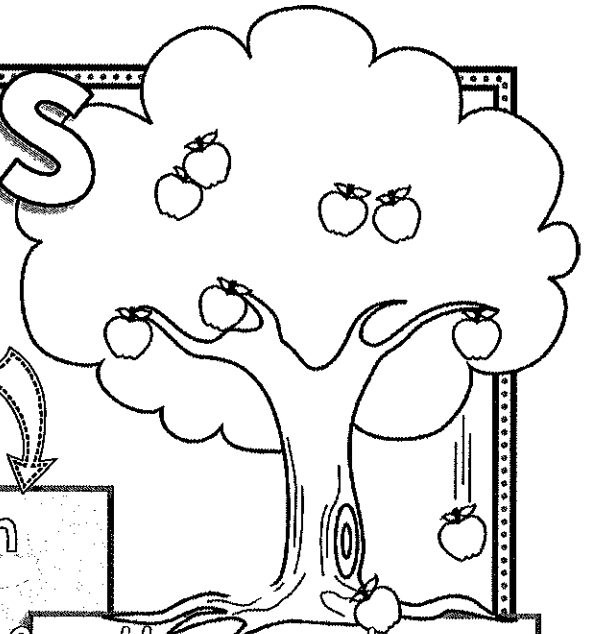


Newton's Laws

AKA The Law of

INERTIA



Isaac Newton was a physicist and mathematician. He was born in 1642 in England. He is known for his work on gravity and optics. Newton invented calculus in order to solve Physics problems.

1st Law of Motion

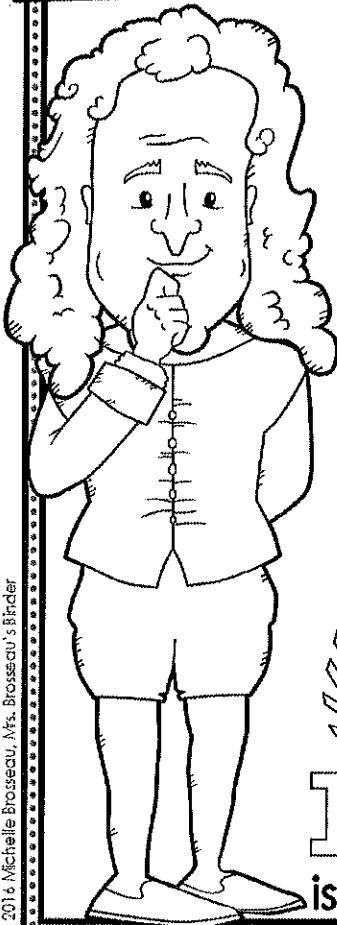
In other words...

2nd Law of Motion

In other words...

3rd Law of Motion

In other words...



INERTIA

is an object's resistance to a change in its motion.

Name: _____

Newton's

1st Law

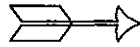
The Law of Inertia

net force:

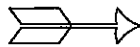


If the net external force on an object is zero, the object's velocity will remain unchanged.

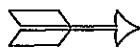
Implications



A non-zero net force will change the velocity.



A net force is not required to maintain the velocity.



External forces change the motion, not internal forces.

True or False?

If an object is stationary, it must have no external forces acting on it.

TRUE
FALSE

If you throw a ball in space the ball will keep going in the same direction at the same speed.

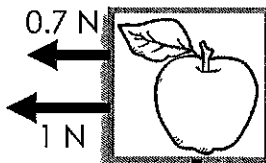
TRUE
FALSE

While sitting in a moving bus you throw an apple up into the air. The apple will land back in your hand.

TRUE
FALSE

A bus accelerates forward. If an apple were on the floor of the bus it would move forward.

TRUE
FALSE



Draw additional forces so the apple has a net force of 0 N.

Buckle up!

If you are riding in a car and the speed suddenly decreases...



No seatbelt



With seatbelt

Name: _____