Worksheet 13: Newton's third law

Objective

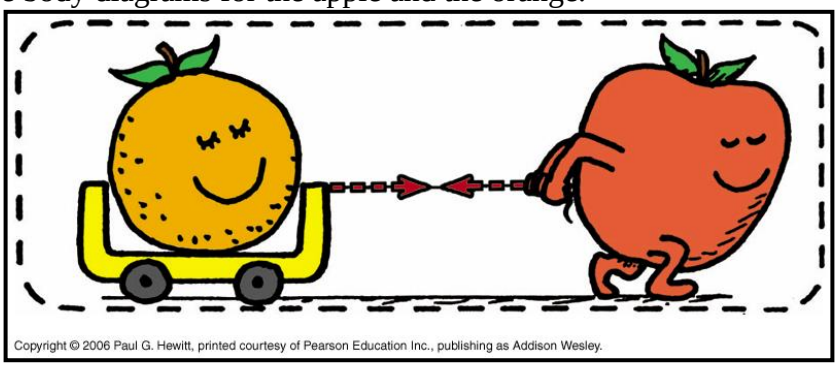
- Relate forces form interactions between objects.

Summary

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

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

      _____.