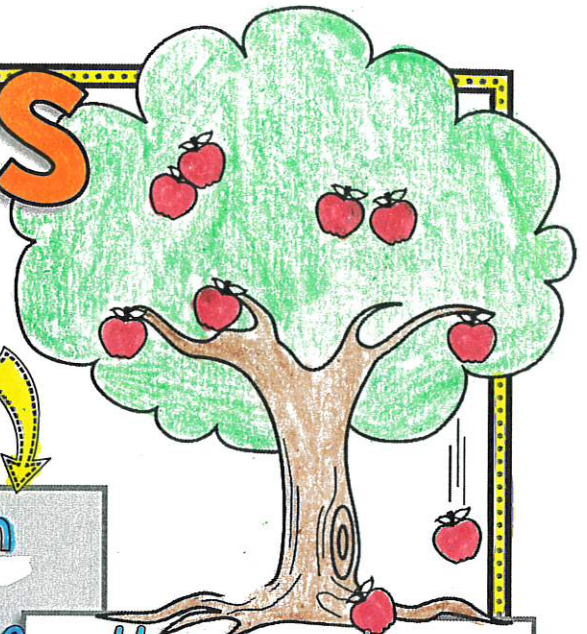


# Newton's Laws

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

An object remains at rest or continues to move at a constant velocity unless acted upon by an external net force.

*In other words...*

An unbalanced force is needed to change the velocity of an object.

### 2nd Law of Motion

Acceleration depends on the object's mass and on the net force acting on the object.

*In other words...*

$F_{net} = mass \times acceleration$ .  
A greater force increases acceleration, a greater mass decreases acceleration.

### 3rd Law of Motion

If one object exerts a force on another object then the 2nd object exerts a force of equal strength in the opposite direction.

*In other words...*

For every action force there is an equal and opposite reaction force.

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

