th person that walk into Pet's Mart on a Sunday afternoon.

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3. The State of Georgia takes a survey of teenage drivers to determine the number of teenage drivers that text and drive. They survey the 1st 100 teenagers that walk into Chick fil A on a Friday evening.

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4. A Cobb County School District Food Services Department wants to determine the percentage of high school students that eat vegetables each day in the cafeteria. The ask students that go through the salad line to volunteer to answer the survey.

Explain whether each situation is an experiment or an observational study.

5. A teacher asks her students to write down all they eat in a day and then calculate the total number of calories consumed.

6. A marine biologist visits a certain beach in Florida every year and counts the number of eggs in sea turtle nests.

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7. The cafeteria manager of a high school wants to find out if high prices are keeping students from using the cafeteria. Fifty students are chosen at random to receive half-price lunch passes every day for a month. The manager then records the number of passes used.

The study described below is a randomized comparative experiment.
Describe the <u>treatment</u>, the <u>treatment group</u>, and the <u>control group</u>.

8. A medical researcher collects data about a certain medicine. She asks 10 patients to take the medicine and another 10 patients to take a placebo (a sugar pill known to have no effect). None of the patients knows which group he or she is in. At the end of 6 months, the group taking the medicine showed more improvement in their symptoms than the group taking the placebo.

9. A department store wants to increase its sales. It assembled 100 of its best credit card customers and randomly divided them into two groups of 50. One group was allowed to use a special website for ordering goods and paying bills and the other group was not. At the end of six months, the group using the special website made 40% more purchases than the control group.

Choose the method that would be least biased.

10. An ice cream company wants to measure the relationship between the quality of ingredients it uses and the taste of the product.

    a. randomized comparative   c. survey
        experiment

    b. observational study   d. randomized controlled experiment

11. IN a survey of 80 students, 25 said that they planned on attending the pep rally. The school has 550 students. Predict the number of students who plan to attend the pep rally.

    a. 55 students   b. 80 students   c. 172 students   d. 378 students

12. Kareem asks the 30 people in his physics class whether they enjoy eating lunch in the cafeteria, and 18 of them say yes. Kareem knows there are 860 students in his high school, so he estimates the total number of students who enjoy eating lunch in the cafeteria. How many students are there?