

The Flying Football

3-33 Mrs. Munoz Orion's Nebula

Question and Rationale

- Question: What soccer ball will travel farther when hit by a pulley?
- Rationale: This research will help coaches when training their soccer players.

Hypothesis

- Hypothesis: The futsal ball will not travel the farthest because it has foam, and the foam makes it more dense, which gives it less of a bounce.
- Independent Variable: Type of ball used
- Dependent Variable: Distance traveled

Materials

- Senda Beach Soccer Ball, Size 4, Black/white
- Baden Low Bounce Futsal Practice Ball, Size 4, Black/Yellow
- Adidas training ball, Size 4, Black/White
- Pulley
- Home Depot meter Stick

Procedure

1. Get all soccer balls, meter stick, pulley, and chart.
2. Go to the open field and bring all materials.
3. Measure the distance of the field with the meter stick.
4. Place the futsal ball in the pulley
5. Draw back the futsal ball in a 90 degree angle.
6. Release the ball.
7. Measure the distance traveled and write it down in the chart.
8. Repeat with the black soccer ball and training ball.
9. Repeat all steps twenty times.

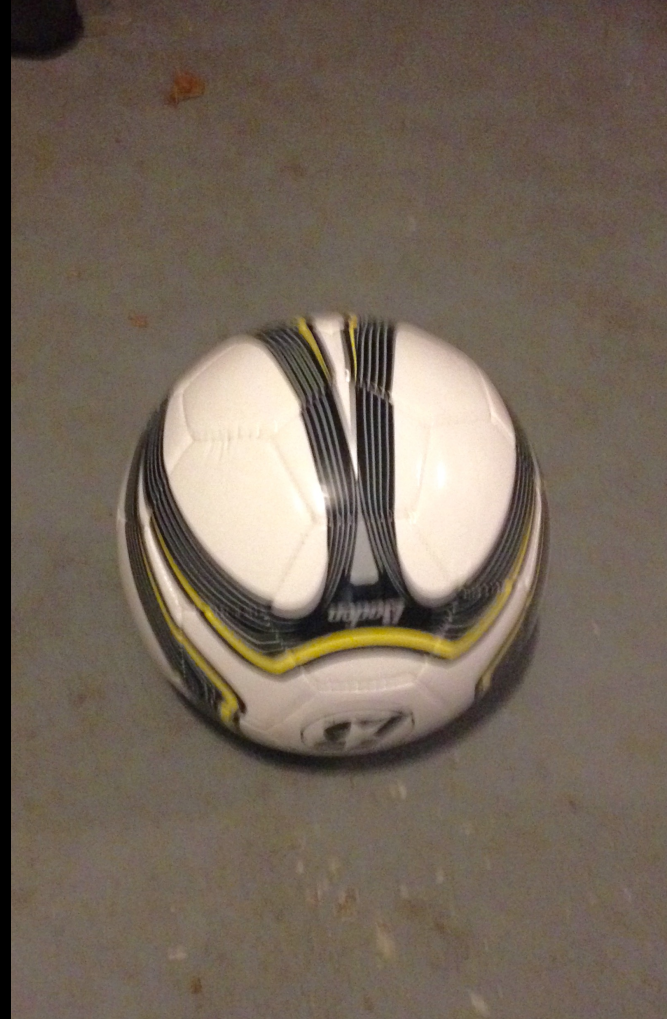
Photo 1

Z.Gord, Z.Gord's house



Photo 2

Z.Gord, Z.Gord's house



Data

Futsal Soccer Ball

distance traveled(in

Attempt number

meters)

1	11.5824
2	12.8016
3	12.1920
4	10.6680
5	11.2776
6	10.6680
7	11.2776
8	12.8016
9	11.2776
10	11.5824
11	11.5824
12	9.144
13	11.8872
14	10.0584
15	12.1920
16	12.8016
17	8.5344
18	9.144
19	12.8016
20	9.4480

The average is 11.18612

The total distance traveled is 223.7224

Data

Training ball

Attemot Number	distance traveled(in meters)
1	8.2296
2	11.8872
3	14.3256
4	14.3256
5	9.144
6	11.2776
7	14.3256
8	11.2776
9	10.6880
10	11.8872
11	15.2400
12	12.4968
13	10.0584
14	13.7160
15	15.5448
16	13.1064
17	13.1064
18	12.8016
19	13.1064
20	11.5824

