Baseball and Jackie Robinson

Linda ‘Suzanne’ Grimes
California University of Pennsylvania
Graduate December 2007
BS Secondary Education – Mathematics
BA Mathematics

Overview:
One of America’s favorite past time is baseball. Baseball has been considered our country’s ‘National Past Time’ that has evolved and affected racial views over time. The history of baseball and the profound effects on society can be examined by the first African American player, Jackie Robinson. Presenting material in an exciting manner through investigation of the history of baseball through an early film, photographs, and newspaper stories will allow the students to calculate players’ stats that can be used with real world examples.

Goal:
The students will examine past historical affects of baseball on society and through analysis of past and present players be able to compute common statistics used in baseball, such as percentages.

Grade: 7th – 12th

Subject: General Math or Algebra I

Materials:
Hand out – Data Sheet
Various baseball cards
Library of Congress
Early Motion Pictures, 1897- 1920, The ball game; Thomas A. Edison, Inc.
Newspaper: New York Tribune 1866 – 1924
Web site: Baseball, the Color Line, and Jackie Robinson
Photograph: ‘Hot Dogs’
Letter from Jackie Robinson to Branch Rickey, 1950:

- Image of Page One
- Image of Page Two
- Transcription
- Branch Rickey’s Speech to the "100-Percent Wrong Club"

Photograph: Film still from the Jackie Robinson story
Photograph: Cy Young
Song: Take Me Out to the Ball Game
Beyond the Playing Field: Jackie Robinson, Civil Rights Advocate

The National Archives and Records Administration site focuses on Robinson’s activities as a civil rights advocate.

Expected Duration:
11 days

Objectives:
The student will be able to:

Mathematics

2.1.8.A Represent and use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, exponents, scientific notation, square roots).
2.1.8.C Distinguish between and order rational and irrational numbers.
2.2.11 D. Describe and explain the amount of error that may exist in a computation using estimates.
2.2.11 F Demonstrate skills for using computer spreadsheets and scientific and graphing calculators.

History

8.1.6.A Understand chronological thinking and distinguish between past, present and future time.
   • Calendar time
   • Time lines
   • People and events in time
   • Patterns of continuity and change
   • Sequential order
   • Context for events
8.1.6.C Explain the fundamentals of historical interpretation.
   • Difference between fact and opinion
   • Multiple points of view
   • Illustrations in historical stories
   • Causes and results
   • Author or source of historical
8.1.6.D Describe and explain historical research.
   • Historical events (time and place)
   • Facts, folklore and fiction
   • Historical questions
   • Primary sources
   • Secondary sources
   • Conclusions (e.g., simulations, group projects, skits and plays)
Reading to read Independently

1.1.8. A Locate appropriate texts (literature, information, documents) for an assigned purpose before reading.
1.1.8.B Identify and use common organizational structures and graphic features to comprehend information.
1.1.8.C Use knowledge of root words as well as context clues and glossaries to understand specialized vocabulary in the content areas during reading. Use these words accurately in speaking and writing.
1.1.8.D Identify basic facts and ideas in text using specific strategies (e.g., recall genre characteristics, set a purpose for reading, generate essential questions as aids to comprehension and clarify understanding through rereading and discussion).
1.1.8.E Expand a reading vocabulary by identifying and correctly using idioms and words with literal and figurative meanings. Use a dictionary or related reference.

Read Critically in All Content Areas

1.2.8.A Read and understand essential content of informational texts and documents in all academic areas.
   • Differentiate fact from opinion utilizing resources that go beyond traditional text (e.g., newspapers, magazines and periodicals) to electronic media.
   • Distinguish between essential and nonessential information across texts and going beyond texts to a variety of media; identify bias and propaganda where present.
   • Draw inferences based on a variety of information sources.
   • Evaluate text organization and content to determine the author’s purpose and effectiveness according to the author’s theses, accuracy and thoroughness
1.2.8.B. Use and understand a variety of media and evaluate the quality of material produced.
   • Compare and analyze how different media offer a unique perspective on the information presented.
   • Analyze the techniques of particular media messages and their effect on a targeted audience.
   • Use, design and develop a media project that expands understanding (e.g., authors and works from a particular historical period).
1.2.8.C. Produce work in at least one literary genre that follows the conventions of the genre.

