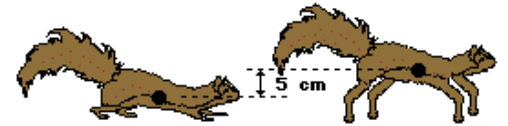# Warm Up

A student with a mass of 80.0 kg runs up three flights of stairs in 12.0 sec. <u>The student has gone a vertical distance of 8.0 m. Determine the amount of work done by the student to elevate his body to this height.</u>

A tired squirrel (mass of 1 kg) does push-ups by applying a force to elevate its center-of-mass by 5 cm. <u>Estimate the number of push-ups which a tired squirrel must do in order to do a approximately 5.0 Joules of work</u>

The bellboy carries a 200-N suitcase up three flights of stairs (a height of 10.0 m) and then pushes it with a horizontal force of 50.0 N at a constant speed of 0.5 m/s for a horizontal distance of 35.0 meters. <u>How much work does Ben do on his suitcase during this entire motion?</u>