
IntroActivity1 – Data Collection



This activity is a simple, yet effective way to introduce students to the basic concepts they will be encountering in AP Statistics. I recommend doing this on the first or second day of class as an icebreaker activity, but also as a way to gauge your students' understanding of basic statistical concepts. Take the time to discuss the 4 themes of statistics during the activity - Describing Data, Collecting Data, Probability, and Inference - as a way to introduce students to the concepts they'll be learning throughout the year.

Materials Needed:

- Trial Size or 1.69 oz bags of m&m's - one per student.
- Data Collection Tables and Dotplots - one per student.
- "Master" Dotplot for each color on the board.

Activity:

Discuss what students know about the color distribution of m&m's. Is it possible to predict which color will be most popular in a bag of m&m's? Are the colors evenly distributed? If not, which one is most popular? How can we find out? Discuss appropriate methods for data collection to answer these questions. Hand out Data Collection tables and Dotplots. Explain how students are to collect color information - Do a sample bag on the "Master" dotplot on the board. Ask students if they think their bag will be the same as yours...why or why not? Discuss variability.

Hand out bags or have students take theirs out. All students should have the same size bag (trial or 1.69 oz). Students should open bags and record data on their dotplots. All students should record their distributions on the "Master" dotplots on the board. When all students are done, have them compare their dotplots to the "Master" dotplots. Any similarities? Differences? Extremes? What conclusions can we reach from this activity? Can we answer our original questions? Discuss the 4 themes of AP Statistics and how they relate to this activity.

Color Distribution: (as of July, 2006 - see <http://us.mms.com> for updated distributions)

Blue	Brown	Green	Orange	Red	Yellow
24%	13%	16%	20%	13%	14%

Extension:

Keep this data for future reference. Re-display the data using boxplots, stemplots, histograms, for each color or bar graphs and pie charts for the categorical distributions. Discuss benefits/disadvantages of each type of display.



Data Collection



Welcome to APStats! Throughout the course history, mathematics has been called upon to answer some of the world's most pressing questions, including, but not limited to: "What colors can I expect to find in a bag of milk chocolate m&m's?" Your task is to collect data on the m&m color distribution through a carefully designed and controlled experiment in which you will:

- open a bag,
- count the number of m&m's falling into each color category,
- record the numeric results,
- record your color distribution on the class dotplots, and
- properly dispose of the m&m's by seeing whether or not they really do melt in your mouth, not in your hand.

Be sure to record your data accurately as we will be referring to it throughout the course.

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m&m's Color Distribution Dotplots

