

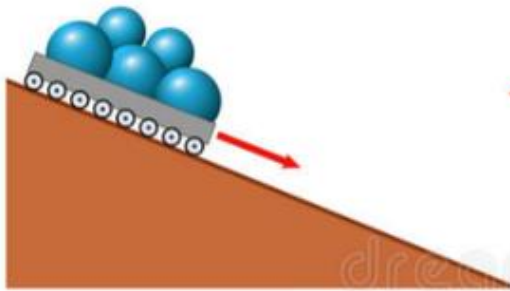
Inertia

the property of an object that resists changes in its motion

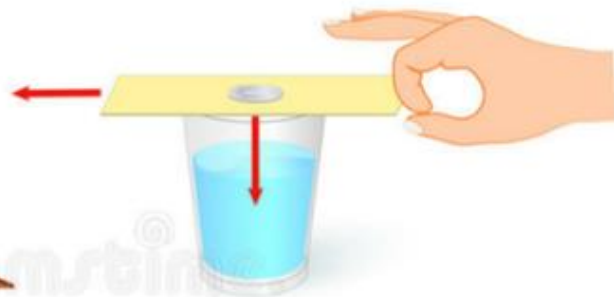
an object at rest tends to stay at rest

an object in motion tends to keep moving at a constant speed in a straight line

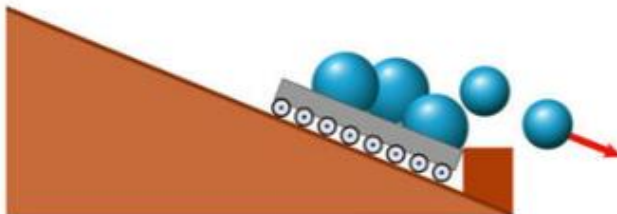
INERTIA



The tendency preserve its state of motion



The tendency of an object to stay at rest



INERTIA

- All bodies with mass possess a property called inertia
- The inertia of an object is the reluctance of the object to change its state of rest, or if it is moving
- Consistent with Newton's first law



Mass and Inertia

- Chemists like to define mass as the amount of "stuff" or "matter" a substance has.
- Physicists define **mass** as **inertia**, which is the ability of a body to resist acceleration by a net force.
- What is the relationship between mass and inertia?
- **Inertia** is the natural tendency of an object to remain at rest in motion at a constant speed along a straight line.
- The **mass** of an object is a quantitative measure of inertia.
- Measured in kilograms (kg)