



## Curiosity Guide #401

### Center of Gravity

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

#### Sticky Center

Investigation #2

#### Description

Let gravity help you find the center of an object with your eyes closed!

#### Materials

- Meter stick

#### Procedure

1. Balance the meter stick on the sides of your index fingers so that one finger is near each end of the stick.
2. Close your eyes.
3. Slowly slide your index fingers toward the center of the stick.
4. Stop when your fingers meet.
5. Could you find the center? How do you think this action works?

#### My Results

## Explanation

Did you notice that when you begin to slide your fingers together, one finger slides more easily? This is because this finger is holding less weight than the other finger, which is closer to the center of gravity. Whichever finger is closer to the center holds more weight and slides less, so one finger will move more easily, then the other finger will move more easily, and so on. When your fingers make it to the center, they each hold the same amount of weight, and that point is the center of gravity. The center of gravity is often the center of an object's length, especially if the object has a similar size and shape from one end to the other.

**Investigate further:** Every object is made of mass, and the center of an object is the point at which gravity acts on it. That point is called the center of mass. We can find the center of mass by hanging a plumb bob from different points of a shape and seeing where those lines intersect. The lower the center of gravity is, the more stable the object is. Think about a race car versus a tall bookcase. Which one is likely to be more stable? **Hints:** Which one has a lower center of gravity? Which one would be more easily pushed over?

A race car has a large base and low center of gravity, so the car is much more stable than a tall bookcase, which has a narrow base and could be pushed over easily.

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



*Curious Crew is a production of Michigan State University.*

*Learn more at [WKAR.org](http://WKAR.org).*

*© MSU Board of Trustees. All rights reserved.*