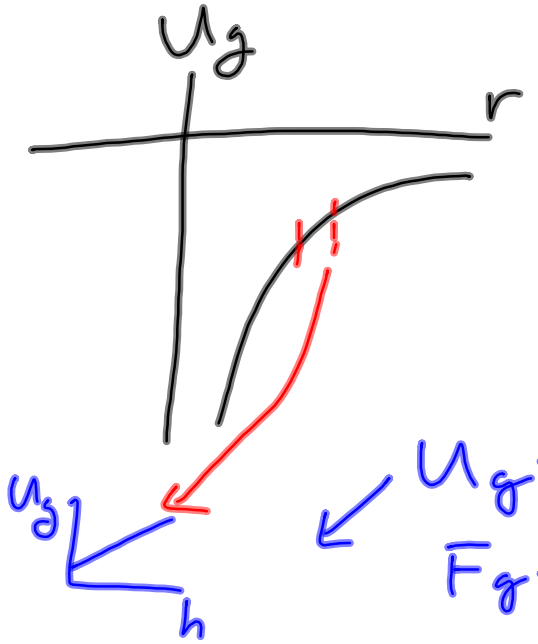

$$U_g = \frac{-GM_1m_2}{r}$$

$$F_g = \frac{GM_1m_2}{r^2}$$

$U_g = mgh$

$F_g = mg$

If the radius is pretty constant then we can simplify the graph and the equations to the old ones

$$g = \frac{GM_{earth}}{r_{earth}^2}$$

$$G = 6.67 \times 10^{-11}\ m^3 kg^{-1} s^{-2} \quad \left[\frac{m^3}{kg\,s^2}\right]$$

$$F_g = \frac{GM_1m_2}{r^2}$$

$$\frac{kg\,m}{s^2} = \frac{m^3 kg^{-1} s^{-2} \cdot kg \cdot kg}{m^2} = \frac{m\,kg}{s^2}$$

Fields

Use Arrows to show the steepness and downhill direction on a potential

They are not forces but they are used to find forces

$U_g = \frac{GMm}{r}$