



Curiosity Guide #610

Bowling Science

Accompanies Curious Crew, Season 6, Episode 10 (#610)

Heavy or Light

Investigation #8

Description

Which is better: a heavy or a lightweight bowling ball?

Materials

- Heavy bowling ball
- Lighter bowling ball

Procedure

- 1) Predict if the results will be better with a heavy bowling ball or a lighter one. Will you be able to knock more pins down with one over the other?
- 2) Try bowling with a heavy ball.
- 3) Record the number of pins hit.
- 4) Try bowling with a lighter ball.
- 5) How did the results compare?

My Results

Explanation

Most people assume that a heavier ball or one that is traveling with a lot of speed will be more successful, especially against the collective weight of 35 pounds of pins. However, even a well-placed lighter ball can have great results. As long as there is enough momentum in the ball, it can transfer the energy into the pins and knock them over. Selecting a ball that the bowler can comfortably swing and release is the best way to go in order to take full advantage of gravitational energy and the pendulum swing.

Something to think about: Selecting a ball that you are comfortable lifting can really improve your game, so don't worry about choosing the heaviest ball. Occasionally, when you bowl, the ball goes right down the middle of the lane, splitting the pins and leaving the outside pins standing. Picking up that 7 -10 split is really difficult because if you aim to one side to try to knock one pin sideways toward the other, the ball often falls in the gutter. Some bowlers try to increase the momentum on the ball in hopes of knocking the pin back into the pit so that the pin has enough energy to ricochet forward and knock down the other pin. Wow! That was an amazing spare!

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