



## Curiosity Guide #610

### Bowling Science

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

#### Bowling Ball Cross Section

Investigation #1

#### Description

What's inside a bowling ball? Find out!

#### Materials

- Dissected bowling ball, either an actual cross section or a photograph
- A friend

#### Procedure

- 1) Ask a friend to predict what the center of a bowling ball might look like.
- 2) Show your friend a picture or an actual cross section of a ball.
- 3) Talk about why the center of a bowling ball would look that way.

#### My Results

## Explanation

The surface of good-quality bowling balls is very porous. This means that the surface acts like a snow tire, creating a lot of friction with the lane to improve the ball's traction on the oiled surface of the lane.

The core of a high-end bowling ball is intentionally asymmetrical so that while the ball is spinning, it is trying to find equilibrium. The ball is designed to be purposely unstable. As a result, the ball flares, which means that the ball continues to rotate to a fresh surface of the ball that tries to grip the floor. This prevents the ball from skidding on the same oil-streaked part of the ball, so the ball can grip the dry floor and hook from the ball's rotation. Older bowling balls were designed differently and could roll straight over the same spot on the ball, picking up additional floor oil, reducing the ball's grip and its likelihood of proper hooking.

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