

10 Questions testing Weight, Mass and Gravitational Field Strength ($W = mg$)

Use $g = 10 \text{ N/kg}$ on Earth unless another value is given.

1. A 2 kg bag of potatoes is lifted into a shopping trolley. Calculate its weight on Earth.
2. A 0.75 kg water bottle is carried in a school bag. Calculate its weight on Earth.
3. A 12 kg toddler sits on a bathroom scale. Calculate the toddler's weight on Earth.
4. A 68 kg passenger stands in a lift. Calculate the passenger's weight on Earth.
5. A 950 kg small car is parked on a flat road. Calculate the weight of the car on Earth.
6. A parcel has a weight of 240 N on Earth. Calculate the mass of the parcel.
7. A climber's rucksack has a weight of 180 N on Earth. Calculate the mass of the rucksack.
8. A rescue helicopter can safely lift a maximum weight of 12 000 N. What is the maximum mass it can lift on Earth?
9. On the Moon, $g = 1.6 \text{ N/kg}$. A 75 kg astronaut stands on the Moon's surface. Calculate the astronaut's weight on the Moon.
10. A rover has a weight of 3420 N on Mars. The gravitational field strength on Mars is 3.8 N/kg . Calculate the mass of the rover.