



Curiosity Guide #610

Bowling Science

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

Pin Construction

Investigation #4

Description

What do you think a bowling pin is made of? Why? Let's find out!

Materials

- Bowling pin
- A friend

Procedure

- 1) Ask a friend what they think the pin is made of.
- 2) Look at the bottom of the pin for a clue.
- 3) Why might there be a hole in the bottom of the pin?
- 4) Try leaning the pin over.
- 5) How far must the pin tip before it falls over?

My Results

Explanation

The core of the pin is hard wood. Sometimes this inner hard wood is visible when you look at the bottom of the pin. The surface is covered in plastic, and then the center is hollowed out. The hollow center makes the pins bouncier when they are struck. The shape and weight of the pins make them fall over when tipped to a certain angle. This is because the center of gravity on the pin is just under where it usually gets struck by the ball. The average pin weighs about $3 \frac{1}{2}$ pounds, much less than a bowling ball.

Learn more: Knocking down the pins requires good ball placement. The side by side pins are set up just a little closer than the width of the bowling ball. This set-up means that if you hit the ball straight on, the pins will react by going sideways instead of back into each other. Therefore, hitting the headpin often leaves a split, with the outside pins still standing. In the ideal strike, the ball only hits four pins, which knock down the other six. So, try to aim a little off to the right of the head pin for a right-handed bowler and off to the left for a left-handed bowler. Great shot!

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