Figure 3.2a Balanced and Unbalanced Forces

\[ F_1 = F_2 \]
Figure 3.2b Balanced and Unbalanced Forces
Figure 3.5a: Force, Mass, and Acceleration

The figure illustrates a scenario where a force (F) is applied to a cart. The force is directed upwards, and the cart experiences an acceleration (a) due to this force. The mass (m) of the cart is also indicated, showing the relationship between force, mass, and acceleration according to Newton's second law (F = ma).
Figure 3.5b: Force, Mass, and Acceleration

The diagram shows a person pulling a cart with two forces, labeled as $2F$ and $2a$. The cart has a mass $m$. The forces are applied in a vertical direction to accelerate the cart.
Figure 3.5c: Force, Mass, and Acceleration

A person is pulling two carts with masses \( m \) each, applying a force \( F \) to the right and the acceleration is \( a/2 \).
Figure 3.9 Acceleration Due to Gravity

\[ g = \frac{F}{m} \]

\[ g = \frac{2F}{2m} \]
Figure 3.11  Newton's First Law in Action
Figure 3.12a Newton's Law of Gravitation

\[ F = \frac{Gm_1 m_2}{r^2} \]

Figure 3.12a: Newton's Law of Gravitation

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Figure 3.12b  Newton's Law of Gravitation

\[ w = mg \]
Figure 3.18 Angular Momentum

- Axis of rotation
- Slower
- Faster
- $r_1$
- $r_2$
- $v_1$
- $v_2$
- $m$
- Sun

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