

Name: _____

Newton's II Law – Variations on a theme

1. A 25 kg couch is pushed across the floor with a constant horizontal force of 7 N for 3 s.
2. A 25 kg couch is pushed 2.0 m across the floor, accelerating constantly until it reaches a velocity of 0.8 m/s.
3. A couch being pushed across the floor by a 7 N force has an acceleration of 0.3 m/s^2 for 3 seconds.
4. A 35 kg child is hanging from a rope. The child exerts a burst of strength and 2.5 s later is traveling at 2.0 m/s up the rope.
5. When throwing a rock vertically upward, my hand moves through a distance of about 1.2 m before the rock leaves my hand. The 0.95 kg rock reaches a maximum height of about 23 m above my hand.