

Inertia

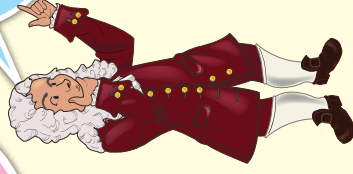
Do you know why the basket of apples does not move when I pull the table cloth away very fast?



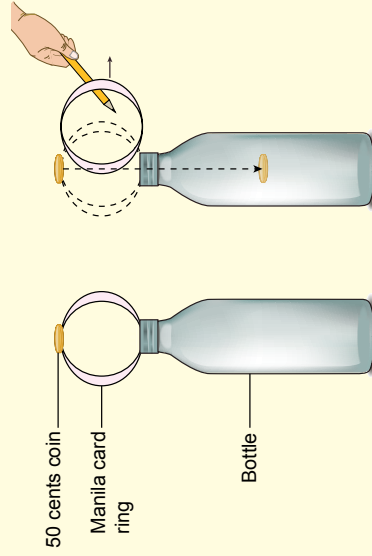
Do you know the reason why the apples continue to move forward when the trolley is stopped suddenly?



Inertia of an object is its natural tendency to resist any change to its original state, whether it is at rest or motion. The bigger the mass of an object, the bigger is its inertia.



Fun with Inertia

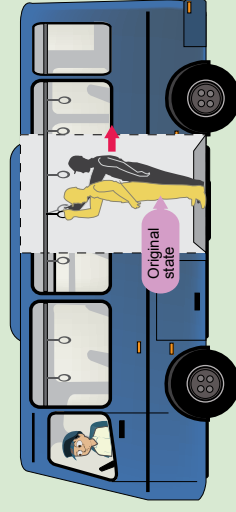


The diagram shows a 50 cents coin placed on top of a manila card ring. The manila card ring is placed on top of the mouth of a bottle. When the manila card is given a fast pull horizontally, the 50 cents coin drops into the bottle. Can you use the concept of inertia to explain the situation?

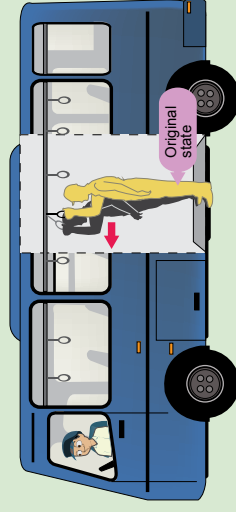
Answer:

The inertia of the 50 cents coin prevents it from moving together with the manila card that is being pulled. The gravitational force pulls the coin into the bottle.

The Effect of Inertia in Everyday Life



When the bus moves forward suddenly, the inertia of the passenger causes him to remain stationary. As a result, the passenger falls backward.



When the bus stops suddenly, the inertia of the passenger causes him to remain in the state of motion. As a result, the passenger falls forward.