Curiosity Guide #401
Center of Gravity

Accompanies Curious Crew, Season 4, Episode 1 (#401)

Pick Up or Fall Down

Investigation #4

Description

Picking a toy up from the floor is easy, right? Are you sure?

Materials

- Friend
- Toy
- Wall

Procedure

1. Have your friend stand with heels against the wall.
2. Place the toy several feet in front of your friend.
3. Challenge the friend to bend over, without bending the knees, and pick up the toy.
4. Is this action difficult? Why?

My Results

Explanation

The center of gravity can be thought about as the point at which all the weight of an object is concentrated, and where the point of gravity is acting. A person's center of gravity is near his or her belly. As your friend bends over to pick up the toy, the center of gravity moves too far over the feet, causing your friend to begin to fall. To be stable, the center of gravity needs to be supported.

Think about this: Staying balanced is possible if we can keep our center of gravity centered above our feet. What happens when you lean over? Well, your head is one of the heaviest parts of your body. Leaning over changes where the center of gravity is and creates more torque, or turning force, at your ankles. If you lean too much, you'll topple right over! To avoid that, you'll have to move another part of your body, like your arm, to counter-balance the movement of your head when you lean.

Parents and Educators: use #CuriousCrew #CuriosityGuide to share what your Curious Crew learned!

WKAR

Curious Crew is a production of Michigan State University.
Learn more at WKAR.org.