

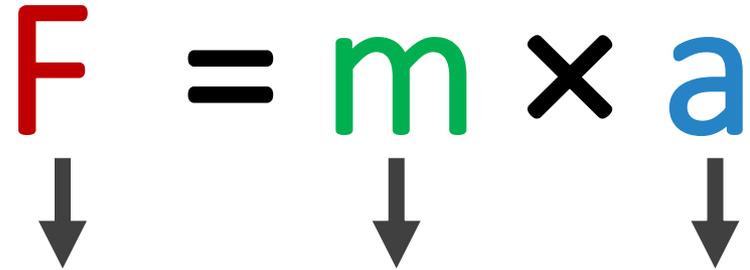
Weight, Normal Reaction, & Tension

IB PHYSICS | FORCES



Types of Forces | Weight

Newton's 2nd Law:

$$\mathbf{F} = \mathbf{m} \times \mathbf{a}$$
The equation $\mathbf{F} = \mathbf{m} \times \mathbf{a}$ is displayed with the variables in different colors: \mathbf{F} is red, \mathbf{m} is green, and \mathbf{a} is blue. Below each variable is a black arrow pointing downwards.

Weight:

$\mathbf{F}_g \rightarrow$

$\mathbf{m} \rightarrow$

$\mathbf{g} \rightarrow$

Mass vs Weight

Mass

Metric Units

Mass

Weight

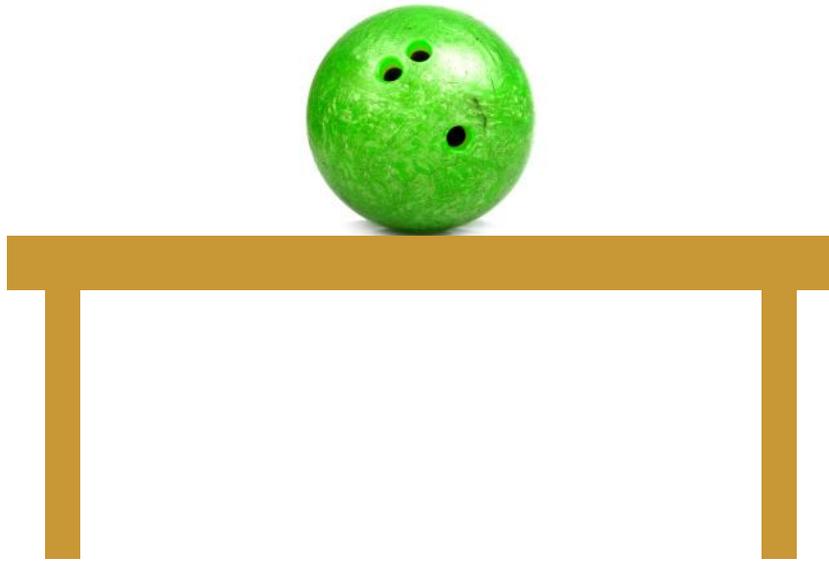
Weight

Types of Forces | Weight

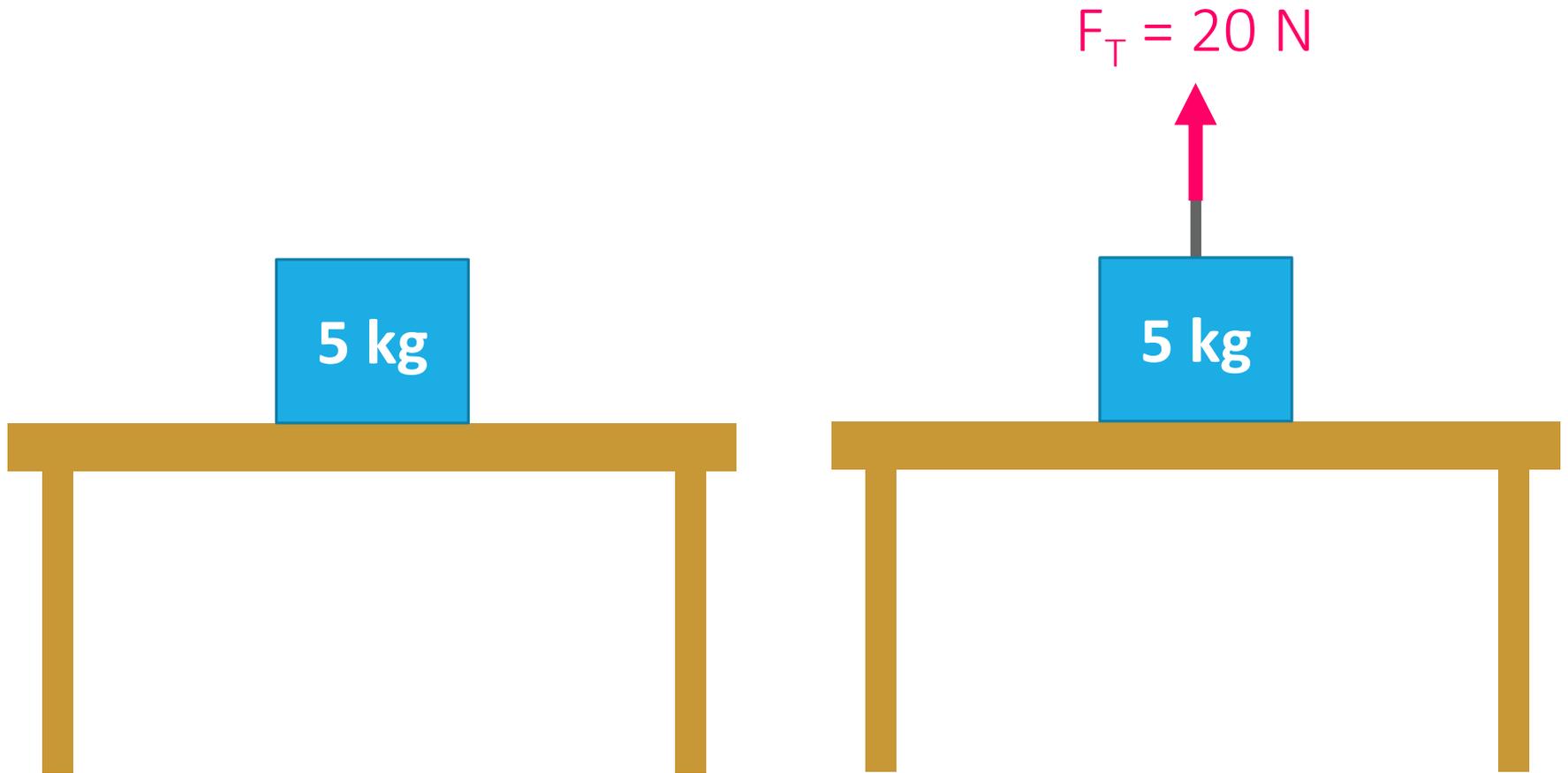
What is your mass in kilograms? (1 kg = 2.2 lbs)

