Lesson 5.5 Practice: Designing Experiments

School Launch · Statistics · Unit 5: Collecting Data: Samples and Experiments · Worksheet A

Calculator / tables

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. An experiment compares 3 fertilizers on 80 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

2. An experiment compares 2 fertilizers on 66 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

3. An experiment compares 2 fertilizers on 78 plots, assigned completely at random with equal group sizes. How many plots get each fertilizer? EASY

4. A study uses two factors: light (3 levels) and water (2 levels), with 34 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

5. A study uses two factors: light (2 levels) and water (2 levels), with 37 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

6. A study uses two factors: light (3 levels) and water (2 levels), with 21 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

7. A study uses two factors: light (3 levels) and water (2 levels), with 31 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. MEDIUM

8. A study uses two factors: light (2 levels) and water (3 levels), with 40 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD

9. A study uses two factors: light (2 levels) and water (3 levels), with 15 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD

10. A study uses two factors: light (3 levels) and water (2 levels), with 29 subjects per treatment. How many treatments and subjects are needed? Name the principle that random assignment supports. HARD