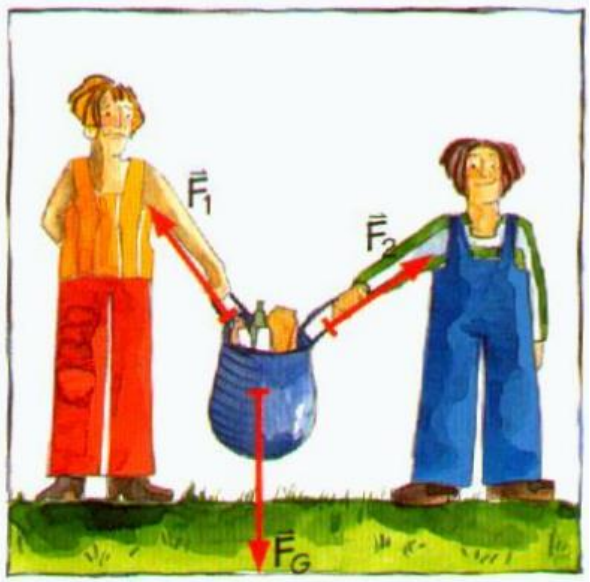
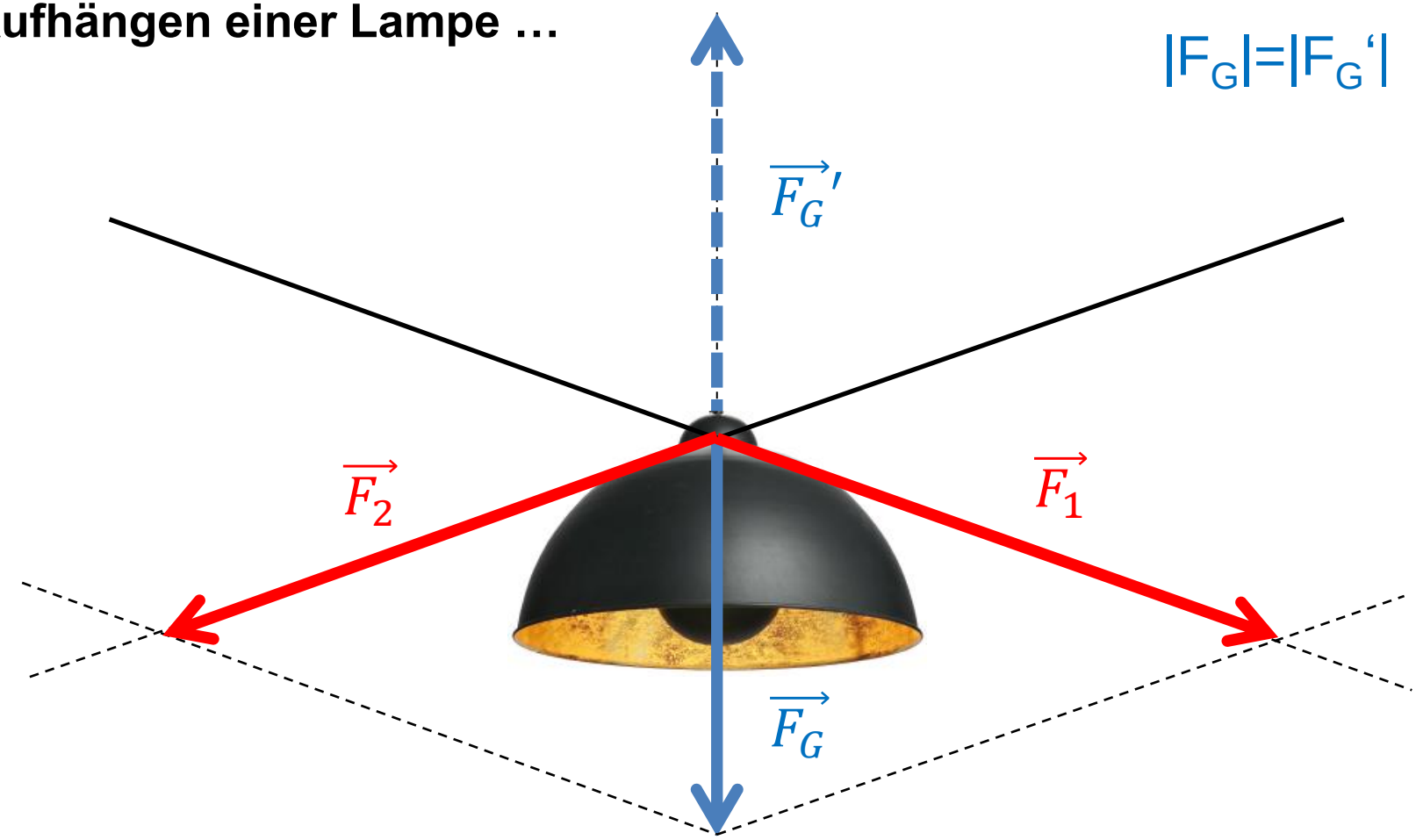
Zerlegung
von
Kräften

