



## FRICION on an INCLINED PLANE

### HFN1



Year 1  
study

#### Features

- High quality, durable Teaching Apparatus
- Bench mounted
- Stainless Steel 'inclined' plane
- $\pm 45^\circ$  Plane movement
- Seven different slider materials

#### Description

The compact bench top unit has a sturdy aluminium base plate, non-slip feet and central vertical pillar. Pivoting on this base is a ground steel plane which can be locked in any angular position between  $\pm 45^\circ$ , indicated on a semi-circular protractor scale. A number of composite slider trays are supplied, each having a pair of different materials attached. You simply turn over the trays to test one or the other. Each tray in turn is attached to a weight hanger and weights are added until the tray just begins to slide. The slider trays also allow for additional weight to be added changing the experimental scope. The hanger cord pulls the tray up the sloping steel plane whilst passing over a pulley and bearing. The bearing reducing friction to ensure accurate results. The experiment may also be used as an exercise in equilibrium of forces, determining the force required to move the tray along the plane giving the coefficient of friction.

#### Related Laws/Applications

- Coefficient of Friction.
- Static and Sliding Friction.
- Angle of Friction.
- Equilibrium of Forces.

### Learning capabilities

- To determine the coefficient of friction under static and sliding conditions between various materials and steel
- To verify the angle of friction for the material
- To measure the force required to move a body up an inclined plane against gravity and friction
- To show the equilibrium of forces on an inclined plane

### Technical Specification

- Steel plane: 600mm long
- Plane inclination range:  $\pm 45^\circ$
- Slider tray materials: aluminium, brass, nylon, steel, PTFE, Tufnol and Wood
- 1 x Load hanger
- Weights set: 10 x 0.1N, 10 x 0.2N, 4 x 100g

### What's in the Box?

- 1 x HFN1
- 4 x Sliders
- 1 x Load hanger
- 1 x Spirit level
- 1 x 5m spare cord
- 10 x 0.1N; 10 x 0.2N
- 4 x 100g
- Instruction manual
- Packing list
- Test sheet

### Weights & Dimensions

- Weight: 10 kg
- Length: 560mm
- Width: 200mm
- Height: 350mm

### Essential Services

- Sturdy Bench Top

### Ordering information

To order this product, please call PA Hilton quoting the following code: HFN1

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