Condition of Baseball, Effect on Speed

By: M1-17

Testable Question and Purpose

- Testable Question: Does the condition of a baseball effect how fast it is pitched by a pitching machine?
- Purpose: My purpose for doing this experiment is to show that maybe when someone is pitching a baseball, it might not be that person's fault if the baseball had a different speed.

Abstract

To start the experiment, I had to get baseballs with different conditions to use for the experiment. I had some baseballs at home but I needed to find more. I borrowed the other baseballs from my coach on my Travel Team. A few days later, I had to get the pitching machine to pitch the baseballs and a speed gun to find the speed of the baseball. I borrowed those from Daniel Yarbrough at Altamonte Baseball Academy.

Hypothesis

My hypothesis is that the condition of the baseball will affect the speed. I think that the worst conditioned baseball will be pitched slower than the best conditioned baseball. I believe this because a bad conditioned baseball could be heavier than the others do to rain getting caught in it.

Materials

- Five different conditioned baseballs
- Pitching machine
- Speed gun
- Open area
- Two people to help
- Chart to put down speed
- Glove to catch baseballs

Procedure

- Get baseballs
- Get pitching machine and speed gun
- Get two people to help wit experiment
- Make chart
- Throw first ,second, third, fourth, and fifth baseball ten times
- Write speeds on chart
- Add up total speed and compare

Variables

<u>Controlled:</u> <u>Independent:</u> <u>Dependent:</u>

• Pitching Machine Baseball Condition Speed of Baseball

• Distance

• Speed Gun

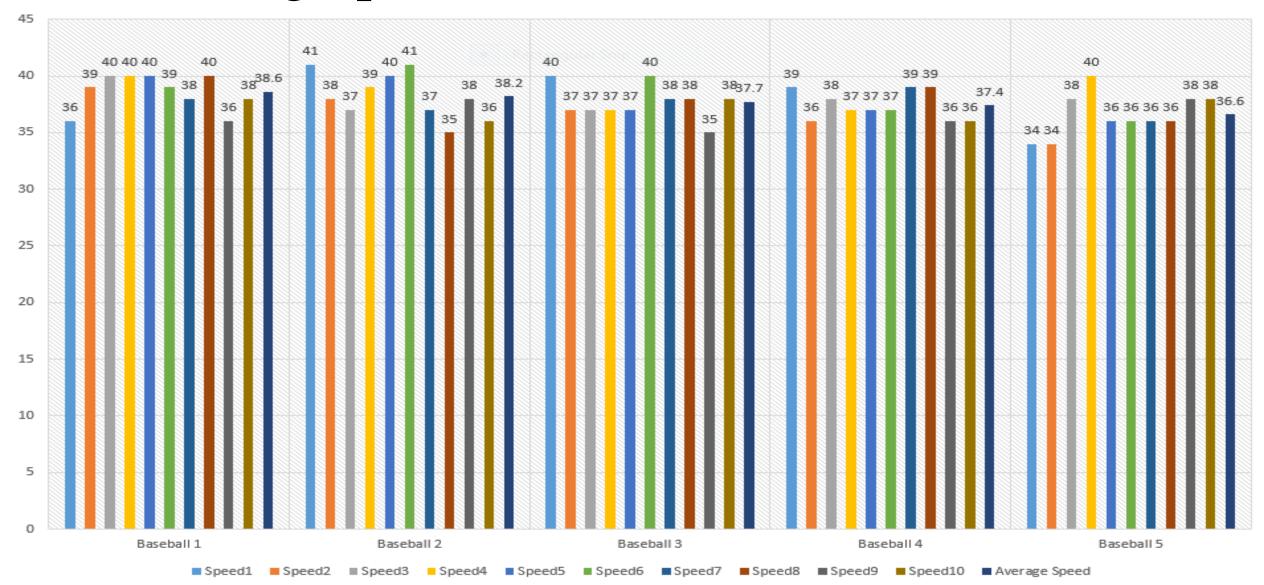
Pictures







Results(graph)



Results

The result was that the best conditioned baseball was faster than all of the other baseballs. The first baseball was the fastest, the second baseball was the second fastest, the third baseball was the third fastest, the fourth baseball was the fourth fastest, the fifth baseball was in the worst condition and was the slowest.

Conclusion

My hypothesis was correct. Each baseball's speed related to it's condition. If one baseball had the worst condition, it had the slowest speed. If the baseball had the best condition, it had the fastest speed.

Sites Noted

- NASA. NASA, n.d. Web. 20 Sept. 2016.
- https://www.grc.nasa.gov/www/k-12/airplane/balldrag.html
- By the Time It Reaches the Plate, the Fastball in Air Isn't Moving. "The Effect of Air on Baseball Pitches." *Apache2 Ubuntu Default Page: It Works.* N.p., n.d. Web. 20 Sept. 2016.
- http://spiff.rit.edu/richmond/baseball/traj/traj.html
- "Baseball Basics: Keeping Score." *Major League Baseball*. N.p., n.d. Web. 20 Sept.
- 2016.
- http://mlb.mlb.com/mlb/official_info/baseball_basics/keeping_score.jsp
- NASA. NASA, n.d. Web. 24 Sept. 2016.
- https://www.grc.nasa.gov/www/k-12/airplane/ballforce.html
- Writer, Contributing. "How to Make a Baseball." *EHow*. Demand Media, n.d. Web. 24 Sept. 2016.
- http://www.ehow.com/how_4899885_make-baseball.html
- http://www.education.com/science-fair/sports/
- https://www.grc.nasa.gov/www/k-12/airplane/balldrag.html
- http://m.mlb.com/glossary/standard-stats
- http://m.mlb.com/glossary/standard-stats
- http://spiff.rit.edu/richmond/baseball/traj/traj.html