

## End of Unit 2 Project

### Comparing Groups Using Our Own Data

Available datasets:

1. Food Habits
2. Time Use
3. Stress/Chill
4. Personality Color

Your mission is to ask and answer a statistical question using at least one dataset above.

1. Your question must include a comparison of two distinct groups.
2. Your analysis should address whether any observed differences are real or could be simply due to chance.
3. You should use at least two of the following methods to answer your question with appropriate explanations:
  - ☐ Merge data
  - ☐ Create simulations
  - ☐ Calculate probabilities based on simulations
  - ☐ Use a Normal model
  - ☐ Shuffle/permute data

You will have 5 days to complete this project with your assigned partner. You need to:



- ☐ Prepare an oral presentation (both partners need to participate) that includes:
  - A 4-slide, 5-minute presentation.
  - An explanation of why you think your statistical question is interesting.
  - An interpretation of supporting plots and summaries that answer your question.
  - A reasoning of whether you think the outcome might be due to chance.



- ☐ Submit a 2 - 4 page, typed, double-spaced summary of your analysis.

Project Assignment Sequence:



- ☐ Day 1: Decide on a statistical question with assigned partner.
  - ☐ Get approval from teacher.
- ☐ Day 2: Working day for analysis – create plots and numerical summaries.
- ☐ Day 3: Working day for analysis – create presentation (4 slides maximum).
- ☐ Day 4: Presentations.
- ☐ Day 5: Presentations.