

# Download Study Guide Universal Gravitation

## Answer

Today, Newton's law of universal gravitation is a widely accepted theory. It guides the efforts of scientists in their study of planetary orbits. Did you know that mass and weight are not the same? This lesson describes the difference between the two as well as the effect of gravity on weight. Newton's law of universal gravitation states that every particle attracts every other particle in the universe with a force which is directly proportional to the product of their masses and inversely proportional to the square of the distance between their centers. Gravity (from Latin *gravitas*, meaning 'weight'), or gravitation, is a natural phenomenon by which all things with mass or energy—including planets, stars, galaxies, and even light—are brought toward (or gravitate toward) one another.