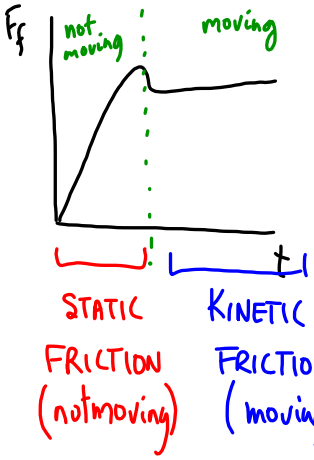
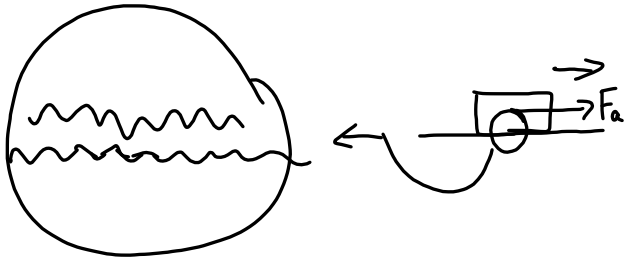
Friction

Consider pushing a heavy crate along a rough surface:



More force is needed to start the object moving because the frictional force is greater. (i.e. $F_{f_{max}}$ static friction is greater)



Friction depends on the weight (the normal force) & the nature of the surface.

$$F_f \propto F_N$$

$$F_f = \mu F_N$$

where F_f is the frictional force (N)
F_N is the normal force (N)
μ is the coefficient of friction (depends on the surfaces) (see p140)