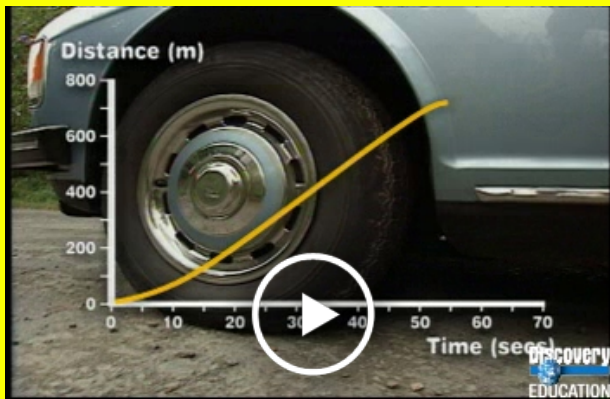


# Force and Motion



**Motion:** A change in position compared to a place or an object that is not moving. The place or object that is not moving is called the frame of reference.

**Force:** A force is a push or a pull on an object. A force happens when two objects interact that is, when one object does something to the other object. When the interaction stops, the force stops, too.

## Sir Isaac Newton's Laws of motion

In his first law, Newton explained that the motion of an object will not change unless a force pushes or pulls on the object. In his second law, Newton showed that a strong force makes an object move faster than a weak force acting on the same object.

In Newton's third law, he said that when ever a force pushes an object, the object pushes back with an equal and opposite force



## speed

The rate at which an object moves through time is known as speed. Speed can be measured in a variety of ways, such as kilometers per hour



## Potential and Kinetic Energy

Each of these forms of energy can be described as either potential energy or kinetic energy.

Potential energy is stored energy. An object with potential energy has the ability, or potential, to move. Potential energy comes from the position or the shape of an object. For example, potential energy is stored in a rock perched on a cliff and in an arrow stretched back on a bowstring. If the cliff crumbles under the rock, the rock falls. If the string is let go, it moves forward and pushes the arrow through the air.

### Work cited

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