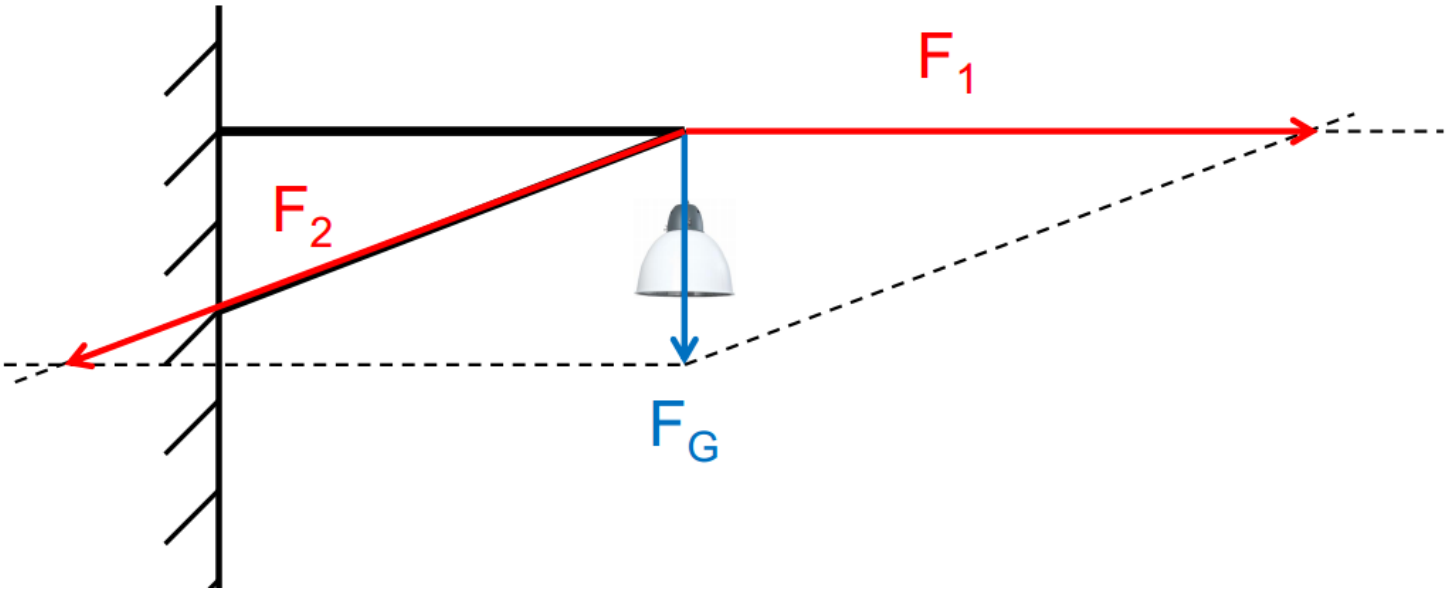


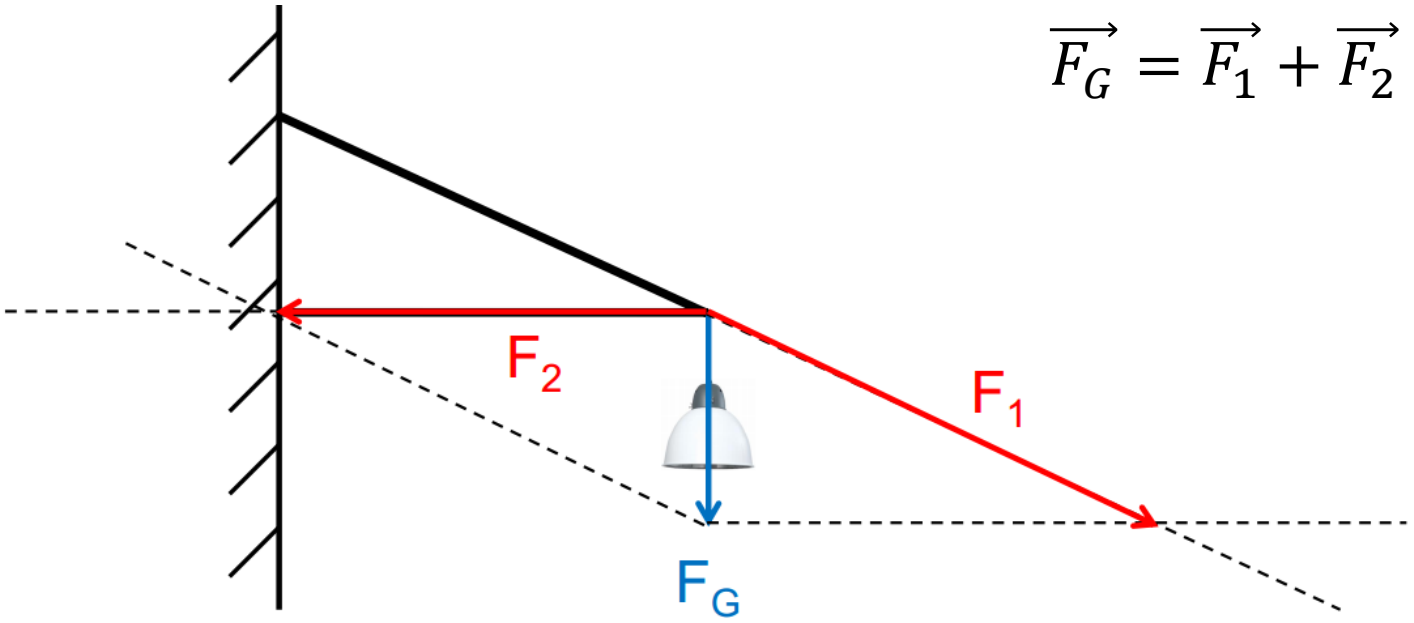
Aufhängen einer Lampe …

$|F_G| = |F_G'|$



Es gilt: $\overrightarrow{F_G} = \overrightarrow{F_1} + \overrightarrow{F_2}$

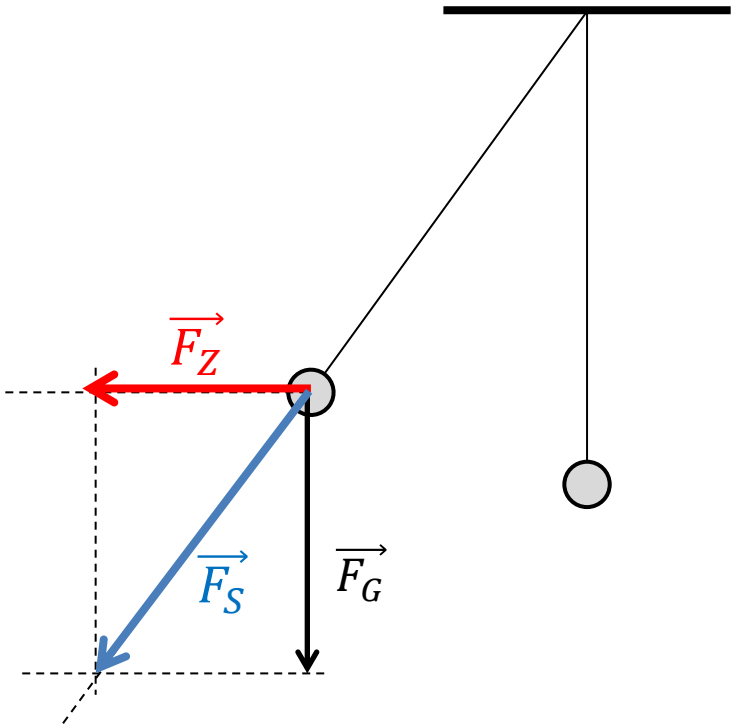




$$\overrightarrow{F_G} = \overrightarrow{F_1} + \overrightarrow{F_2}$$

Kräfte am Fadenpendel:

