$$F_g = \frac{Gm_1m_2}{r^2}$$

G: Gravitational constant (6.67×10^{-11} Nxm^2/kg^2)

Law of Gravitation – Worksheet

FOR SCIENTIFIC NOTATION, WRITE YOUR ANSWER IN THE FOLLOWING FORMAT:
2.3×10^{-3} = 2.3EXP-3

1. Two subway trains, each of mass 4.0×10^5 kg, are located with their centers of mass 8.0 m apart. What gravitational force exists between them?

2. An 80 kg boy and a 60 kg girl are 2 meters apart. What is the gravitational force of attraction between them?

3. What is the gravitational force of attraction between two 1 000.0 kg automobiles which are 5.00 m apart?

4. Two trucks are parked next to each other. Their centers of gravity are 10 meters apart. One truck weighs 8.0×10^5 N. The other weighs 6.0×10^4 N. What gravitational force exists between them? (Assume g = 10 m/s^2)

5. In a hydrogen atom, an electron and a proton are 1.00×10^{-10}m apart. What is the gravitational force of attraction between them?
   - *Note*: Mass of electron = 9.11×10^{-31} kg
     Mass of proton = 1.67×10^{-27} kg

LIVEWORKSHEETS