

Vocabulary: Atwood Machine



Vocabulary

- Acceleration – the change in velocity per unit time.
 - Acceleration is calculated by dividing the change in velocity by the elapsed time:
 $a = \Delta v / \Delta t$.
 - For example, if an object accelerates from 0 m/s to 10 m/s in 2 seconds, the acceleration is 5 m/s/s, or 5 m/s².
 - Acceleration is positive when the velocity is increasing and negative when the velocity is decreasing.
- Atwood machine – a device that consists of two masses suspended over a *pulley*.
- Newton's second law – the force acting on an object is equal to the product of its mass and acceleration: $F = ma$.
 - The greater the force on an object is, the greater its acceleration.
 - If you add mass to an object, it will accelerate less rapidly under a given force.
- Pulley – a simple machine consisting of a wheel with a groove for a rope or cable.
- Tension – the force exerted by a string, rope, chain, cable, etc. on another object.
- Weight – the downward force of gravity on an object.
 - The symbol for weight is w .
 - The greater the strength of gravity is, the more the object weighs.
 - The greater the mass of the object is, the more it weighs.
 - To calculate weight, multiply the mass (m) by the gravitational acceleration (g):
$$w = mg$$
 - On Earth's surface, g is equal to 9.81 m/s².