

Common properties of bodies

Mass

Determining the mass of a body by means of scales

Object of the experiment

1. Determining the mass of a body by weighing with a single-pan suspension balance

Setup**Evaluation**

The mass of a body can be determined by means of a single-pan suspension balance.

For this the body is put on the pan and the sliding weights are shifted in the individual measuring ranges so that the balance is equilibrated again.

The mass of the body is determined by adding the three measured values marked by the sliding weights.

Apparatus

1 Single-pan suspension balance 610 Tara	315 23
1 Measuring beaker, PP, 1000 ml	604 211
1 Gauge blocks, set of 2.....	590 33
1 Round tins with cap, set of 5	686 53ET5

Carrying out the experiment

- Check the zero adjustment of the balance and, if necessary, set the zero anew with the screw on the left below the pan.
- Put a body on the pan.
- Shift the sliding weight in the 500 g measuring range to the right until the beam tips into the opposite direction.
- Then put the sliding weight back by exactly one notch.
- Repeat the procedure with the sliding weight in the 100 g measuring range.
- Establish the final equilibrium of the balance using the sliding weight in the 10 g measuring range.
- Read the positions of all sliding weights, and determine the mass of the respective body by adding the three measured values.

Measuring example

Body	Mass m in g
cylinder	237
rectangular parallelepiped	246
jar	5
plastic beaker	100