

What Effect Does Wind have on a Baseball Game?

Grade Level: 6th to 8th; **Type:** Physics

Objective:

This project examines the relationship between wind velocity and direction and the distance a baseball travels.

Research Questions:

- How does the direction of the wind affect the distance you throw a baseball?
- How does the speed of the wind affect the distance you throw a baseball?

Most baseball games are played outdoors. Can the outcome of a baseball game be determined by wind velocity?



Materials:

- Baseball
- Multi-speed fan
- Open indoor area, such as a gymnasium

Experimental Procedure:

1. Mark a spot on one end of the room to indicate where you will stand to throw the baseball.
2. Stand on the spot and throw the ball toward the opposite end of the room.
3. Measure the distance the ball traveled.
4. Turn the fan on low and position it so that the air is behind the ball and traveling in the same direction as the throw.
5. Use an equal amount of force to throw the ball again and record the distance.
6. Repeat the throw with the fan on high.
7. Position the fan so that it is in front of the ball and blowing in the opposite direction of the throw.
8. Complete one throw with the fan on low and one throw with the fan on high.
9. Compare the distances that the ball traveled without the fan, with the fan blowing in the direction of the throw and with the fan blowing against the direction of the throw.
10. Compare the distances of the ball when the fan was set to low and to high.
11. Is there a relationship between the distance that the baseball traveled and air speed or direction?

Terms/Concepts: wind velocity; Does wind velocity and/or direction affect the travel distance of a thrown object?