Hey Batter, Batter
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How to play baseball – grade 10

Our unit plan focuses on how baseball is played – examining it from several viewpoints through research, mathematics, historical context, and physical education.
Objectives: Physical Education

116.56 (c) Knowledge and Skills (5) Physical activity and health. The students knows the implication and benefits from being involved in daily physical activity. (A) discuss training principles appropriate for enhancing flexibility, muscular strength and endurance, and cardiorespiratory

SWBAT understand strengthening key muscle groups to create more velocity and force in your bat speed.

EX: Building up your leg strength. Strong legs enable the abdominal and trunk to twist quickly, thus creating bat speed. Without a muscular base, you won't have momentum traveling from the legs into your abdominals. Do leg presses, squats and calf raises to promote strong and healthy legs.

116.56 (c) Knowledge and skills (2) Movement skills. The student applies movement concepts and principles to the learning and development of motor skills. (D) identify correctly the critical elements for successful performance within the context activity.

SWBAT understand that use of the weighted bat that 1 will increase the bat speed when batting

EX: Developing a routine in which the athlete swings a heavier or weighted bat during practice. Swinging the heavier bat at 20-30 times and then swing with a normal bat. The bat will feel significantly lighter and increase the power of the athletes swing

116.56 (c) Knowledge and skills (4) Physical activity and health. The student exhibits a physically active lifestyle that improves health and provides opportunities for enjoyment and challenge through team sports. (F) describe two training principles appropriate for enhancing flexibility, muscular strength and endurance, and cardiorespiratory.

SWBAT describe the importance of developing the strength of the grip of the bat and forearm muscles when batting.

EX: Your bat speed will be quicker. By getting more whip. Your whole body will be more relaxed. Your bat will be in a stronger position at contact. Wrist curls, reverse wrist curls will strengthen the fingers and the overall grip.
Objectives: Geometry

- **TEKS: (7)** Dimensionality and the geometry of location. The student understands that coordinate systems provide convenient and efficient ways of representing geometric figures and uses them accordingly. The student is expected to:
  - (A) use one- and two-dimensional coordinate systems to represent points, lines, rays, line segments, and figures;
  - (B) use slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons; and
  - (C) derive and use formulas involving length, slope, and midpoint.

- **SWBAT:**
  - Students will be able to use distance and midpoint formulas to calculate distances within paths on a baseball diamond
  - Students will be able to understand the various geometric topics (shapes, points, lines, angles) that exist in baseball
Objectives: English

- **TEKS: (21-23)**
  - (20) Research/Research Plan: Students ask open-ended research questions and develop a plan for answering them.
  - (21) Research/Gathering Sources. Students determine, locate, and explore the full range of relevant sources addressing a research question and systematically record the information they gather.
  - (22) Research/Synthesizing Information. Students clarify research questions and evaluate and synthesize collected information.

- **SWBAT:**
  - Ask open-ended research questions about baseball
  - Select a specific baseball research topic
  - Conduct reliable research about their baseball topic
Objectives: Spanish

- **TEKS 114.23:**
  - (2) Cultures. The student gains knowledge and understanding of other cultures. The student is expected to:
    - (A) use the language at the intermediate proficiency level to demonstrate an understanding of the practices (what people do) and how they are related to the perspectives (how people perceive things) of the cultures studied; and
    - (B) use the language at the intermediate proficiency level to demonstrate an understanding of the products (what people create) and how they are related to the perspectives (how people perceive things) of the cultures studied.
  - (3) Connections. The student uses the language to make connections with other subject areas and to acquire information. The student is expected to:
    - (A) use resources (that may include technology) in the language and cultures being studied at the intermediate proficiency level to gain access to information; and
    - (B) use the language at the intermediate proficiency level to obtain, reinforce, or expand knowledge of other subject areas.