Reading, Analyzing and Interpreting Literature

1.3.8..A. Read and understand works of literature.
1.3.8.B. Analyze the use of literary elements by an author including characterization, setting, plot, theme, point of view, tone and style.
1.3.8.D Identify poetic forms (e.g., ballad, sonnet, couplet)

**Types of Writing**

1.4.8.B Write multi-paragraph informational pieces (e.g., letters, descriptions, reports, instructions, essays, articles, interviews).
   - Include cause and effect.
   - Develop a problem and solution when appropriate to the topic.
   - Use relevant graphics (e.g., maps, charts, graphs, tables, illustrations, photographs).
1.4.8.C Write persuasive pieces.
   - Include a clearly stated position or opinion.
   - Include convincing, elaborated and properly cited evidence.
   - Develop reader interest.
   - Anticipate and counter reader concerns and arguments.
1.4.8.D. Maintain a written record of activities, course work, experience, honors and interests.

**Quality of Writing**

1.5.8. A. Write with a sharp, distinct focus
   - Identify topic, task and audience.
   - Establish a single point of view.
1.5.8.B. Write using well-developed content appropriate for the topic.
   - Gather, determine validity and reliability of and organize information.
   - Employ the most effective format for purpose and audience.
   - Write paragraphs that have details and information specific to the topic and relevant to the focus.
1.5.8.G. Present and/or defend written work for publication when appropriate.

**Speaking and Listening**

1.6.8.A. Listen to others.
   - Ask probing questions.
   - Analyze information, ideas and opinions to determine relevancy.
   - Take notes when needed.
1.6.8.B. Listen to selections of literature (fiction and/or nonfiction).
   - Relate them to previous knowledge.
   - Predict content/events.
   - Summarize events and identify the significant points.
• Identify and define new words and concepts.
• Analyze the selections.
1.6.8.C. Speak using skills appropriate to formal speech situations.
   • Use complete sentences.
   • Pronounce words correctly.
   • Adjust volume to purpose and audience.
   • Adjust pace to convey meaning.
   • Add stress (emphasis) and inflection to enhance meaning.
1.6.8.D Contribute to discussions.
   • Ask relevant, probing questions.
   • Respond with relevant information, ideas or reasons in support of opinions expressed.
   • Listen to and acknowledge the contributions of others.
   • Adjust tone and involvement to encourage equitable participation.
   • Clarify, illustrate or expand on a response when asked.
   • Present support for opinions.
   • Paraphrase and summarize, when prompted.
1.6.8.E. Participate in small and large group discussions and presentations.
   • Initiate everyday conversation.
   • Select a topic and present an oral reading.
   • Conduct interviews as part of the research process.
   • Organize and participate in informal debates.

Lesson Development:

Anticipatory Set:

Day 1

Watch a short film The Ball Game, by Thomas A. Edison, Inc.
Class discussion on what they saw in the film
Class discussion on the rules of baseball
Teacher discusses a player’s batting average in a game
   Total number of hits divided by total times at bat
Distribution hand out on other raw data collected in baseball
Discussion on how data is used

Day 2

Class will examine and discuss two newspaper photographs New Your Tribune
   “The Yale Baseball Squad and The University of Pennsylvania Team”
Distribution hand out – Data Sheet
Class will divide into group of four
Distribute baseball player’s cards and compute eight players' batting averages. Class will divide into six groups of four and use the Library of Congress web site; Baseball, the Color Line and Jackie Robinson. Students will read and discuss the time era. Students will write a paragraph on their particular time era.

**Day 3**

One student from each group will read out loud the paragraph from Baseball, the Color Line and Jackie Robinson. Teacher demonstrates how to compute a player’s career average: Round averages to thousand and divide the year average by the total number of years played. Class will compute two player’s career average. Teacher demonstrates how to compute a player’s Slugging Average: Total bases divided total at bats. Review of rounding Decimals. Discuss rational and irrational numbers.

**Day 4**

Class will discuss photograph from Library of Congress web site: ‘Hot Dogs’, Ebbets Field, Brooklyn. Four students will demonstrate one of their player’s career averages on the board. Class will divide into six groups of four.

