complex, and the equations are intractable unless the matter distribution is highly uniform (a homogeneous universe) or symmetrical (e.g. a star, which is spherical symmetrical approximately). When the departures from Newtonian predictions are negligible as they almost always are in the solar system, Newtonian theory is used. Newtonian theory is an approximation, but a very good one. Everywhere in the solar system it is accurate to 1 part in 10^6 or greater. Hence the simplicity of Newtonian theory makes it more widely used in fact than general relativity.

We reserve general relativity for explaining black holes, the universe but not everything.

Evidence in favour of general relativity includes that it explains the advance of Mercury's orbit (a calculation carried out by Einstein himself), and predicts the gravitational redshift (verified by Rebka & Pound), the time delay of signals reflected from planets passing behind the Sun to return to Earth, which has been observed, and the bending of light signals passing close to the Sun (seen first by Eddington and verified more recently for Jupiter). Other tests include testing of the equality of gravitational and inertial mass, now verified to one part in 10^{11}.