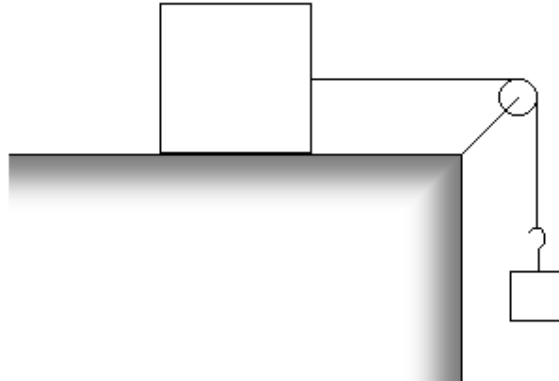# Pulling a sliding block

Aim: Showing the difference between static and kinetic friction
Subjects: 1K20 (Friction)
Diagram:

Equipment:
- Wooden block
- Pulley
- String
- Slotted masses

Pulling a sliding block

Presentation: The slotted mass is made so heavy that the block just doesn't move.
Then you give a smash on the table and the block will start sliding and keep on sliding.

Explanation: When the block just doesn't move, it means that F_f is almost equal to $F_{f,max}=\mu_{stat}F_n$ (see Figure 1).
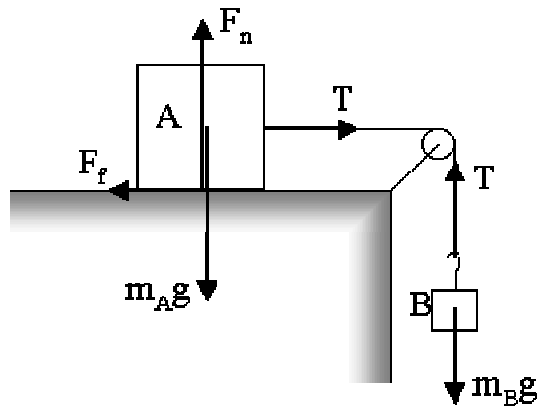

Figure 1

A smash on the table means that the block is released from the table for a short moment (at least temporarily F_n will be much smaller than $m_A g$) so A and B start moving. Since A and B continue to move, it means that $\mu_{kin}F_n$ ($=m_B g$) is lower than $\mu_{stat}F_n$.

Remarks:
- The ring for fixing the string can be moved vertically in order to maintain the pulling string horizontal when the block is moving.
- A wetted bottom of the block makes this demonstration somewhat easier.

Sources:
- Roest, R., Inleiding Mechanica, pag. 63