



EXPERIMENT: CAN DO

What do you think will happen when you try and balance a soda can on its edge? Will it make a difference how much liquid is inside? Write your hypothesis (best guess) below.

HYPOTHESIS: _____

Step 1



Take a soda can that is full (of soda or water) and try and balance it on its edge. What happened?

Step 2



This time have the soda can only about 1/3 of the way full (3.5 oz or 100 ml), and try it again. What happened?

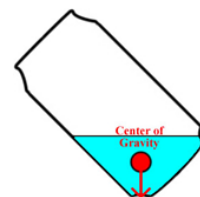
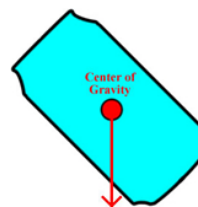
Conclusion

What is your conclusion on why the outcome was different in step 2 than step 1?

So What Happened?

How does it work?

When we balance an object, we are finding its balance point, or center of gravity. When the soda can is full, notice where the center of gravity is pushing down. Because the center of gravity is not over the center of where we are trying to balance the can, the can tips over.



When we lower the amount of liquid in the can, we also lower and move the center of gravity. Now the center of gravity is directly over where we are trying to balance the can.



This is the same principle as used on an adjustable teeter totter. If you have an adult on one side and a child on the other, the center of gravity will be closer to the adult.

Regarding this topic, in our online curriculum, we also cover force, mass, acceleration, vectors, and direction of force.

For the accompanying video, additional experiments, and to see our curricula offerings, go to: