**POSING QUESTIONS**

Words with Friends

My friend Jeff likes to play Words with Friends against his computer. He keeps track of many variables for each game that he plays, and he records the results in a spreadsheet. The following image shows the first ten rows (from a total of 1,306 rows) in his spreadsheet:

A table with numbers and letters

Description automatically generated

a) What are the observational units? Do these appear in rows or columns of the spreadsheet? How many observational units are in the spreadsheet?

b) How many variables are shown here? Do these appear in rows or columns of the spreadsheet? How many are categorical, and how many are numerical?

c) Pose some statistical questions that could be investigated with these data, involving:

1. one categorical variable
2. one numerical variable
3. two categorical variables
4. one categorical and one numerical variable
5. two numerical variables

d) Pose a statistical question about these data for which comparative boxplots would be an appropriate graph.

e) Pose a statistical question about these data for which calculating multiple proportions would be appropriate.

f) Pose a statistical question about these data for which one-way ANOVA would be appropriate but a two-sample *t*-test would not be appropriate.