

## Module 07 - Lesson 5

### Conservation of Momentum

**Question 1:** If a ball is projected upward from the ground with 5 kg m/s, what is the momentum of recoil of the Earth? Do we feel this? Explain.

**Question 2:** On a frictionless air track, a 0.250 kg glider moving at 3 m/s to the right collides with and sticks to a stationary 0.500 kg glider. Find the speed of the gliders after the collision.

**Problem:** A rifle with a mass of 3.0 kg fires a 10.0-g bullet with a speed of 320 m/s. (a) Find the recoil speed of the rifle. (b) If a 60-kg woman holds the rifle firmly against her shoulder, find the recoil speed of the woman and rifle.