PLAYER POSITIONS

Description

Students learn the defensive and offensive positions on the field as well as the different areas of the field.

Objectives

Level 1
- Students will define area.
- Students will identify the formula for calculating area.

Level 2
- Students will estimate the area of a location (baseball field).
- Students will calculate area using the formula for area.
- Students will consider the importance of knowing the area by calculating time needed to mow the field.

Level 3
- With the area of the field as a consideration, students will produce a list of the physical abilities important for baseball players.

Discussion Questions

1. Identify a sport other than baseball and discuss how many players are on the field at one time. How many are playing offense? Defense?
2. Who is the most important player on a baseball team? Why?
3. What is the difference between a baseball field and a soccer field? Football field?
4. What physical abilities are important for baseball players?

Assessment Questions

1. How many defensive players are on the field?
   a. Answer: 9
2. Name the positions that stand near the following coordinates: (45, 45), (0, 0), (95, 15), (90, 240)
   a. Answer: Pitcher, catcher, First Baseman, Left Fielder
3. Which defensive player has the largest area to cover?
   a. Answer: Center fielder

Materials

- Cones (Bases)
- Whiffle Bat
- Ball

Set Up & Procedure

1. Watch Introduction to Player Positions video below:

    https://youtu.be/TJeOWxIwS14

2. Watch Player Position Characteristics video below:

    https://youtu.be/Q2_jIzvzW6I

3. Watch Player Position and X/Y Coordinates video below:

    https://youtu.be/9hr3zr3U0H0

4. Give each student Player Positions Worksheet, showing the positions on the field (Whiffle bat and ball and bases can be used to play a game of baseball while reviewing the various defensive positions)

5. Ask students to describe their experience watching or playing baseball.

6. Review the basic rules of baseball.

- Unlike most games, a running clock does not limit the length of a baseball game. The two competing teams play over a period of innings, which are subdivided into halves. Professional and college games are generally nine innings long.

- During the first half of each inning, the visiting team bats and attempts to score points, called runs, while the home team players take their respective defensive positions on the field. The defense's goal is to get the offensive team's players "out" in a variety of ways. After three outs are recorded, the teams switch – the offensive team moves to defense, and the defensive team moves to offense. The batting team sends one player at a time to the batter's box, next to home plate, to try and hit the ball.

7. The focus of the sport is on two players – the pitcher and the batter.

- The pitcher stands on a raised mound of dirt, called the pitcher's mound, which is 60 feet 6 inches from home plate in Major League Baseball. The batter stands on either side of the home base, called "home plate," holding a bat and facing the pitcher.

- The pitcher sets the game in motion by throwing the ball past the batter into the catcher's glove or into play when the batter strikes the ball with the bat. When the ball is put in play, the eight fielders try to catch it, field it, or throw out the batter, so he cannot get on base and ultimately score a point (a run). The batter's goal is to put the ball in play so that the eight fielders cannot catch the ball or throw it to another fielder to record an out. Students write the names of the various locations and areas on the field on the worksheet provided.
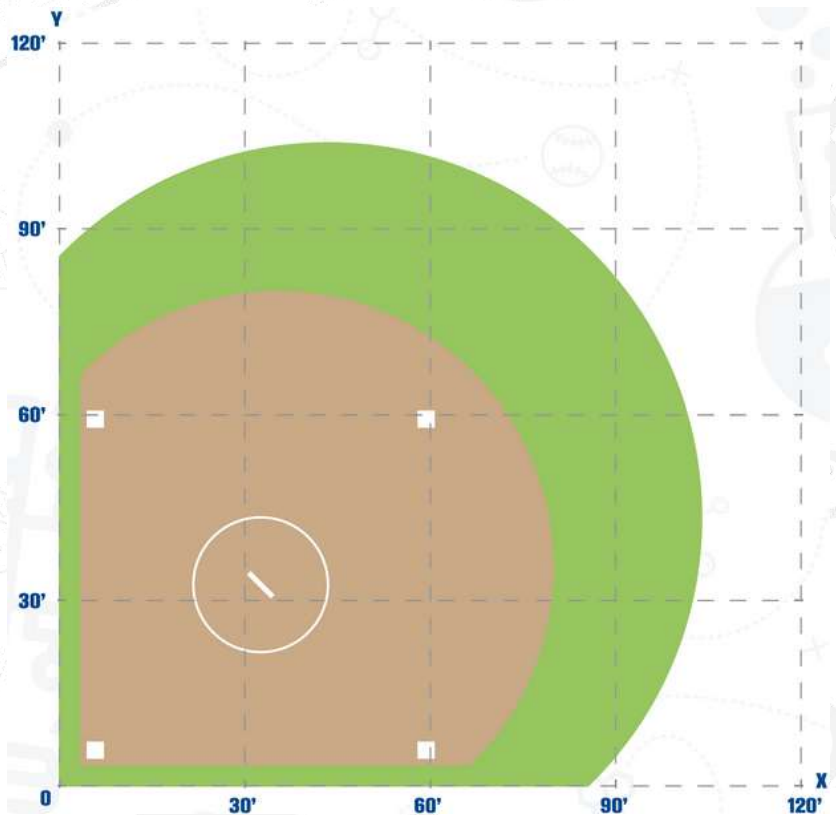
8.Students write the names of the ten player positions (nine defensive positions and one offensive position) on the worksheet provided.

9. Students indicate the (x, y) coordinates of each player's position using the grid provided on the worksheet provided.

1	P	Pitcher
2	C	Catcher
3	1B	First Baseman
4	2B	Second Baseman
5	3B	Third Baseman
6	SS	Shortstop
7	LF	Left Fielder
8	CF	Center Fielder
9	RF	Right Fielder

Unit Rate Activity

1. Ask students to estimate how large of an area needs to be covered on the field by each defensive player.
2. Ask students to estimate the area of the grass on the field (include outfield, infield, and foul area) in square feet. One way to approximate the area is with = 2 (formula to calculate the area of a circle) and taking ¼ of the result. In this case, = 395 (although the center field wall is not an arc) resulting in A = 489,918.5 / 4 = 122,280 sq. ft.
3. How long would it take the field maintenance crew to mow the lawn if they can mow 1,500 square feet per minute?
4. At a rate of 1,500 square feet per minute, they can mow 90,000 feet per hour (1,500 x 60). Therefore, it would take 122,280 / 90,000 = 1.36 hours or 1 hour and 22 minutes or 82 minutes to mow the entire grass on the field.

Additional Items For Consideration

- How many soccer fields, football fields, basketball courts or tennis courts fit inside of the ballpark?
  - Typical dimensions of a soccer field are: 105 meters x 68 meters =7,140 m^2
  - Typical dimensions of a football field are: 120 yards x 53.3 yards = 6,400 yds^2
  - Typical dimensions of a basketball court are: 94 feet x 50 feet = 4,700 ft^2
  - Typical dimensions of a tennis court are: 78 feet x 36 feet = 2,808 ft^2

Worksheet Answers

- Answers:
  - Pitcher (35,40), Catcher (0,0), First Baseman (95,15), Second Baseman (110,60), Third Baseman (30,100), Shortstop (60,110), Left Fielder (90,240), Center Fielder (250,250), Right Fielder (240,90)