Name:_____   Date:_____

LAB 1E: What's the Relationship?
Response Sheet

Directions: Record your responses to the lab questions in the spaces provided.

Finding patterns in data.

Where are the variables?

(1) How many variables were used to create this plot? Which variables were used and how were they used?

Multiple variable plots

Scatterplots

Creating scatterplots

(2) Fill in the blanks to create a `scatterplot` with `sodium` on the y-axis and `sugar` on the x-axis.

`xyplot(_____ ~ _____, data = food)`

Scatterplots in action

(3) Do snacks that have more `protein` also have more `calories`? Why do you think that?

(4) What happens if you swap the `protein` and `calories` variables in your code? Does the relationship between the variables change?

(5) Does the relationship between `protein` and `calories` change when the snack is either `Salty` or `Sweet`? Write down the code you used to answer this question.

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4-variable scatterplots

(6) Write and run code creating a scatterplot that uses these 4 variables: `sodium`, `sugar`, `cost`, `salty_sweet`.

Multiple facets

(7) Write and run code creating a `dotPlot` or `histogram` of the `calories` variable, but facet the data using: `healthy_level` + `salty_sweet`

(8) How does the `healthy_level` of a `Salty` or `Sweet` snack impact the number of `calories` in the snack?

On your own

(9) Do healthier snacks have more or less `ingredients` than less healthy snacks?

(10) What other variables seem to be related to the number of `ingredients` of a snack? Describe their relationships.