We sometimes confuse weight with mass. When you step on a scale at home you are getting your mass.

Force - is a push or pull.

Gravity - is a natural force that causes an object to move toward the center of the earth.

Weight - is the force of gravity exerted on an object.

- Measured in Newtons (N)

The pull of gravity everywhere on an earth' surface is the same. It is a downward force of 9.8 N for every kilogram of its mass. (9.8N/kg)

Ex) A bag of sugar has a mass of 2kg

$2\ kg \times \frac{9.8\ N}{1kg} = 19.6\ N$ BUT weighs 19.6 N

1 cm = 10 mm

1 m = 100 cm

1 km = 1000 m

5 km → ? m

x 1000

$$5\,\text{km} \times \frac{1000\,\text{m}}{1\,\text{km}} = 5000\,\text{m}$$

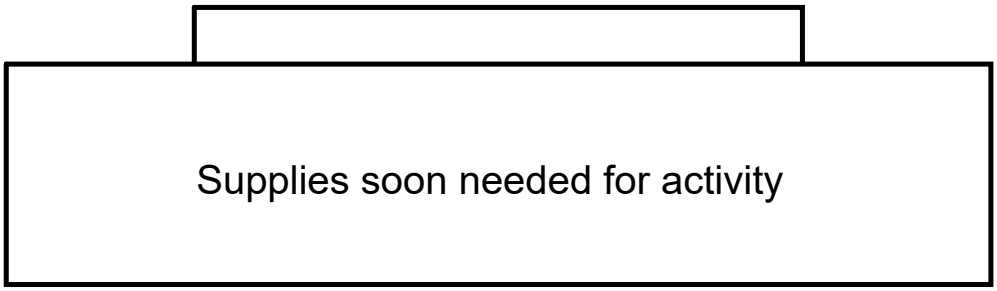
12 km → ? cm

$$12\,\text{km} \times \frac{1000\,\text{m}}{1\,\text{km}} \times \frac{100\,\text{cm}}{1\,\text{m}} = 1200\,000\,\text{cm}$$

You Try

Assume you have a mass of 50 kg. What would be your weight on earth?

$$50 \text{ kg} \times \frac{9.8 \text{ N}}{1 \text{ kg}} = 490 \text{ N}$$



Attachments

Archimedes story.docx