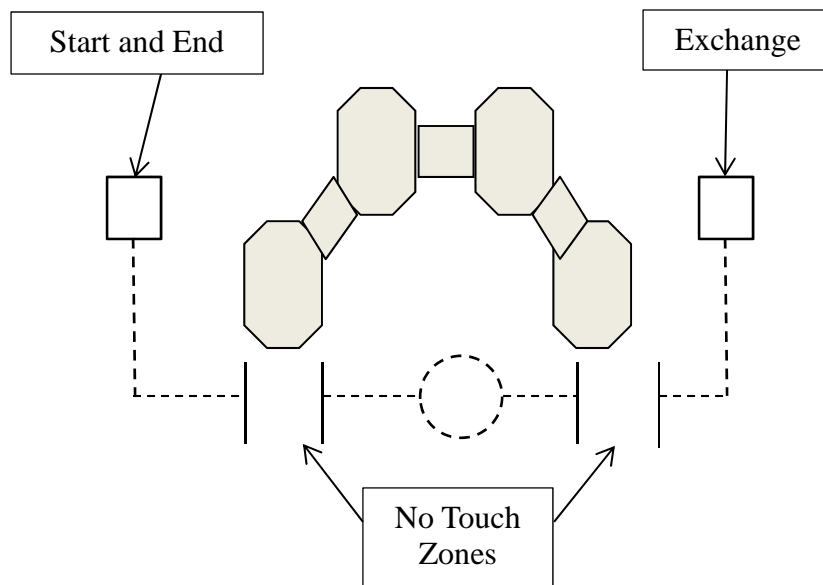


## Physics 1

### Broom Ball



#### Official Broom Ball Rules & Regulations from the USBBA:

- The object of the game is to navigate the course from start to finish in as little time as possible (avoiding time penalties!)
- Players must only touch the bowling ball WITH THE BRISTLES of the broom Using any other part of the broom is a 5 second time penalty!
- Bowling ball must start from rest in the Start box. Bowling ball must be brought to rest at the end in the same box.
- Any ball being touched in the “No Touch Zone” must be brought back to the outside of that “No Touch Zone” and must successfully navigate that zone before proceeding.
- The ball must complete ONE FULL circle around the garbage can obstacle.
- Minimum of 2 players per team:
  - Player 1 must move the ball from the Start box, through the course and completely stop the ball in the exchange zone.
  - Player 2 will receive the broom from player 1 and return the ball through the course to the End Zone.
  - If a 3rd player is available, they will take the broom from player 2, and move the ball back through the course and finish in the Exchange Zone. Time results of a 3 person team will be multiplied by 2/3 to get a net time.
- Penalties:
  - 2 seconds – Ball touches any wall, door, cabinet, or cabinet leg in the classroom
  - 5 seconds – Ball is touched by player using something other than the bristles of the broom

### **Discussion Questions:**

1. Describe the motion of the ball:

- As it begins moving from the Start box.
- As it moves through the no touch zone.
- As it moves round an obstacle.
- As it is returned to the Start box at the end of the race.

2. For each stage of the motion in #1, describe what you had to do to produce that motion.

- As it begins moving from the Start box.
- As it moves through the no touch zone.
- As it moves round an obstacle.
- As it is returned to the Start box at the end of the race.

3a. What three things are most challenging when it comes to handling the ball?

3b. How can a player overcome the difficulties mentioned in question 3a? (What strategies would you recommend to a teammate?)