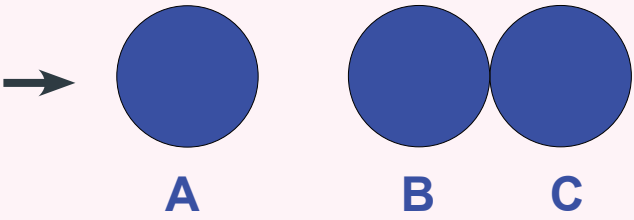
Dynamics and Statics

Three discs

Background

The principle of conservation of momentum may be demonstrated with three discs.



You will need...

- ✓ Three identical smooth discs and
- ✓ a smooth horizontal table.

Follow these steps

1. Three smooth flat discs are place on a smooth table.
2. Hold disc B firmly against the table by pressing downwards with your hand.
3. Disc C, initially in contact with B seems to be protected by B as A moves to collide with B.
4. It might be expected that A will rebound if B is firmly held and that C stays at rest.

So what happened?

After A collided with B it stopped and C moved off to the right with a velocity similar to what A had originally.

What next?

Try it with three equal coins.

Compare the behaviour to Newton's cradle