

EXPERIMENTS & EXERCISES

Weight and mass

$$\begin{aligned} g_{\text{Earth}} &= 9,8 \text{ ms}^{-2} \\ g_{\text{Moon}} &= 1,6 \text{ ms}^{-2} \\ g_{\text{Mars}} &= 3,8 \text{ ms}^{-2} \\ g_{\text{Venus}} &= 8,8 \text{ ms}^{-2} \end{aligned}$$

m = mass of weight (kg)	F = weight on spring (N)	$\frac{F}{m}$

According to the experiment, adding mass _____ weight. The ratio of weight to mass is _____.

1. In the Finnish system, a class B driver's license allows for driving vehicles below 3 500 kg. Find the maximum weight of such a car.

$$F =$$

$$m =$$

$$g =$$

2. A bridge bears a sign telling "MAX 600 000 N". What is the maximum mass the bridge holds?

$$F =$$

$$m =$$

$$g =$$

3. You have found an article written by an astronaut working on a foreign planet. According to their annals, the 600-newton astronaut was observed to seem only weigh 230 newtons. Form an educated guess as to which planet they worked on.

$$F =$$

$$m =$$

$$g =$$