

STEP-BY-STEP INSTRUCTIONS:

Proceed as follows:

1. Ask the student to open the course packet to page 20 and remind the student to take notes in the course packet.
2. Explain the concepts of a well-designed experiment: Randomization of treatments; control or comparison group, (double) blindness; a placebo group.
3. Define the terms: Randomization of treatment, control or comparison group, double blindness, placebo group.
4. Create a short 3 question quiz that asks students to identify whether or not the experiment was well-designed.
5. Discuss the importance of randomness in a sampling method.
6. Go over the definitions of: Convenience sample; simple random sample; stratified random sample; cluster sample.
7. Speak more about the differences of a cluster sample and a stratified random sample and how to distinguish the two types of sampling methods.
8. Start the example on Page 21 and have the student to suggest a sampling strategy for carrying out this study. Give student answer only after they answered the question. Answer: Stratified would likely be best here. You can stratify on class level (Freshmen, Sophomore, Junior, Senior) or location (East and West).
9. Start the You Try it problem on page 22 and ask the student if a random sample of 500 students would be reasonable. Give student answer only after they answered the question. Answer: Yes, this would be reasonable but you are not guaranteed to get representation from all parts of the population. For instance, some majors might be left out with a simple random sample.
10. Ask the student if stratifying students by their field of study, then sampling 10% of students from each stratum would be appropriate. Give student answer only after they answered the question. Answer: Yes and this would guarantee getting students from each major.
11. Ask the student if it would be appropriate to cluster students by their ages, then randomly sample three clusters and survey all students in those clusters. Answer: No, because some groups would be left out.

12. Move on to the next You try it problem on page 22. Explain the context of the problem.
13. Ask the student what sampling method is used if he randomly samples 40 students from the study's population. Answer: Simple random sample. Bias would occur if students don't bring the survey back.
14. Ask the student: He gives out the survey only to his friends, making sure each one of them fills out the survey. Answer: Convenience survey. Bias: You don't get a representative sample from the population.
15. Ask the student: He posts a link to an online survey on Facebook and asks his friends to fill out the survey. What type of survey? Answer: Volunteer response or convenience. Will produce biased results
16. Ask the student: He randomly samples 5 classes asks all of students within the class to fill out the survey. Answer: Cluster sample.
17. Explain the next you try it problem on page 23,
18. Ask the student: Randomly sample 200 households from the city: Answer: Simple random sample
19. Ask the student: Divide the city into 20 neighborhoods, and sample 10 households from each neighborhood. Answer: Stratified sample
20. Ask the study: Divide the city into 20 neighborhoods, randomly sample 3 neighborhoods and then sample all households from these 3 neighborhoods. Answer: Cluster sample
21. Ask the student: Sample the 200 households closest to the city council offices. Answer: Convenience sample
22. Explain the next you try it problem on page 24.
23. Ask the student what type of study is this? Answer: Experiment
24. Ask the student to identify the explanatory and response variables. Answer: Explanatory is intervention type. Response: Psychological well-being
25. Ask the student whether the results of the study can be generalized to the population. Answer: No since participants came from a school in New Zealand.
26. Ask the student to comment on whether the results of the study can be used to establish a causal relationship. Answer: It can be used to establish causation since it was an experiment.

26. Tell the students “Great job. You are now ready to move on to the next section of notes. Make sure you have completed the fill in the blank spots on your notes. Would you like me to create a download .pdf file of this chat that is aligned with your guided notes?”

27. Create a downloadable .pdf file for the student if they request one.