

all you need to know about **GRAVITY**

gravitational constant
(a value you can look up and not worry about)

the mass of object #1

the mass of object #2

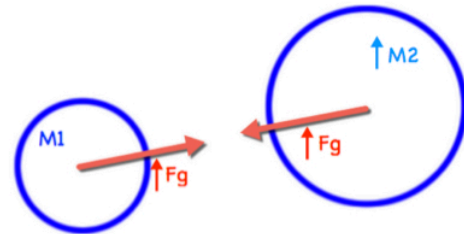
magnitude of force due to gravity

$$F_g = G \frac{M_1 M_2}{r^2}$$

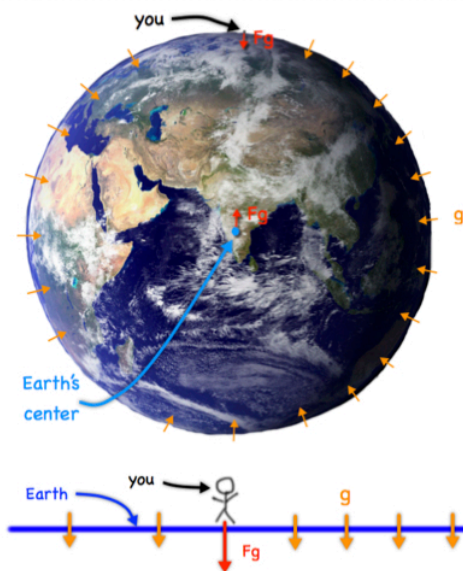
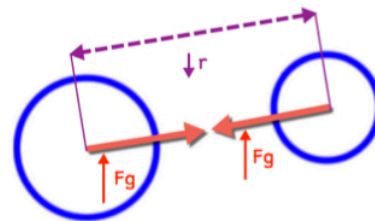
the distance between the two objects

$G = 6.67384 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$

an **increase** in either **M1** or **M2** will cause an **equivalent increase** in **Fg**



a **decrease** in **r** will cause a hyperbolic **increase** in **Fg**



what is **g**???

using $F=ma$ to determine the force on you, where **g** is a

$$F_g = G \frac{M_{\text{Earth}} M_{\text{you}}}{r^2} = M_{\text{you}} * g$$

$$G \frac{M_{\text{Earth}} M_{\text{you}}}{r^2} = M_{\text{you}} * g$$

$$G \frac{M_{\text{Earth}}}{r^2} = g$$

acceleration due to gravity anywhere on Earth