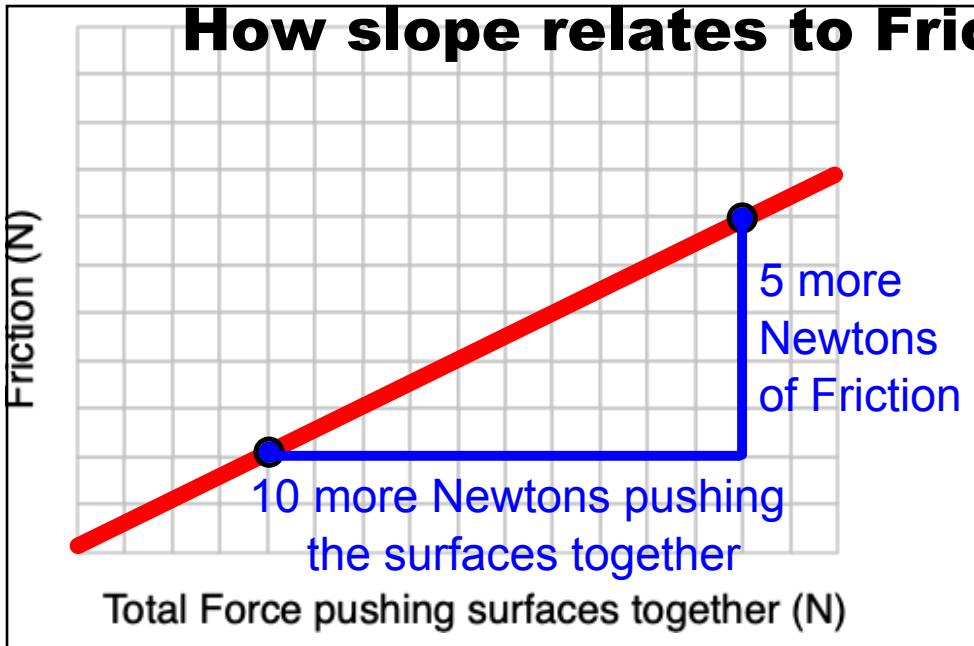
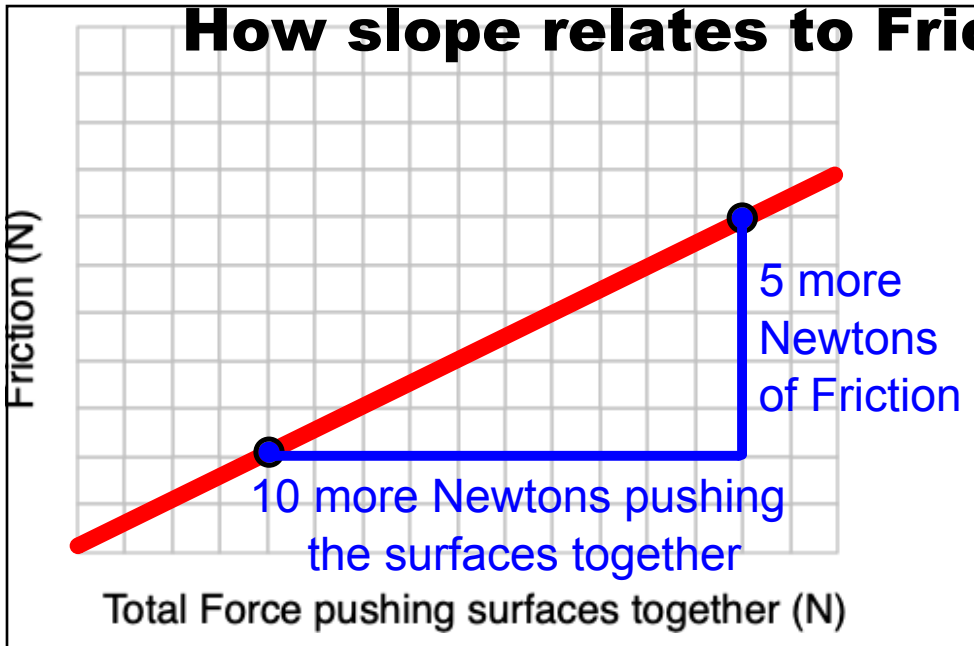
How slope relates to Friction



How much "payoff" do you get for added force pushing the surfaces together?

How slope relates to Friction



How much "payoff" do you get for added force pushing the surfaces together?

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{5\text{N}}{10\text{N}} = 0.5$$

(note that Newtons cancel)

We call this the Coefficient of Friction

- It is the slope of the friction graph.
- It tells you how rough/sticky a surface is.
- It has no units; it's just a number.

Coefficient of friction = 0.5

Means 0.5 N of extra friction for every Newton pushing the surfaces together.

Coefficient of friction = 0.25

Means only 0.25 N of extra friction for every Newton pushing the surfaces together.

More Friction Notes

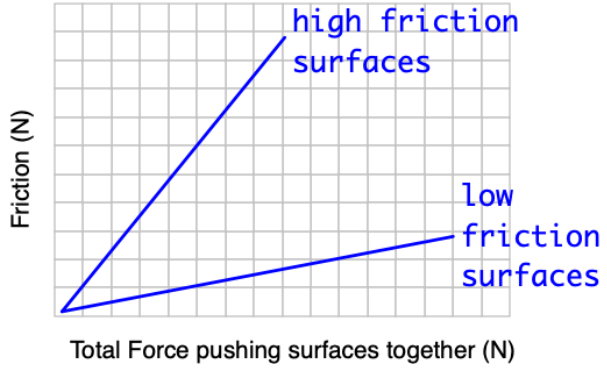
2 Things Affect Friction

How rough/sticky the surfaces involved are.

The Coefficient of Friction (the slope on the graph)

How much force pushes the surfaces together

Steeper slope: higher friction surface means a lot more extra friction for the added force pushing the surfaces together.



Lower slope: lower friction surface means not much extra friction for the added force pushing the surfaces together.