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Lesson 4-1 Drill

1. Does a new supplement help people sleep better?
    a. Two versions to be compared
        i. The new supplement (group A)
        ii. A placebo that does nothing (group B)
    b. Sample Groups (at least 2)
        i. To do this ethically, I would need to recruit people for a medical test which is really what this is.
        ii. Our A/B samples will each have 50 people in 3 different age groups (26-35, 36-45, 46-55), so 150 people total for each sample group.
        iii. All participants will be screened for good health and there will be a 50/50 ratio of males and females
        iv. The study will run for 7 consecutive nights.
    c. Hypothesis (what do you expect to happen)
        i. I expect the people taking the real supplement will fall asleep faster and sleep longer
    d. Expected outcome for each version (what is your key metric, what are you going to measure).
        i. Under controlled conditions (a medical testing facility), my key metric will be how many **hours of sleep** the people in group A (the people taking the real supplement) get per night compared to group B (the group taking the placebo). I expect group A will be getting more hours sleep than group B.
    e. Other measured variables
        i. The other measured variable will be how quickly group A falls asleep compared to group B.

2. Will new uniforms help a gym's business?
    a. Two versions to be compared
        i. The new flashy uniforms (group A)
        ii. The old bland uniforms (group B)
    b. Sample Groups (at least 2)
        i. Employees will wear the new uniforms for 7 consecutive days.
        ii. Employees will wear the old uniforms for 7 consecutive days AFTER the new uniforms are worn.
        iii. The customers will be the same, this will happen at the same gym.
    c. Hypothesis (what do you expect to happen)
        i. I expect the bookings for personal training sessions to increase during the week the group A uniforms are worn, and bookings to decline when we switch back to the old uniforms.
    d. Expected outcome for each version (what is your key metric, what are you going to measure).
        i. The **key metric will be the number of personal training sessions booked by current customers**, each session costs $50, revenue should increase with Group A uniforms.
    e. Other measured variables
        i. We also sell a line of nutritional supplements at the gym, I would hope for increased sales of these also during the group A week.

3. Will a new homepage improve my online exotic pet rental business?
    a. Two versions to be compared
        i. The new flashy homepage with better photos and purchase buttons that stand out better, and text in a new font that is much easier on the eyes (Group A)
        ii. The same old bland homepage we've had since 2010.
    b. Sample Groups (at least 2)
        i. Visitors/activity on the new web site will be monitored for one week
        ii. Website data from the corresponding week from one year ago will be analyzed
    c. Hypothesis (what do you expect to happen)
        i. I expect sales from the website to increase compared to the same time period last year.
    d. Expected outcome for each version (what is your key metric, what are you going to measure).

        i. I expect **the number of sales** and rentals to increase with the new homepage
    e. Other measured variables
        i. I'm also going to monitor the time spent on my homepage, if sales go up and time spent per customer goes down, I'll know the user experience for my site has improved.
4. If I put "please read" in the email subject, will more people read my emails?
    a. Two versions to be compared
        i. 1000 emails sent out with "please read" in the subject field (group A)
        ii. 1000 emails sent out with the same subject message we've always had (group B).
    b. Sample Groups (at least 2)
        i. 1000 random email addresses will receive the group A email with "please read" subject.
        ii. Another 1000 email addresses will receive the group B email with the old subject text.
        iii. Emails for both groups will be sent out at the same time(relative to time zones of the recipients), on the same day.
    c. Hypothesis (what do you expect to happen)
        i. I expect group A will open the emails at a higher rate that group B.
    d. Expected outcome for each version (what is your key metric, what are you going to measure).
        i. I expect **the number of open emails** with group A will be higher that group B.
    e. Other measured variables
        i. I would like to monitor how many visits to my website are the result of clicking on the link contained in the group A email, hopefully that will increase also.