

Do more expensive  
golf balls travel  
further than cheap  
golf balls?

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Question: Do more expensive golf balls travel further?

Hypothesis: If we hit more expensive golf balls then they go further in distance compared to cheaper golf balls.

Variables: ~ Independent: Type of Golf Balls  
~ Dependent: The distance of the golf balls  
~ Controlled: Weather, type of

golf club, golf tee, golf club, force on ball,  
and person hitting the ball.

Background research

Yes, everyone knows that some things are more expensive than others, because of quality, quantity, brand, and many other things. But why are some golf balls more expensive than others? That's because there are many different types of golf balls. Such as three pieced balls and two pieced balls. Originally golf balls were smooth and didn't have dimples in them. The reason they started making golf balls with dimples is because the dimples act as turbulators and propel the ball to rotate through the air and cause less drag. Balls that increase distance are made with two pieces: the synthetic core and the tough outer covering often times made with Surlyn, a very sturdy and durable material. These balls tend to hold up very well over time, and their relatively high density makes for a long-hitting ball; however, what you gain in distance you give up in spin and controllability. Balls that increase spin and controllability (although at the cost of sacrificing some distance) usually are made with three or more pieces. It comes down to manufacturing, construction and materials. You will notice most 3 piece balls will be in general more expensive than a 2 piece. the process to make a 3 piece ball is slightly more expensive than just a 2 piece which is basically a large core and a cover. also the less expensive balls will have a surlyn cover. Surlyn is a lot tougher and won't get scuffed up as easily as say a Urethane cover. Most high end 3 piece balls are made with a urethane(sp?) cover which is much softer and will bite or spin more. Also whether a ball has a 2 piece cover or a seamless cover also makes the ball a little more pricey. 2 piece cover is basically 2 halves glued together where a seamless cover is mold around a suspended core.

## Materials

1. golf balls
2. somewhere to measure the distance
3. driver golf club
4. experienced golfer

1. purchase an expensive set of golf balls (we used callaways)
2. purchase a cheap set of golf balls (we used wilson golf balls)
3. go somewhere where you can measure how far the golf balls have been hit
4. have experienced golfer hit both balls with the same amount of force
5. record distance of each golf ball
6. repeat steps 5 and 6 several times
7. compare the data from both types of golf balls

### Data Table and Conclusion

| Expensive Ball<br>distance in yards: Max | Cheap Ball distance in<br>yards: Max |
|------------------------------------------|--------------------------------------|
| 260                                      | 235                                  |
| 245                                      | 250                                  |
| 260                                      | 245                                  |
| 255                                      | 245                                  |
| 270                                      | 255                                  |
| 260                                      | 260                                  |
| <b>275</b>                               | 260                                  |
| 250                                      | <b>265</b>                           |
| 255                                      | 235                                  |
| 240                                      | 230                                  |
| 250                                      | 245                                  |
| 265                                      | 230                                  |

Many people believe that more expensive golf balls will travel further than cheap golf balls. Our hypothesis was that the more expensive golf balls will travel further than the cheaper ones. We used Callaway 2013 Hex Warbird golf balls for the expensive set and Wilson Sponge Bob golf balls for the cheap set. We tested our hypothesis and found out we were correct. The furthest hit expensive golf ball was 275 yards and the furthest hit cheap golf ball went 265 yards. Our experiment worked and went smoothly. In addition to our data, we observed that the more expensive golf balls went in a straighter line and traveled more accurate than the cheap balls.

## Ideas For Future Research

In future reference of doing this experiment I would go to a driving range with more precise measurements. I would try to hit the different golf balls with the same amount of force as possible. Make sure the wind and all weather variables are the same for each hit.

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