POTENTIAL ENERGY AND TENSIONAL ENERGY

MED 10.05

Material

Item-no.	Qty.	Description
DM372-5G	2	Flat weight, 500 g
P7240-1C	1	Support rod, round, L=250 mm, D=10 mm
P1810-3S	1	Coil spring for tensional energy

POTENTIAL ENERGY AND TENSIONAL ENERGY

MED 10.05

Purpose
To demonstrate the conversion of potential energy into tensional energy and vice versa.

Preparation
A flat weight is fixed at one end of the support rod. Place the flat weight on the table, thus the support rod will be in vertical position.

Place the coil spring for tensional energy from the upper side of the support rod on the flat weight.

Experiment
Place the second flat weight on the support rod.

Now hold the bottom flat weight by its screw and let go of the upper flat weight.

Result
As soon as the falling flat weight hits the coil spring the coil spring gets compressed and pushes the upper flat weight upwards again.

The upper weight springs up many times. The movement energy and the potential energy can be recognized and explained well.

After each impact the upper flat weights gets less and less reflected upwards.
These apparent losses of energy result from the partial conversion of the total energy into other forms of energy such as friction or heat.

Note
A practical application of this can be found for example when jumping on a trampoline.