

## Experiment to measure the center of gravity of an irregular lamina (irregularly cut cardboard)

**Centre of Gravity (mass):** of a body is the point about which the entire weight (mass) of the body seems to act. Centre of gravity is the point through which the resultant of the weight of all the particles of the body acts.

- Point of balance: Adjust the pivot accordingly right before the center of gravity.
- Center of gravity of a body is in the same position as its center of mass.
- Geometrical centers depend on the object's shape & weight.

### Hypothesis:

The string will give us the center of gravity as the lamina is uneven and may vary by each hole.

### Material:

1. Retort Stand
2. Nail
3. String attached to a bob (plumb line)
4. Cardboard lamina
5. Pencil

### Steps:

1. Make three holes near the edge of the lamina so that the lamina can swing freely when pivoted from each hole with a nail.
2. Attach the string to the retort stand in each hole with a nail.
3. Suspend the lamina from the point A.
4. Hang a plumb line from the point A and mark the plumb line on the lamina. Wait for string to come at rest to avoid parallax error.
5. Repeat the experiment by suspending the lamina from B and mark the plumb line.
6. Now follow the same procedure for the point C.

### Observation:

We observe that all the three lines A, B & C intersect at one point.

### Results:

This point where all the three lines meet gives the center of gravity of the lamina. Generally the center of gravity of geometrically shaped objects lie at the geometric center of the object.