The average is 12.40536 The total distance traveled is 248.1072

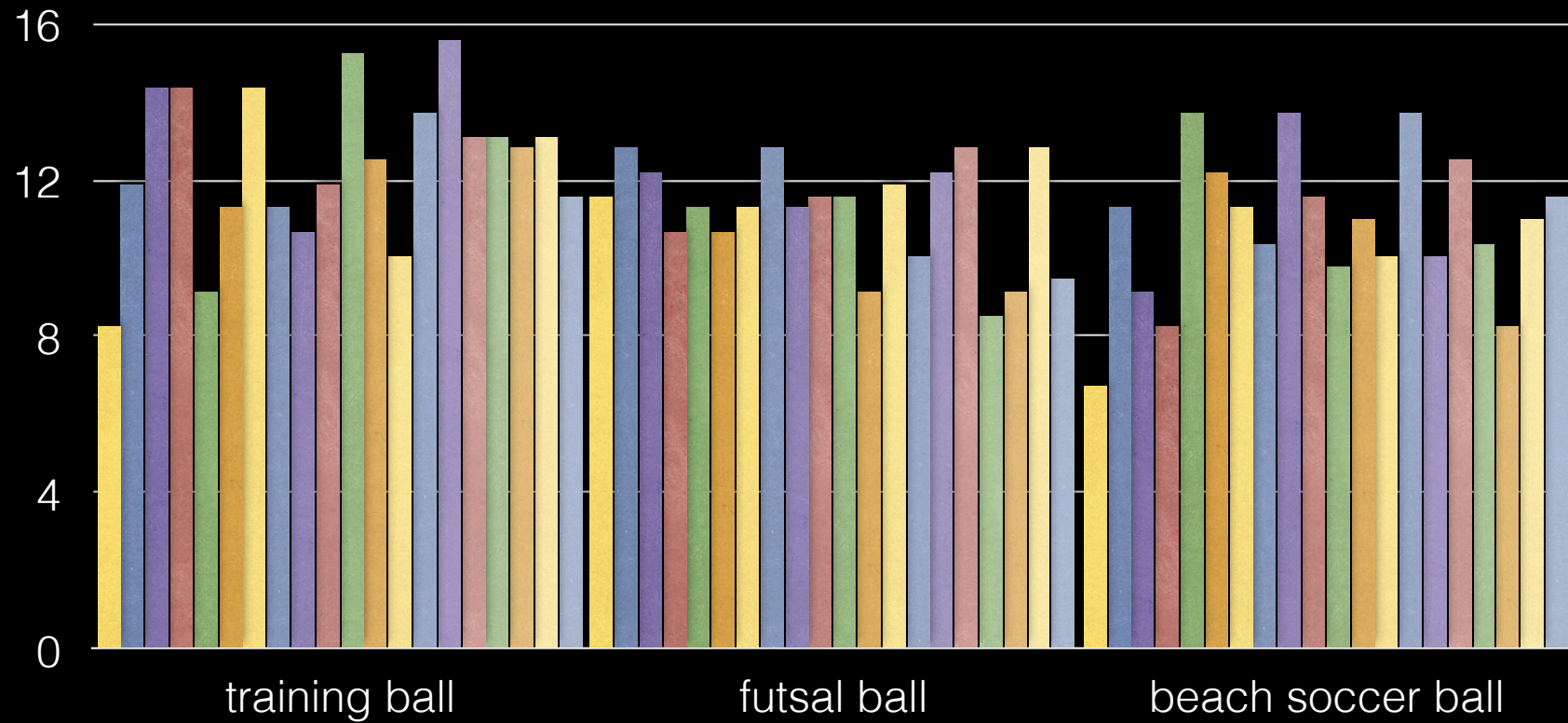
Data

Beach soccer ball

attempt number	distance traveled(in meters)
1	6.7056
2	11.2776
3	9.144
4	8.2296
5	13.7160
6	12.1920
7	11.2776
8	10.3632
9	13.7160
10	11.5824
11	9.7536
12	10.9728
13	10.0584
14	13.7160
15	10.0584
16	12.4968
17	10.3632
18	8.2296
19	10.9728
20	11.5824

The average is 10.8204 meters. The total distance traveled is 216.4080

Graph



Results

- My results show the beach soccer ball went the least farthest. It's average was 10.8204 meters, while the futsal ball's average was 11.18612 and the training ball's average was 12.40536.

Conclusion

- My hypothesis was that a futsal ball will not travel the farthest. My conclusion is that my hypothesis was not correct. My evidence is that the beach soccer ball averaged a distance of 10.8204 meters, while the futsal ball traveled 11.18612, and the training ball traveled 12.40536. Also my evidence my hypothesis wasn't correct is in the total distance traveled. The futsal ball traveled a total of 223.7224 meters, while the training ball traveled 248.1072 meters, and the beach soccer ball traveled only a total distance of 216.4080. The reason the beach soccer ball didn't travel as far is that it has a soft outer casing of natural latex, which gives it more of a density. The chamber was also latex, exactly like the training ball. However the futsal ball's chamber was filled with foam, which should have made the futsal more dense than the beach soccer ball. However the futsal ball is smaller than the beach ball by just the tiniest bit which gives the futsal ball less density than the beach soccer ball. The conclusion is that my hypothesis was incorrect.

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