CONSERVATION of ANGULAR MOMENTUM

HFC25

Year 1
study

Features

- Very visual and effective experiment
- Great ‘hands-on’ experiment
- Demonstrates concept of conservation of momentum
- Simple operation
- While arm rotates, weights move radially
- Operated by hand
- Swivel joints to stop cord twist

Description

Conservation of linear momentum is well understood and often demonstrated to students. Equally important is the conservation of angular momentum. It is not easy to do meaningful experiments on this, but a highly visual demonstration of almost dramatic impact is the effect of reducing the radius of a rotating mass.

This is often seen in an ice skater performing a pirouette. First they spin round on an axis corresponding to their body, arms outstretched. When they raise their arms above their head, the increase in spin in considerable. Rather than go to an ice rink, students can perform this experiments in the laboratory using the HFC25.

A bench mounted vertical board has a bearing mounted rotating arm along which two weights can be moved by a pull cord operated by the student or demonstrator.

The weights are moved to the outer ends of their travel, away from the centre of rotation. The arm is then spun rapidly by hand, and the weights pulled towards the centre by the cord.

The resulting increase in angular velocity is considerable.

Related laws

- Conservation of Angular Momentum

- Rotational motion

Learning capabilities

- Used for demonstration only, no measurements are intended.
- Demonstrates basic concepts of conservation of angular momentum through visual observation

Technical Specification

- Rotating Arm length: 406mm
- Sliding mass: 50g each

What's in the Box?

- 1 x Base board
- 2 x Mass
- 1 x Bearing housing
- 1 x Cord
- 1 x Swivel
- Instruction manual
- Packing list
- Test sheet

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Weights & Dimensions

- Weight: 4 kg
- Length: 400mm
- Width: 160mm
- Height: 590mm

Essential Services

- Sturdy Bench Top

Ordering information

To order this product, please call PA Hilton quoting the following code:
HFC25