- **SWBAT:**
  - The student will be able to determine the impact that Latinos have had on the history of baseball.
  - The student will be able to notice the Hispanic influence in baseball.
We developed our resource banks from the TEKS and searched databases and general websites to connect our theme to our specific topics and TEKS objectives.
Resource Bank: Physical Education

- Improving Batting Speed
  - [http://www.wikihow.com/Improve-Bat-Speed](http://www.wikihow.com/Improve-Bat-Speed)

- Grip

- Forearms Strength

- Increase Hip Torque With This Baseball Hitting Drill

- How To Improve Baseball Hitting Power with Just One Exercise
  - [http://youtu.be/49ID0uwq-D0](http://youtu.be/49ID0uwq-D0)
Resource Bank: Geometry

- Distance Formula
  - [http://www.purplemath.com/modules/distform.htm](http://www.purplemath.com/modules/distform.htm)

- Baseball and the Pythagorean Theorem
  - [http://www.geom.uiuc.edu/~demo5337/Group3/bball.html](http://www.geom.uiuc.edu/~demo5337/Group3/bball.html)

- Pythagorean Theorem of Baseball

- Geometry in Baseball
  - [http://www.slideshare.net/nickygisdabomb/geometry-in-baseball](http://www.slideshare.net/nickygisdabomb/geometry-in-baseball)

- Midpoint Formula
  - [http://www.purplemath.com/modules/midpoint.htm](http://www.purplemath.com/modules/midpoint.htm)
Resource Bank: English

- Baseball – The Basics

- Baseball – How to Play
  - [http://www.youtube.com/watch?v=0bKkGeROiPA](http://www.youtube.com/watch?v=0bKkGeROiPA)

- Research – Getting Started

- Research – Developing a Focus and In Depth Research
  - [http://badgerlink.net/files/bl/researchguide/index.html](http://badgerlink.net/files/bl/researchguide/index.html)

- Research – Preparing to Write and Writing the Paper
  - [http://www.ipl.org/div/aplus/step6.htm](http://www.ipl.org/div/aplus/step6.htm)
Resource Bank: Spanish

- Fan Perceptions of Latino Baseball Players and Their Influence on Overall Fan Satisfaction with Major League Baseball

- In Praise of Men Who Swing from the Heels
  - [Link](http://web.a.ebscohost.com/ehost/detail/detail?vid=1&sid=a6dee86b-a59f-4068-bb63-f46e5ee561aa%40sessionmgr4005&hid=4104&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=ulh&AN=43544218)

- The Top 10 Latinos in Baseball
  - [Link](http://web.a.ebscohost.com/ehost/detail/detail?vid=3&sid=a6dee86b-a59f-4068-bb63-f46e5ee561aa%40sessionmgr4005&hid=4104&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=ulh&AN=20500851)

- Look what they've done to my game!
  - [Link](http://web.a.ebscohost.com/ehost/detail/detail?sid=a6dee86b-a59f-4068-bb63-f46e5ee561aa%40sessionmgr4005&vid=6&hid=4104&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=lfh&AN=9505161609)

- Latinos have come a long way in baseball
  - [Link](http://m.mlb.com/news/article/14886934/)
We used our resource bank to accomplish unit objectives by using them to reinforce our topics and provide examples and definitions about how to play baseball, cultural information, and conducting research. Our resource banks also connect to different disciplines’ approach to teaching baseball.
Each subject emphasizes an aspect of baseball, noting how the game is played before delving into the specifics for the subject.

- **Physical Education**: Discuss how to play baseball; provide opportunities to play
- **Geometry**: Word problems explain and elaborate on how baseball is played, noting specific mathematical aspects of the game and field
- **English**: Provides a background of how to play baseball and provides examples of how to do general and baseball focused research
- **Spanish**: Provides a Hispanic cultural background that reinforces an aspect of how the game has evolved
Unit Benefits

- Provides opportunity for students to view a specific topic in several disciplines
  - Allows students to develop greater appreciation for baseball and stronger ability to relate to it
Technology's Role

- Assists in research
- Reinforce concepts
- Provides engaging and creative examples
- Relates to this generation