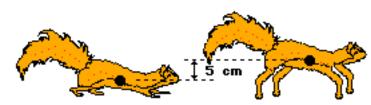## Work and Power Calculations

Read from **Lesson 1** of the **Work, Energy and Power** chapter at **The Physics Classroom:**

http://www.physicsclassroom.com/Class/energy/u5l1aa.html
http://www.physicsclassroom.com/Class/energy/u5l1e.html

MOP Connection: Work and Energy: sublevels 1 and 2

1. Bart runs up a 2.91-meter high flight of stairs at a constant speed in 2.15 seconds. If Bart's mass is 65.9 kg, determine the work which he did and his power rating. **PSYW**

2. On a recent adventure trip, Anita Break went rock-climbing. Anita was able to steadily lift her 80.0-kg body 20.0 meters in 100 seconds. Determine Anita 's power rating during this portion of the climb. **PSYW**

3. A physics teacher owns a family of squirrels. The squirrels have been trained to do push-ups in repetitive fashion. Being connected to an electrical generator, their ongoing exercise is used to help power the home. There are 23 squirrels in the family and their average mass is 1.1 kg. They do work on the "up" part of the push-up, raising their body an average distance of 5.0 cm. If the squirrels average 71 push-ups per minute, then determine the total amount of work done in one minute and the power generated by their activity. **PSYW**

4. An elevator motor lifts 715 kg of mass to the height of the fourth floor of an office building (11.0 meters above ground level) at a constant speed in 9.35 seconds. Determine the power rating of the motor. **PSYW**