

# Inertia Equals Gravity

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## Abstract

Despite the success of General Relativity in depicting gravity, inertia--an equivalent force--continues to defy explanation. Even its status as a force is open to question since its source has never been determined. Starting from the assumption that gravity and inertia are truly equal forces, a train of syllogistic reasoning shows that gravity, centrifugal force, and inertia all have the same nature. The interrelationship of these forces within a rotating frame of reference demonstrates their oneness, and establishes inertia as the reacting force in Newton's Third Law. The same source is deduced for both gravity and inertia in a simple and novel way without reference to relativistic space-time or Mach's Principle.

This essay is directed at the interested layman, but the issues it grapples with belong to everyone.

**Keywords:** centrifugal, equivalence, Higgs, motion, force, Third Law of Motion

**Subjects:** [Specific Sciences: Physics: Classical Physics](#)  
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