Name:_____ Date:_____ Period:_____

Chapter 10 Investigation Guide

Before you begin the written report:

1.) In a sport of your choice, select a season prior to 1995 for your investigation. This is to make sure that all the athletes in your data set will be retired.

2.) Select a category and identify the top 10 performances for a particular variable. For example, you could identify the top 10 home run hitters in the MLB in 1990 of the top 10 scorers in the NBA in 1993. Here are some websites that you might use. To get a different season, just change the year in the url.

- http://www.basketball-reference.com/leagues/NBA_1995_leaders.html
- http://www.pro-football-reference.com/years/1995/leaders.html
- http://www.hockey-reference.com/leagues/NHL_1995_leaders.html
- http://www.baseball-reference.com/leagues/MLB/1995-batting-leaders.html

To complete the written report:

1.) Write an introduction that gives a brief summary of the season you have chosen, a list of the 10 athletes you will be investigating, why you chose to focus on a particular variable, the question you are trying to answer, and the source of the data you are using.

2.) Record the performances for each of these 10 athletes for each year in their careers. Organize your table by "year in career" (e.g., first year, second year) rather than "season" (e.g., 1990, 1991) because the athletes probably started their careers in different seasons. Your data table should look like the following:

Year	Athlete 1	Athlete 2	…
1 (rookie season)			
2 (second season)			
…			

3.) Choose one of the top 10 athletes to focus on and explain the reason for your choice. Make a timeplot for this athlete's career and describe any trends that you see.

4.) Calculate the average performances for the remaining 9 athletes in each year of their career. For example, find the average performance for the remaining 9 athletes in year 1 of their careers (rookie season), their average performance in year 2 of their careers, etc. If an athlete had retired, use 0 for his performance that year. Include a table showing these averages.

5.) Make a time plot to display the average performances of the 9 remaining athletes and describe any trends that you see.

6.) Make a comparative time plot that shows the performances of your chosen athlete and the average performances of the other athletes ON THE SAME GRAPH.

7.) Discuss the notable similarities and differences between the time plot for the individual athlete and the time plot for the average of the remaining 9 athletes. Research and discuss possible explanations for the differences, such as injuries or other factors.

Name:_____ Date:_____ Period:_____

Chapter 10 Investigation Guide: Checklist

- ☐ Title Page
- ☐ Table of Contents
- ☐ Introduction
  - What is the question of interest
  - Introduce the performance and context of the investigation
  - Introduce the focus athlete and the 9 additional athletes
  - How and why you selected the 9 additional athletes
  - Give preliminary answers to the questions of interest
- ☐ Raw Data Collection
  - Lists the raw data for all athletes 10 athletes for their ENTIRE career
    - Include the averages for each year in a separate column
  - Make a 3 year moving average table for the data of the focus athlete (see pg. 372 as a reference)
- ☐ Time Plots
  - A time plot of the raw data for the focus athlete
  - A 3 year moving average time plot for the focus athlete
  - A time plot for the 9 other athletes (their averages)
  - A time plot with 2 line graphs, one for the focus athlete and the average of the 9 others
    - Describe each of the graphs
    - Compare the last time plot using comparison words
- ☐ Conclusion
  - Give a conclusion based on your results. (1 page minimum)
  - Summarize the entire investigation
- ☐ Errors/Causes
  - Discuss the possible reasons for your conclusion
  - Discuss possible errors, limitations, etc.
  - 1 page (minimum)
- ☐ References
  - Use MLA formatting