Name:

Class: Date:

Student Sheet 8.1a
How Much Work Was Done?

Directions Complete this sheet as directed in the Procedure for Inquiry 8.1.

Table 1 Calculating the Work Done on Different Surfaces

Surface	Effort Force (N)	Effort Distance (m)	Work Done
Tabletop			
Waxed paper			
Paper towel			
Fine sandpaper			
Coarse sandpaper			

1. Over which surface did you do the most work when you pulled the block?

2. Over which surface did you do the least work when you pulled the block?

Name:_____

Class:_____ Date:_____

Student Sheet 8.1b
Thinking About Work and Force

Directions Answer the questions in the spaces provided.

1. What force are you working against when you lift a backpack?

2. In which of the following cases is work, as defined by scientists, being done?
    A. Someone tries to move a piano, but the piano won't budge.
    B. A tow truck is pulling a car slowly along the street.
    C. A student is studying for a mathematics exam.
    D. A student is pushing a grocery cart around the store.
    E. Another student is standing in line holding a 12-N bag of potatoes.
    F. A student pushes against the school building.

3. If you lift a bag that weighs 15 N a distance of 2 m, how much work have you done?

4. If a cement block that weighs 50 N must be raised to a height of 5 m, how much work must be done on the block?

5. How much work do you do when you climb a flight of stairs 4 m high? Remember to use your weight in newtons (1 lb = 4.45 N).

Name:_____

Class:_____ Date:_____

Student Sheet 8.2
Lifting a Load

Directions Answer the questions as directed in the Procedure for Inquiry 8.2.

1. Motor force with three batteries in series: _____

2. Work done by a motor when it lifts a load 10.0 cm (0.10 m)

      Work = _____ × _____ = _____

3. Weight of two washers: _____

4. Work to raise two washers 10.0 cm (0.10 m):

      Work = _____ × _____ = _____

5. Your estimate of the sled's weight:

6. Sled's actual weight:

7. Work to lift sled 10.0 cm (0.10 m):

      Work = _____ × _____ = _____