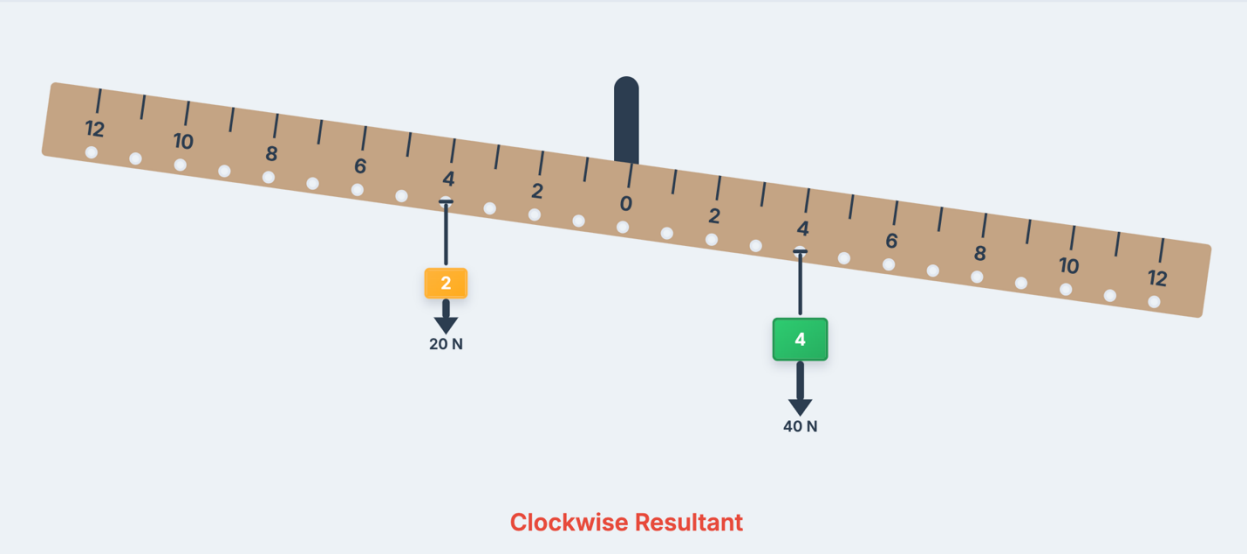
Turning Forces – Investigating Moments

Aim: You are investigating how a turning force depends on both the force applied and the distance from the pivot



Method:

1. Hang a mass on the left-hand side of the pivot.
2. Use a different value mass on the right-hand side in order to balance the beam.
3. If it is balanced, record both the **Force (N)** and the **Distance (cm)** from the pivot on the data table below.
4. You can calculate the **Moment (N cm)** by multiplying the Force with the Distance. You can check your calculation is correct on the simulation before writing it on the data table.
5. Repeat this for 6 different masses and/or distances.

Results Table:

Left-hand side (anticlockwise)			**Right-hand side (clockwise)**		
Force (N)	Distance (cm)	Moment (N cm)	Force (N)	Distance (cm)	Moment (N cm)

Analysis:

What do you notice about the clockwise and anticlockwise moments when the beam is balanced?

Extension:

You can turn on ‘Advanced Mode’.

This allows you to add more than one mass to each side of the pivot.

Can you make predictions on how to balance multiple masses?