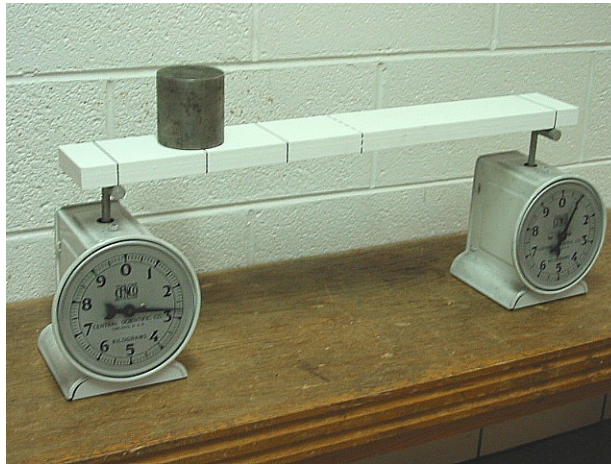


Static Beam



Purpose: Demonstrates the static equilibrium of a loaded beam.

This is a demo realization of the classic homework and test problem. To determine the weight carried at each end of the board, the sum of all forces and torques must be zero.

Note: The board has a mass of 0.9 kg, the large weight has a mass of 2.7 kg, and the board has some distance markings spaced at 10 cm.

You can work the problem out on the board, showing that the difference in weight at either end varies linearly with the position of the extra mass. The scales are accurate (enough) so that you then can plug in the demo numbers. This might make the problem seem less abstract to the students.

One can also show features of stability by moving one of the scales in towards the center. Depending on the setup, there is a point where you can no longer satisfy the zero force and torque requirements.

Extra Equipment: None

Location: Shelf A3