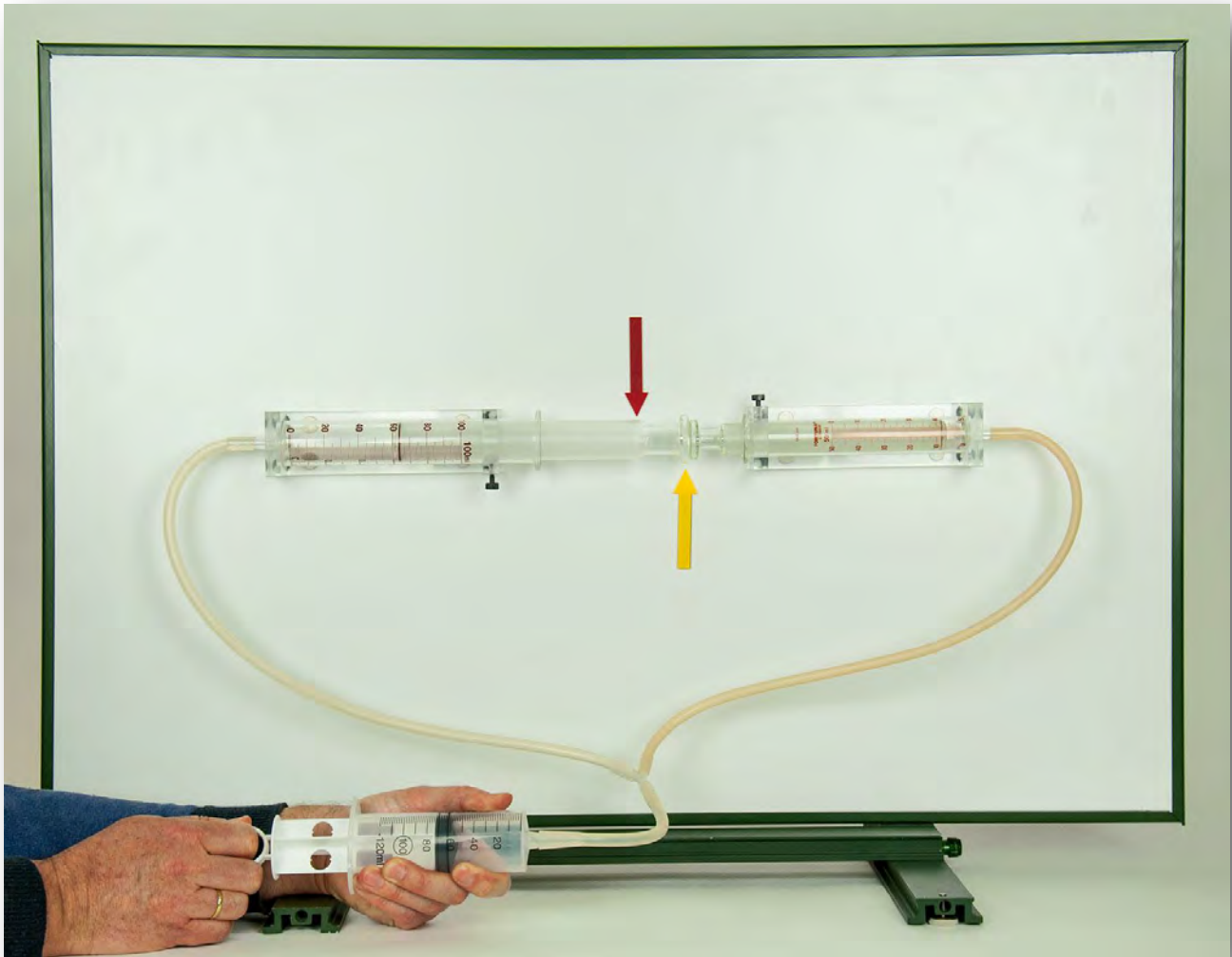


COMPRESSIVE FORCE AND PRESSED SURFACE AREA

MED 16.01a



Material:

