

# The pendulum lab

Run the 'Pendulum lab' java simulation with a 1 kg single pendulum and use it to investigate the relationship between the pendulum's period ( $T$ ) and the independent variables 'length' ( $l$ ) and angular amplitude/initial angle ( $\theta$ ).

The following tables may be of assistance.

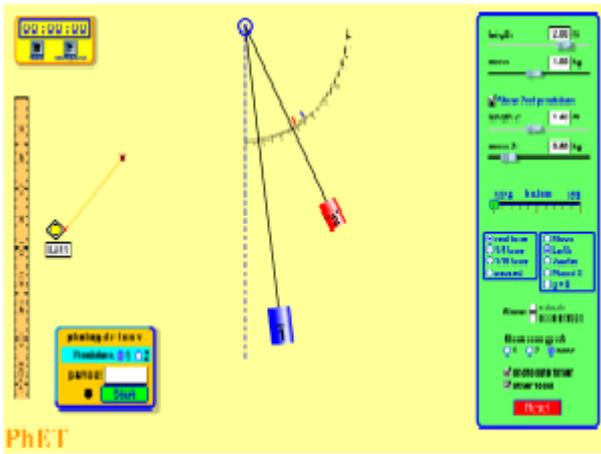
## Part A Vary length (keep angle fixed at 30°)

length ( $l$ )										
Period ( $T$ )										

## Part B Vary angle (keep length fixed at 1 m)

angle ( $\theta$ )										
Period ( $T$ )										

## Pendulum Lab



Use a spreadsheet and a **Power fit** trendline to produce graphs of your results (plot  $T$  on the vertical axis). State a possible formula for each graph, using  $T$ ,  $l$  and  $\theta$  as symbols (not  $x$  and  $y$ ). An example of a suitable Excel 2007 spreadsheet is shown below. Contact Geoff Phillips (gphillips@bigpond) to obtain a copy.

