
Worksheet 12: Newton's third law

Objective

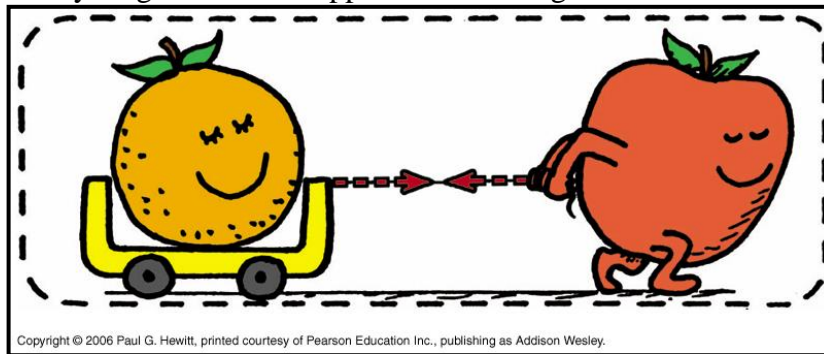
- Relate forces form interactions between objects.

Summary

Newton's third law: $F_{A \rightarrow B} = -F_{B \rightarrow A}$

Problems

1. Draw free body diagrams for the apple and the orange.



2. If the apple has a mass of 0.25 kg, the orange a mass of 0.2 kg, and they accelerate together at 0.05 m/s^2 , what are the forces:

Between the apple and the orange?

Net on the apple?

Net on the orange?

Between the apple and the ground?

3. A wood block weighing 4 N sits at rest on a bench. Complete the following sentences:

a. A downward force of magnitude 4 N is exerted on the block by

_____.

b. An upward force of 4 N is exerted on the block by _____.

c. The Newton's third law reaction to the force in part a is a force of magnitude

_____, exerted upward on _____ by

_____.

d. The Newton's third law reaction to the force in part b is a force of magnitude

_____, exerted downward on _____ by

_____.