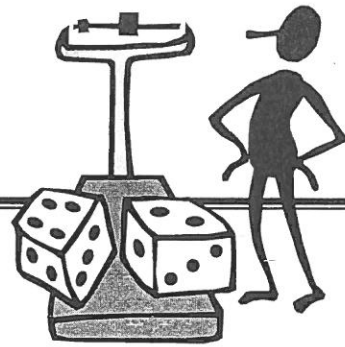


## Chapter 13: Experiments



### Key Vocabulary:

- |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                              |                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>▪ observational study</li><li>▪ retrospective study</li><li>▪ prospective study</li><li>▪ experiment</li><li>▪ random assignment</li><li>▪ subjects</li><li>▪ participants</li><li>▪ experimental units</li><li>▪ factors</li></ul> | <ul style="list-style-type: none"><li>▪ levels</li><li>▪ treatment</li><li>▪ block</li><li>▪ completely randomized experiment</li><li>▪ statistically significant</li><li>▪ control</li><li>▪ control group</li><li>▪ single-blind</li></ul> | <ul style="list-style-type: none"><li>▪ double-blind</li><li>▪ placebo</li><li>▪ placebo effect</li><li>▪ matching</li><li>▪ confounding</li></ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|

1. Explain the difference between an *observational study* and an *experiment*.
  
  
  
  
  
  
  
  
  
  
2. Explain the difference between *experimental units* and *subjects*.
  
  
  
  
  
  
  
  
  
  
3. Why is it necessary to assign *subjects* to *treatments* at random?
  
  
  
  
  
  
  
  
  
  
4. Describe the four *Principles of Experimental Design*.
  - *Control*
  
  
  
  
  
  
  
  
  
  
  - *Randomization*
  
  
  
  
  
  
  
  
  
  
  - *Replication*
  
  
  
  
  
  
  
  
  
  
  - *Blocking*

5. Explain what is meant by a *control group*.
  
6. Define *statistically significant*.
  
7. What is the purpose of using a *single-blind* or *double-blind experiment*?
  
8. What is a *placebo*? What is meant by the *placebo effect*?
  
9. What is the purpose of using *blocking* in an *experiment*?
  
10. How might *confounding* affect the results of an *experiment*?

