

Mandms color distribution



M&M's color distribution Josh Madison conducted a study on the color distribution of M&M candies. From the Consumer Affairs Office, he learned the expected percentages in each pack of candy. He then conducted his own study and posted his results on his website. This paper seeks to compare the spring 2012 class results with Madison's results and with the Consumer Affairs Office, and then generate a conclusion on the similarity of the 3 data sets regarding color distribution.

Madison took a tour to observe how ice cream is made by flavor per production run. Madison observed that there is no production of ice cream that makes sense since they are of different flavors, with each flavor having different ingredients. Madison assumed all different colors are combined together and made at different time along the way into different size packages. According to the M&M's website, each package of chocolate milk should contain, 24%, 14%, 16%, 20%, 13%, and 14% of blue, brown, green, orange, red, and yellow respectively. This is what is stated in the consumer office. After doing a practical survey, Madison found out that the percentages indicated in the packages were not even close to the distribution stated. Madison concluded that they produce the indicated percentages of each color and then just fill up the packs off weight based method. This infers that any particular package may be much away off the indicated percentage. Due to this, Madison conducted his study and indicated his results. He did this by random sampling of packs.

Madison acquired M&M's sold in cardboard box containing 48 packages. He then counted every color and then compared the total of all the colors in every package to the sum of the pack as an error checking form. He then did analysis as follows: according to Madison, he expected 24%, 13%, 16%, 29%,
<https://assignbuster.com/mms-color-distribution-essay-samples/>

13%, and 14% of blue, brown, green, orange, red, and yellow respectively. However, he observed 18.36%, 14.16%, 18.44%, 20.76%, 14.20%, and 14.08% of blue, brown, green, orange, red, and yellow respectively. The row indicating the quantity expected is based on the total M&M's observed numbers using expected percent values from M&M's website. As seen in the results, blue which is the most observed color in the M&M was actually third in popularity watch. It was about 25 percent less than the amount expected. However, orange, brown, yellow, and red were within 2% points on what was expected as their values. Yellow was however closest. At the end of the analysis, it appears that pack 22 is much closer to the published numbers of M&M's, and is also the most average in Madison's project. Madison also gave a graphical and chart representation of the color quantities.

A study done by the spring 2012 class gave different results. After the study, the class results showed that there was 21.4%, 12.5%, 19.6%, 19.9%, 12.9%, and 13.1% of blue, brown, green, orange, red, and yellow respectively. The difference is visible in all the three studies. It can be concluded that no real quantity indicates what is in the packs. However, there is a closer color quantity that is shown within the 3 data sets. There is a close similarity of the 3 data sets with the quantities differing with about plus or minus 2%.

Table showing different results of color distribution

Blue

Brown

Green

Orange

Red

Yellow

<https://assignbuster.com/mms-color-distribution-essay-samples/>

M&M's

24%

14%

16%

20%

13%

14%

Madison

18. 36%,

14. 16%

18. 44%

20. 76%

14. 20%

14. 08%

Spring

21. 4%

12. 5%

19. 6%

19. 9%

12. 9%

13. 1%

Works Cited

<http://joshmadison.com/2007/12/02/mms-color-distribution-analysis/>

<http://www.mms.com/us/about/products/milkchocolate/>

Spring 2012 results

<https://assignbuster.com/mms-color-distribution-essay-samples/>