ENERGY CONSERVATION

MED 10.07

Material

Item-no.	Qty.	Description
DS101-3B	1	Stand rail with scale, L=1000 mm
DM344-1S	1	Projectile launcher 02
C7235-2B	1	Lab-jack small, 150x150 mm
DM300-2A	1	Dynamics trolley, demo, 50 g
P1312-2A	1	Car body for trolley SE

ENERGY CONSERVATION

MED 10.07

Purpose
To demonstrate the conversion of energy.

Preparation
Mount the projectile apparatus at the right end of the stand rail as shown on the images; do not tense the piston of the projectile apparatus yet.

The height of the lab-jack is adjusted to 12 – 15 cm; afterwards the stand rail is placed on lab-jack as shown on the image above.

Place the car body on the dynamics trolley; make sure that the small rod of the trolley points through the hole of the car body.

Press the button on the projectile apparatus and push the piston slowly in.

Fix the piston to the 9th notch and let go of button.

Place the dynamics trolley on the stand rail right before the piston.

ENERGY CONSERVATION

MED 10.07

Experiment
Push the button on the projectile apparatus to launch the dynamics trolley.

Result
The spring energy is converted into kinetic energy. The dynamics trolley drives up the rail until it comes to a standstill (position energy).

Then the dynamics trolley drives down again (kinetic energy) and hits the piston of the projectile apparatus.

Potential energy and tension energy are summarized to express the (possible) potential energy.