What is your weight in Newtons?

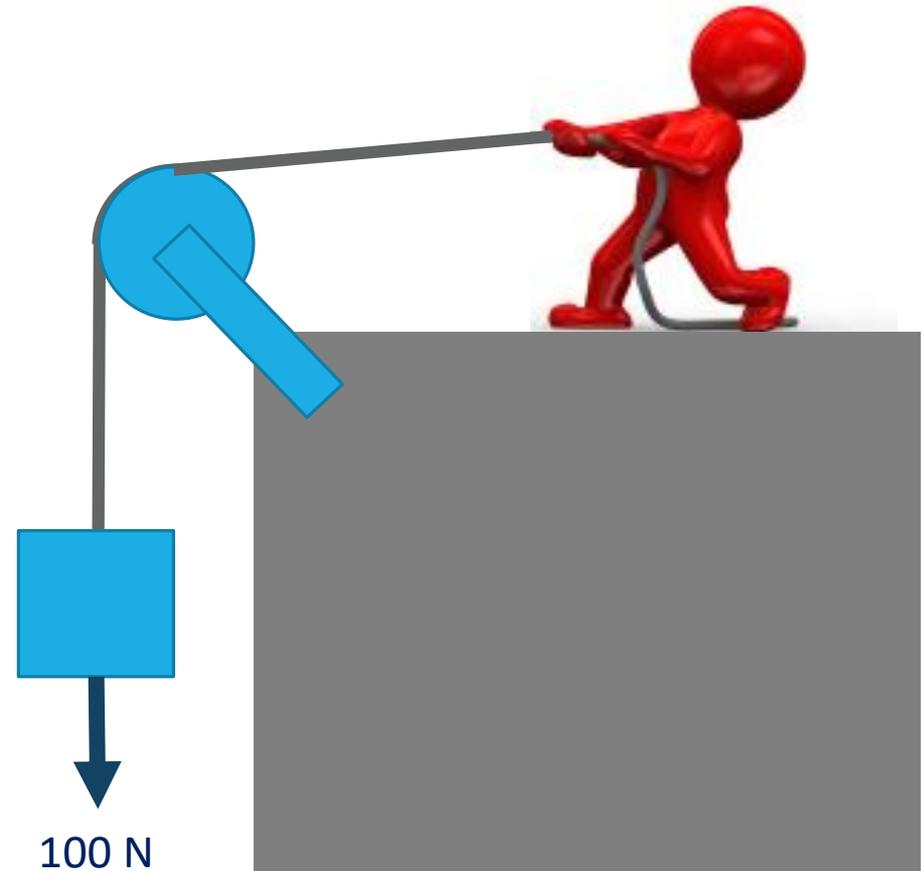
Types of Forces | Normal Reaction



Normal Force Depends on Scenario



Types of Forces | Tension



Lesson Takeaways

- ❑ I can calculate the weight of an object
- ❑ I can describe the difference between mass and weight
- ❑ I can use Newton's third law to describe how to find the normal reaction force with force pairs
- ❑ I can use a diagram to identify the direction of tension force acting on an object