

Ex 6 Swinging the billy can

A billy of tea is swung in a vertical circle.

In Figs 1-3 the billy is at the top and in Fig. 4 it is at the bottom of its circular path.

A 'billy' is a jam tin **plus** a handle.

In each figure draw the individual forces indicated on the pictorial diagrams.

Represent forces

- by drawing lines with arrowheads, e.g. \longrightarrow
- with the **length** of the line representing the **size** of the force,
- with the same scale for all forces,
- using as large a scale as possible,
- with the **tail** of each force at the point where the force acts, and
- labelling forces, e.g. the force exerted on the Billy (B) by the Earth (E) would be labelled F_{BE} .

Fig. 1 Draw the forces acting on the system consisting of the billy and tea.

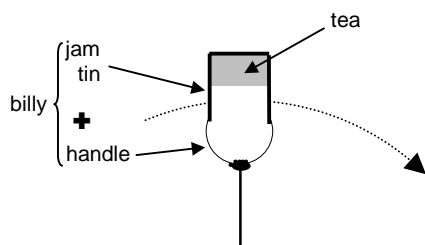


Fig. 2 Draw the forces acting on the tea.

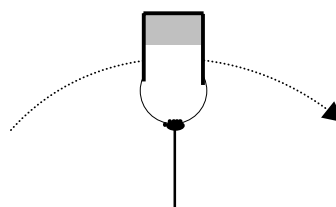


Fig. 3 Draw the forces acting on the billy.

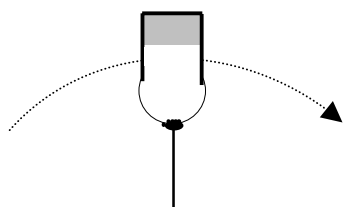


Fig. 4 Draw the forces on the tea at the lowest point in the circle.