1. Students receive copies of Student Handout Two, Analysis of Jackie Robinson's Letter.
2. Using the handout, students answer the following questions, giving one-to-two sentence explanations of their answers.

   1. In which form do you prefer reading the document? Is one form or the other more meaningful to you? Why?
   2. Why do you think it was difficult for Robinson to write this letter to Rickey?
   3. Why was Rickey’s leaving Brooklyn harder on Robinson that on everyone else?
   4. What did Robinson mean when he wrote "Baseball is like that"?
   5. What "small part" did Robinson play in contributing to Rickey's success in Brooklyn?
   6. In your opinion, to what "misunderstanding" was Robinson referring?
**Day 5**

Class will discuss Analysis Jackie Robinson Letter  
Class will discuss how baseball has changed over time  
Class will compute RBI's – Jackie Robinson

**Day 6**

Class will review computing percents  
Class will practice changing percents to decimals and decimals to percents  
Class will take turn reading out loud “100-Percent Wrong Club”

1. Students read Branch Rickey’s speech to the "100-Percent Wrong Club.”  
2. Students receive copies of Student Handout Three, Analysis of Branch Rickey's Speech.  
3. Using the handout, students answer the following questions:  
   1. In the fourth paragraph of his speech, Rickey seems to be saying that he desired to bring a black player to the St. Louis ballclub. Why did this effort fail?  
   2. According to Rickey, what were the four factors that were necessary for him to bring a black player to the major leagues successfully?  
   3. Rickey stated that "the greatest danger, the greatest hazard, I felt was the negro race itself. " What did he mean by that?  
   4. Rickey stated that, according to the historian Frank Tannenbaum, four things were necessary for the acceptance of black players in baseball. What were those four factors?  
   5. When Rickey stated, "I am completely color-blind," do you take him at his word?  
   6. Do you think that the following statement made by Branch Rickey was true in 1956?  

   _America is,—it's been proven Jackie,—is more interested in the grace of a man's swing, in the dexterity of his cutting a base, and his speed afoot, in his scientific body control, in his excellence as a competitor on the field,—America, wide and broad, and in Atlanta, and in Georgia, will become instantly more interested in those marvelous, beautiful qualities than they are in the pigmentation of a man's skin._

   7. What did Rickey mean when he referred to "the last syllable in a man's name"?

**Day 7**

Class will review photograph from Library of Congress web site:
Baseball and Jackie Robinson
Class will discuss Branch Rickey's speech – “100-Percent Wrong Club”
Class will discuss how baseball has changed over time
Teacher will demonstrate – how to compute slugging average
Total bases divided by at bats

**Day 8**

Class will discuss photograph from Library of Congress web site:
Cy Young photograph
Teacher will demonstrate how to compute a pitcher's Earned Run Average
ERA - Total number of earned runs (see "ER" above), multiplied by 9, divided by innings pitched
Class will divide into group of four
Distribute baseball player's cards and compute eight pitchers ERA

**Day 9**

Class will discuss the historical significant and sing “Take me Out to the Ball Game”
Teacher will review how to compute player's batting average and pitchers earned run average
Class will divide into group of four
Distribute baseball player's cards
Data Sheet – Students would change the batting average to a percent by moving the decimals to the right two places and then they would have the percentage of time a player is at bat

**Day 10**

Class will review and discuss photograph from Library of Congress web site;
*Jackie Robinson and Son (David)*
Class will review how to compute players' batting average, slugging average and pitchers earned run average
Class will discuss Jackie Robinson influence on society and today's sports
Class will write a paragraph on how to compute RBI, SLA and ERA
Class will write a paragraph on Jackie Robinson influence on baseball
Class will write a paragraph on Jackie Robinson affect on society

**Day 11**

Class will share their thoughts on their writings
Review of fractions, percents and decimals

**Extension**

Mathematics concepts:

Terms:  Mean, Medium and Mode  
Ratios:  Miles per hour  
Application Words problems that would determine a player RBI, SLA and ERA

**Evaluation**

Participation  
Observation  
Hand outs  Data Sheet, Letter Jackie Robinson, Letter Branch Rickey  
Writings  
Test
Works Cited

Film:


Newspaper:


Photograph:


Sheet Music: