

/12

Energy Conservation

Purpose - to verify the law of conservation of energy.

Procedure -

- 1.) Log on to the computer network and open Interactive Physics 2000 from the Science Applications folder.
- 2.) Choose file, open, I drive, Handout, Science, Wilkison, Phys 11 and double click Energy1.
- 3.) Run the simulation carefully watching the graphs until the pendulum has made 3 complete cycles.
- 4.) Complete the table below by scrolling the frame counter forward and back as needed.

	<u>Potential Energy (J)</u>	<u>Kinetic Energy (J)</u>	<u>Total Energy (J)</u>
When pendulum highest			
When pendulum at bottom			
Any time in between			

/6

- 5.) Double click on the pendulum bob to reveal a table of values that includes the mass of the pendulum. Write the mass here _____.
- 6.) Close Energy1 - DO NOT SAVE ANY CHANGES!!
- 7.) This lab is to be typed or it will not be marked.

Discussion -

- 1.) In Energy1 what happens to the kinetic energy when E_p is at a minimum? Explain why.

/2

- 2.) In Energy1 calculate the velocity of the pendulum bob at the bottom of its swing.

/2

Conclusion -

- State the law of conservation of mass and using proof from your lab verify that this law is indeed correct. This conclusion should include an explanation on what happens to E_p when E_k is increasing and vice versa.