

Practical 2 – Topic 2

Sag of a meter rule

This experiment can also be a ‘design lab’ if you give no further information other than listing some of the materials to be used.

Criteria assessed

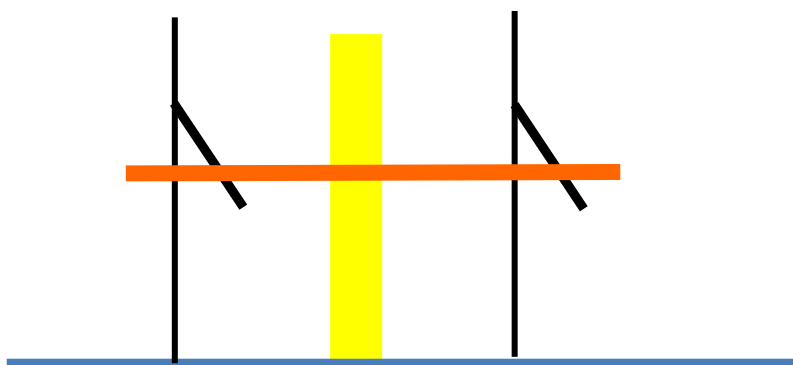
- DCP
- CE

Materials needed

- Meter rule (plastic or wooden)
- Vertical stands
- Clamps
- Ruler
- Weights

What to do

Place a plastic or wooden meter rule across two supports and hang a mass from its middle point. Measure the distance y by which the rule bends at the middle. Repeat with other masses.



- How does y depend on the hanging mass m ?

Theory suggests that $y \propto m^p$.

- How should the variables be plotted so that a straight line is obtained and p can be found?

You can modify this experiment by clamping the meter rule on a horizontal table so that a length L of the rule extends beyond the edge of the table. You can then attach weights to a specific fixed point on the rule and measure the deflection y of the rule from its equilibrium position. How is y related to the attached mass m this time?

