What Matters in Baseball?

Objective

The objective of this project is to determine why teams win many more or fewer games than they're expected to based on runs/goals/points scored and allowed.

Introduction

The Pythagorean relationship is a fundamental one in sports: it correctly predicts the records of 98% of all teams. But in 2% of cases, it fails. Why does it fail? (Google Bill James and Pythagorean relationship for more information)

First, interview at least 40 different people who are “big baseball fans”. Ask them to list, in no particular order, the 5 things that would cause a team to win more games then we might expect. Compile these answers in to a top five list, and use those five things below.

Find teams that deviated substantially from their expected Pythagorean record over the last 5 years. It may very well be different teams each season, or one team for several seasons. (this information is available for baseball teams on www.baseball-reference.com). Use the 5 different things mentioned above and then look at each team and their situational statistics (this information is available on ESPN.com) and determine what they did that resulted in more or fewer wins than they otherwise should have had. Determine what the teams have in common.

Determine associations and linear correlations for each item. Which ones had the strongest association, and the weakest? What does this say about congenital wisdom in baseball fans?

For some help with finding statistics and more details, go to
http://www.sciencebuddies.org/science-fair-projects/project_ideas/Math_p005.shtml?from=Home

For some help with download stats and working with Excel, go to


and look toward the middle and lower on the page.