

Story Name: Healthy Breakfast

Story Topics: [Nutrition](#) , [Health](#)

Datafile Name: [Cereals](#)

Methods: [Histogram](#) , [Scatterplot](#) , [Regression](#)

Abstract: This datafile contains nutritional information and grocery shelf location for 77 breakfast cereals. Current research states that adults should consume no more than 30% of their calories in the form of fat, they need about 50 grams (women) or 63 grams (men) of protein daily, and should provide for the remainder of their caloric intake with complex carbohydrates. One gram of fat contains 9 calories and carbohydrates and proteins contain 4 calories per gram. A "good" diet should also contain 20-35 grams of dietary fiber.

The data include cereal name, cereal manufacturer, type (hot or cold), number of calories per serving, grams of protein, grams of fat, milligrams of sodium, grams of fiber, grams of carbohydrates, grams of sugars, milligrams of potassium, typical percentage of the FDA's RDA of vitamins, the weight of one serving, the number of cups in one serving, and the shelf location (1,2 or 3 for bottom, middle or top).

Histograms of the different variables help find which cereals are the best and worst in a particular category. **Scatterplots** provide insight into relationships between, say, sugars and calories, fat and calories, etc.

For marketing reasons, note where the kids cereals are located on the shelves compared to healthy cereals. You wouldn't put Frosted Flakes on the top shelf out of kids' reach would you? The plot below shows that cereals on shelf 2 have the highest sugar content. The line within each box is the median of sugar within each shelf level. The median of sugar for shelf 2 is 12, which is the same as the 75th-percentile, the top edge of the box.

A variable named "rating" was calculated by Consumer Reports. Cap'n Crunch has the lowest rating and All Bran with Extra Fiber has the highest rating. Surprisingly, many "healthy" cereals had low ratings. Cereals on the middle shelf in supermarkets tended to have the lowest ratings. (To understand the rating better, regress 'rating' on 'vitamins,' 'potassium,' 'sugars,' 'carbohydrates,' 'fiber,' sodium,' 'fat,' 'protein,' 'calories'.)

An experiment or project idea is to develop one's own rating system and find which cereal is the most healthy for you.

Image: Boxplot of sugar by shelf number.