Item-no.	Qty.	Description
DS101-1G	1	Support base, large, L=500 mm
DS600-6G	1	Board holders, pair, magnetic
DS103-1P	1	Panel, green/white, 900x610mm
C6100-1A	1	Syringe, 50 ml, glass
C6100-1B	1	Syringe, 100 ml, glass
C6100-5F	1	Holder for syringe 50ml, "inno"
C6100-5H	1	Holder for syringe 100ml, "inno"
C7445-5S	1	Hose, silicone, D=5/8 mm, L=100 cm
C7445-6S	1	Hose, silicone, D=6/9 mm, L=100 cm
C6100-2A	1	Syringe, 120ml, plastics
C6090-1Y	1	Tubing connector, Y-shaped, plastics
DL970-2A	1	Pointer, yellow, magnetic
DL970-3A	1	Pointer, red, magnetic

COMPRESSIVE FORCE AND PRESSED SURFACE AREA

MED 16.01a

Purpose

Examination of the pressure force on two differently sized surfaces.

Preparation

- place the two glass syringes in the respective "inno" holders
 - fasten the syringes sensitively with the plastic screw
 - both holders are horizontally positioned on the magnetic panel as shown on the image
 - the distance between the pressure plates of the two pistons should be 10 cm
 - 50 cm pieces of silicone hose are connected to the syringes, it is recommended to make the end of the hose wet before attaching it so that they can be removed easier afterwards
 - these two pieces of silicone hose are connected with the Y-piece
 - a 25 cm silicone hose is fixed to the other end of this Y-piece
 - the pistons of the two syringes are pulled out so that they touch each other in the centre between of the holders
 - pull out the piston of the plastic syringe until 80 ml
 - afterwards connect the 25 cm silicone hose to this syringe
- ATTENTION: The pistons of the glass syringes will start to move already
- we mark the position of the pressure plates of the two glass syringes with colored arrows or with a water-soluble pen on the magnetic panel

Experiment

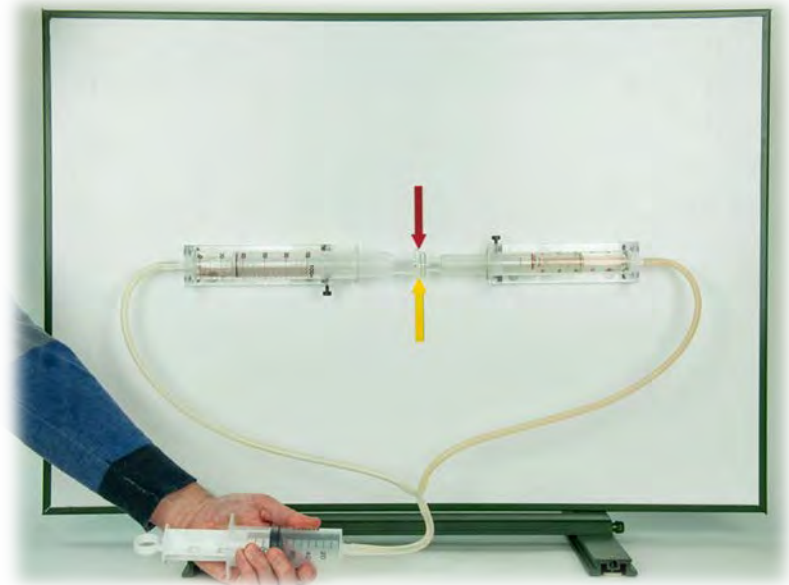
We slowly push in the piston of the plastic syringe.

Therefor we also increase the pressure in the two glass syringes.

We observe the position of the two pressure plates

Result

The plates move, the smaller piston is pushed in.



Conclusion

Although the pressure on both pistons is the same, the piston with the larger pressure plate has a greater force.