

NEATH PORT TALBOT COLLEGE COLEG CASTELL NEDD PORT TALBOT

School of Maths & Science Science Practical

To determine the acceleration of a ball bearing along a slope.

◆ **Aim**

To determine the acceleration of a ball bearing along a slope.

◆ **Introduction**

You will calculate the acceleration of a ball bearing by timing it travel fixed distances along a slope.

◆ **Safety**

Control Measures

- You are reminded of the need of good laboratory practice in order to maintain a safe working environment.

Hazards



General Danger

Make sure that the track is suitably supported. Take care with sharp scissors.

◆ Apparatus Required

Track and holder, ball bearing, crocodile clips, scissors, foil, connecting leads, metre rule.

◆ Procedure

1. Set up the apparatus as shown by your lecturer.
2. The initial distance should be set to 10cm.
3. Place the ball bearing on the “start” mark.
4. Record the time taken for the ball to travel to the “finish” mark.
5. Repeat a further twice and record all results in the table below.
6. Increase the distance in steps of 10cm until the distance reaches 90cm.

S (m)	t(s)			Average t (s)	t^2 (s ²)

7. Plot a graph of s against t^2 and determine the acceleration of the ball bearing.

8. Determine the percentage uncertainty in the acceleration of the ball bearing and comment on the accuracy and reliability of your results.
