

The following sentences are all examples of Newton's First Law that state, "An object at rest will remain at rest and an object in motion will remain in motion, unless acted upon by an outside force."

- To get ketchup to come out of the bottle, you turn it upside down and quickly shake it downward and then suddenly stop.
- If you are going down in a fast elevator and come to a sudden stop, blood will rush from your head to your feet.
- If you are riding a skateboard and hit a curb, which stops the motion of the board, you will fly forward.

For this activity, imagine that you have a friend who does not believe in Newton's First Law and asks you to prove it. Design an experiment that will show your friend what inertia is, and how Newton's First Law is true. Since you will not be actually conducting the experiment, you can use any materials in your experiment that will demonstrate the law.

Materials you will use:	
Procedure you will follow:	

Draw a diagram of your experiment below:
Conclusion:
How did your experiment demonstrate Newton's First Law of inertia? Use the words mass, inertia, force, and friction in your explanation.
Your friend finally agrees that Newton's First Law is true, but he is still slightly confused. He states that inertia depends on an objects speed, so a moving object has more inertia than a resting object How would you demonstrate to him that the amount of inertia of an object depends on its mass not its speed?