

# Motion in Review

Newton's Toy Box Activity 1

*force, velocity, inertia, Newton's 1st law*

# What is a force?

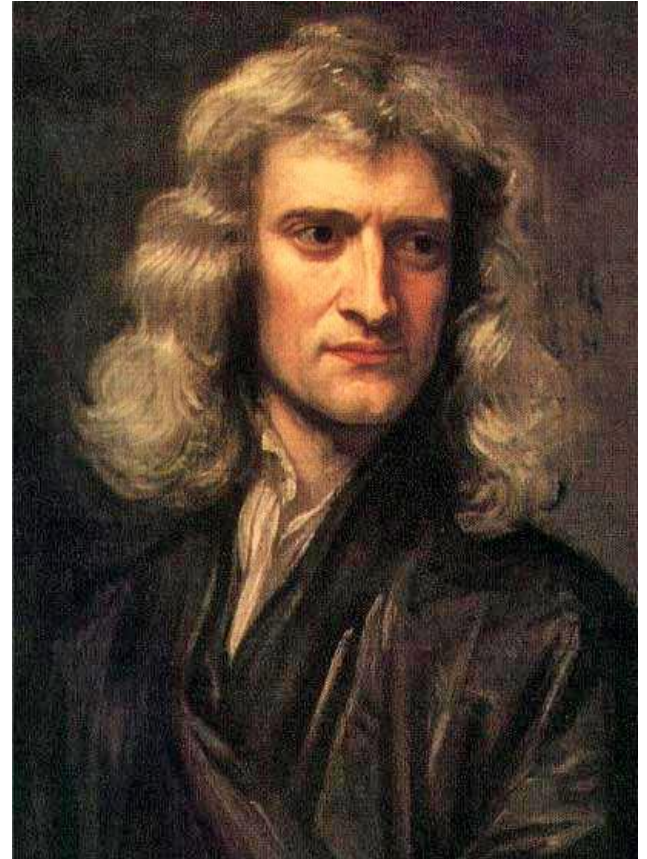
A **force** is a push or a pull.

Some examples of forces are gravity, friction, electricity, and magnetism.

Forces can cause changes in an object's speed or direction.

# Sir Isaac Newton

- 1642-1727
- English physicist and mathematician
- Described the principles that explain how things move on Earth's surface and in space (Newton's Laws)



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# Velocity

**Velocity** is speed in a particular direction.

When an object's speed increases or decreases, its velocity changes.

When an object's direction changes, its velocity changes.

# Is velocity changing?

- A car speeds up on a straight road
- A bike slows down on a curvy road
- A satellite orbits Earth at 17,500 mph

## Is velocity changing?

- A car speeds up on a straight road-YES
- A bike slows down on a curvy road-YES
- A satellite orbits Earth at 17,500 mph-YES

# Newton's First Law of Motion (Law of Inertia)

An object will remain at rest or in uniform motion unless acted on by an unbalanced external force.

**inertia**-an object's tendency to remain at rest or in motion

*A thing won't move or will continue moving the same way until it is acted on by an additional force.*