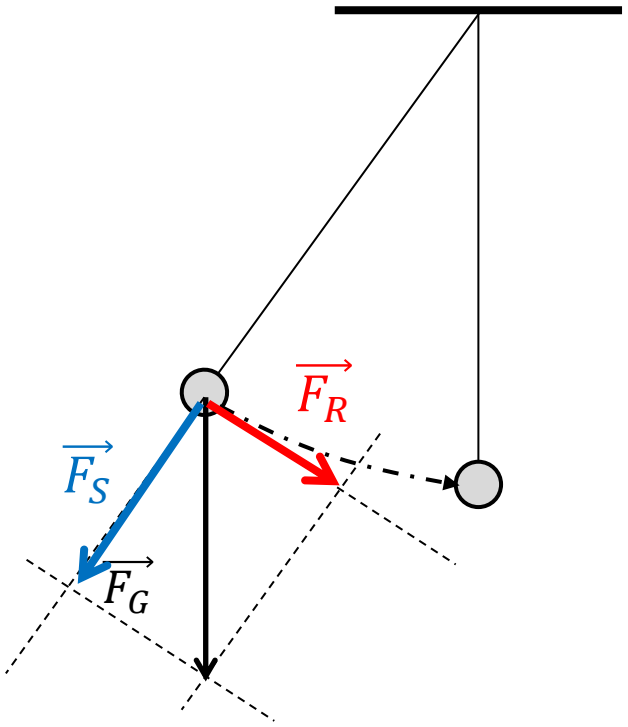
Anheben:



F_Z … Zugkraft (zum Anheben)

F_S … Seilkraft

Loslassen:

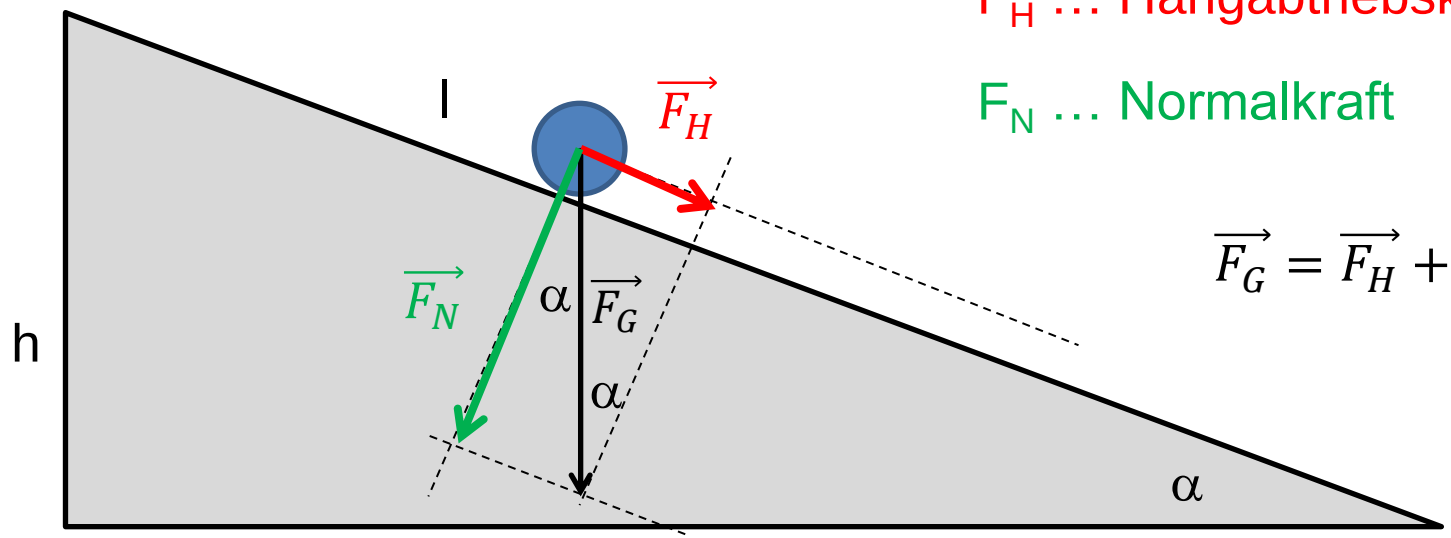


F_Z … rücktreibende Kraft

F_S … Seilkraft

Kräfte an der geneigten Ebene:

► dynamische Kraftwirkung



F_H … Hangabtriebskraft

F_N … Normalkraft

$$\overrightarrow{F_G} = \overrightarrow{F_H} + \overrightarrow{F_N}$$

α … Neigungswinkel der Ebene

h … Höhe der Ebene

l … Länge der Ebene

$$F_H = F_G \cdot \sin(\alpha)$$

$$F_N = F_G \cdot \cos(\alpha)$$

$$F_H = F_G \cdot \frac{h}{l}$$

$$\sin(\alpha) = \frac{h}{l}$$