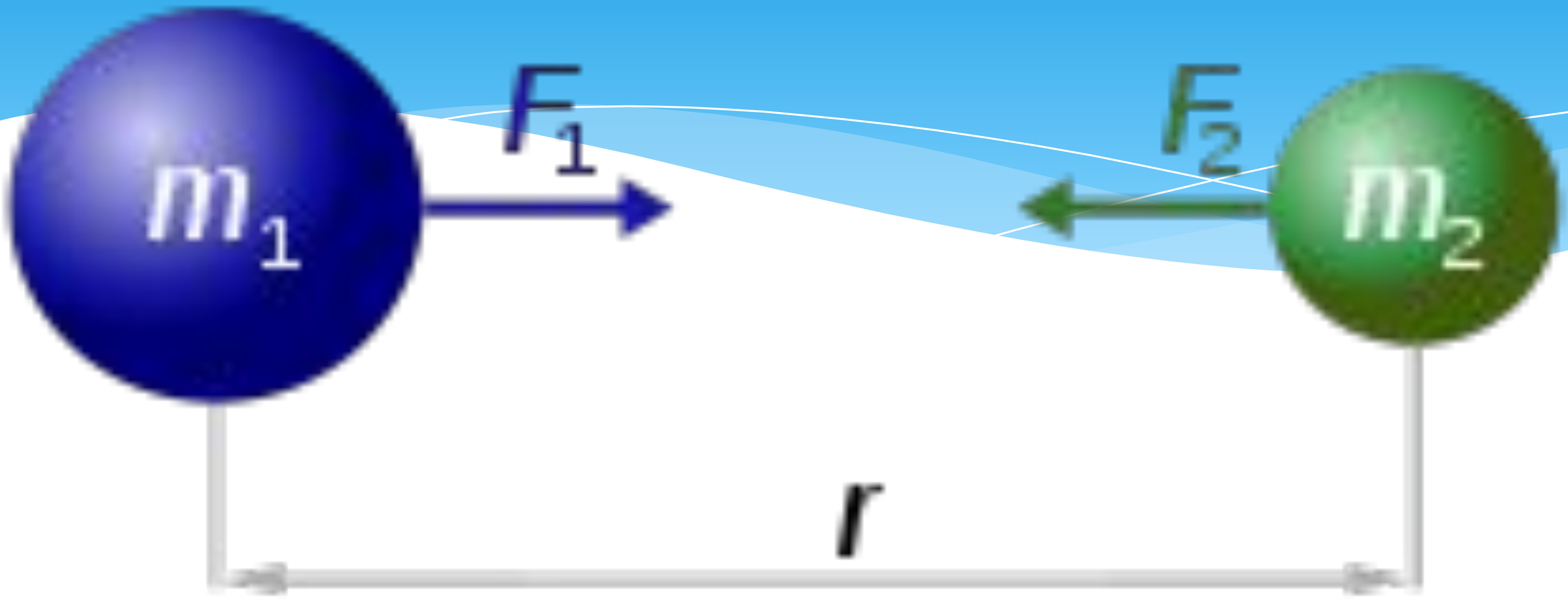
Gravitation

The term "gravity" is usually used to denote the force with which the Earth attracts bodies. The term "gravitation" is used for denoting the force of attraction which every particle of matter in the universe has for every other particle. Thus, "gravity" refers to the attraction of the earth for bodies; "gravitation" refers to the attraction of any body in the universe for any other body. But some authors use the term "gravitation" for both kinds of attraction.

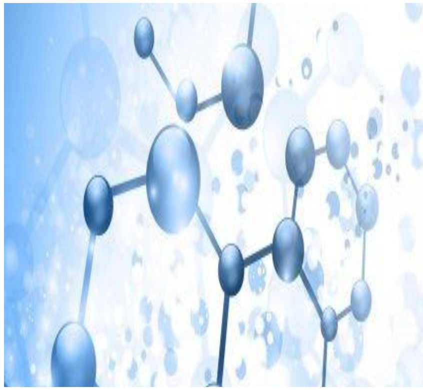
- **For example, in one of the books on physics we may read, "The Law of Gravitation was the first of the great universal laws to be developed ”. It was proposed by Sir Isaac Newton in 1686, while observing things around him, to account for the fall of the apple and motion of the Moon. He realized that objects can be in one place without moving. He called this phenomenon inertia.**

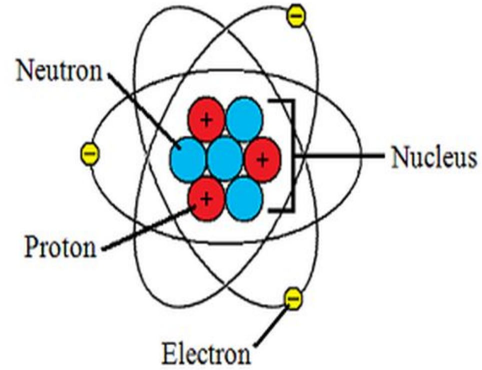
- The force of gravity is the attraction of one object toward another. It is determined by the mass of the two objects and the distance between them. The Law of Universal Gravitation is true everywhere and in all cases, not only on Earth, but also in space.
- Many experiments have been successfully performed to verify the Law of Gravitation and many observations vouch for its validity. The discovery of the Laws of Gravitation had a strong influence on scientific thinking for centuries.

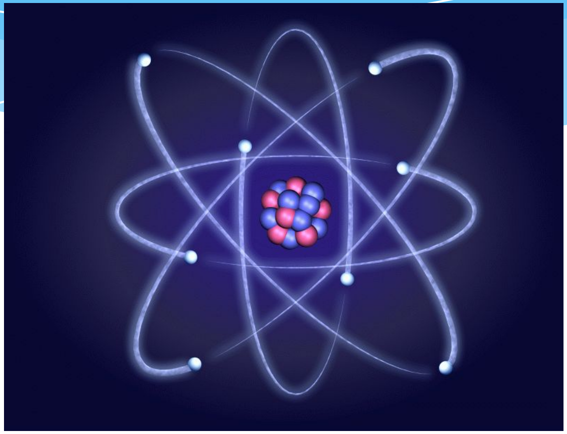


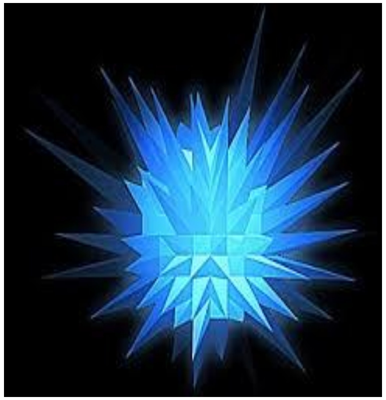
$$F_1 = F_2 = G\frac{m_1 \times m_2}{r^2}$$

- atom, characteristics, chemist, electron, element, form, gas, gaseous, group, mass, molecule, structure, physics, philosophy, proton, reality, physics, crystal.









- Motion due to gravitation
- Gravitation as a limit to uniform motion
- • Gravitation in the sky
- • Gravitation on Earth
- • Properties of gravitation:
- • The gravitational potential
- • The shape of the Earth
- • Dynamics – how do things move invarious dimensions?
- • The Moon
- • Orbits – conic sections and more
- • Tides
- • Can light fall?
- • Mass: inertial and gravitational
- • Curiosities and fun challenges about gravitation
- • Summary on gravitation

- air angle amount call change charge common compound consist of con'vert define definite definition de'gree example exist fill flow, flowing iron keep (kept, kept) kind
- liquid matter to measure measure to move oil to occupy particle possible resist shape space solid state steam stone substance thick thin viscosity volume zero