Inspiring Greatness

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

College Prep Algebra

April 27, 2020

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Lesson: April 27, 2020

Objective/Learning Target:
Make inferences and justify conclusions
based on real world data represented by graphs
(a nice brain break before starting our next unit)

Let's Get Started:
Click and read through this slideshow link
to see how to interact with the graphs:
Introduction to Graph of the Week

Practice:

Click on this link below to pull up your Graph of the Week:

Daily Caffeine Consumption by age

1. **Read and think** about the guiding questions on the top left of the pdf.

2. To write your response, think of it in three parts
   a) Analysis of the information
   b) Prediction of the near future
   c) What solution(s) can you investigate **OR** what other information/resources can you gather to strengthen your argument in part (b)?

Answer Key:

Here are two sample responses to “Daily Caffeine Consumption by Age”.

(Analysis on this page, Predict/Support on the next)

Analysis

In the left hand graph, I was surprised to see age 2-5 years represented. Since chocolate milk is 16 mg so maybe that’s where they get it. I can’t believe that 50-64 consumes the most! I thought 18-24 since you hear about “all nighters” and early mornings or working the night shift.

On the right hand graph, I had no idea Starbucks coffee has three times as much caffeine as McDonald’s. Do they water it down? Do they have different beans? Do they add caffeine to their coffee beans mixture? Red Bull and a Latte’ are nearly the same amount of caffeine. Red Bull costs 1.99 and a Latte’ from Starbucks costs 2.95. And Monster and Rockstar aren’t that much more than a Red Bull in cost and caffeine. Why does Excedrin have caffeine? No other over the counter med is on this list.

Analysis:

On the left graph, 50-64 are the highest consumers. They are the age group that needs the least amount of sleep I think. So why do they need so much caffeine? Well, I noticed the age ranges suck because it may cause the data to be misleading. As the ages went up, the age range grew as well. It weights the older ages more heavily toward drinking caffeine.

On the right, the scale seems off to make it look like Starbucks is bad. The descriptions of Starbucks drinks are vague so not sure exactly what they were measuring. If the regular brew had espresso, would they have labeled it? They are measuring pills, energy drinks, soda, ice tea, and coffee. People are more likely to consume multiple sodas and energy drinks than they are Starbucks.

Predict/Support

Now that I have thought about the 2nd graph, I can see how the 50-64 year olds consume more caffeine since they probably buy and drink more Starbucks than any of the other drinks. The 18-24 year olds are probably getting their caffeine from the Monster type drinks, the No-Doz, and the sodas—I mean who hasn't heard about Mountain Dew having lots of caffeine. I wonder if the 50-64 year olds know how much caffeine they are getting from the coffee?

Predict/Support

In the first graph, if you divide the caffeine intake for each age range by the number of ages in that range, you find that the average intake per age is pretty much the same once you get to age 12. It's between 14 and 17 mg. The graph itself is pretty misleading in the 50-64 being the highest. When you break it down like described above, the 18-24 actually consumes the highest per age which is 17.4. The 50-64 is at 16.1.

Additional Practice:

Like to do more thinking about graphs that are out there?
There are not any answers to these, but maybe discuss with a friend.

Graph of the Week Archives