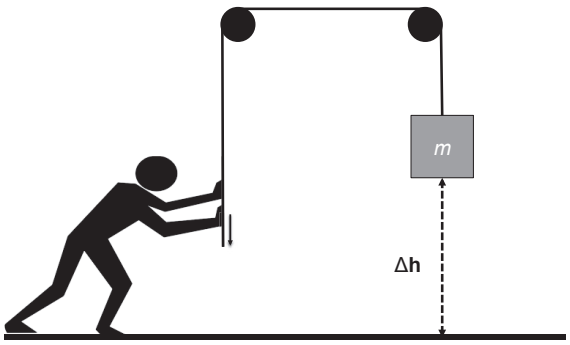
Checkout Questions

Lab 23. Power: Which Toy Car Has the Engine With the Greatest Horsepower?

1. How do the law of conservation of energy and the work-energy theorem help engineers determine the horsepower of a motor?

2. In the figure at right, a person uses a pulley to lift a box off the ground. Assuming that the person lifts the box of mass m with a constant velocity $\mathbf{v}$ and lifts the box a height of $\Delta\mathbf{h}$ in t seconds, create a mathematical expression for the rate at which the person does work on the box.



3. Scientists need to be creative and have a good imagination.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about the horsepower of a toy car.

4. A scientist must first make an observation before he or she can make an inference.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about the horsepower of a toy car.

5. Scientists often need to define a system under study during an investigation. Explain why it is useful to define a system under study during an investigation, using an example from your investigation about the horsepower of a toy car.

6. Scientists often need to track how matter moves into and within a system. Explain why this is important, using an example from your investigation about the horsepower of a toy car.