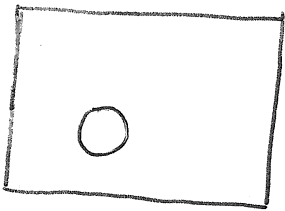


# Force 1

Demonstration 1

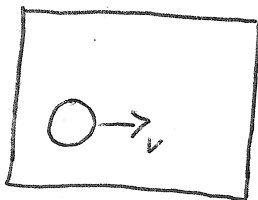


Def:

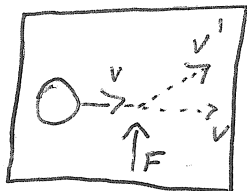
Force

- Push/Pull that is capable of changing an object's state of motion

No horizontal push = No horizontal motion



Horizontal Push = Horizontal Motion  
(in direction of push)



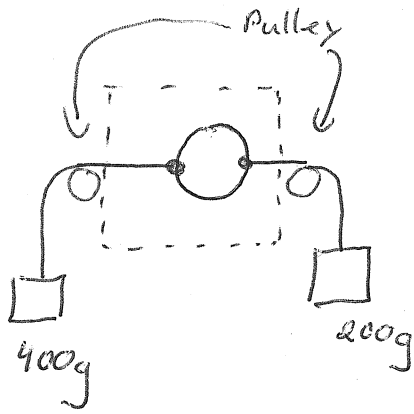
Horizontal Motion w/ perpendicular push =  
Change in line of motion

## Newton's First Law

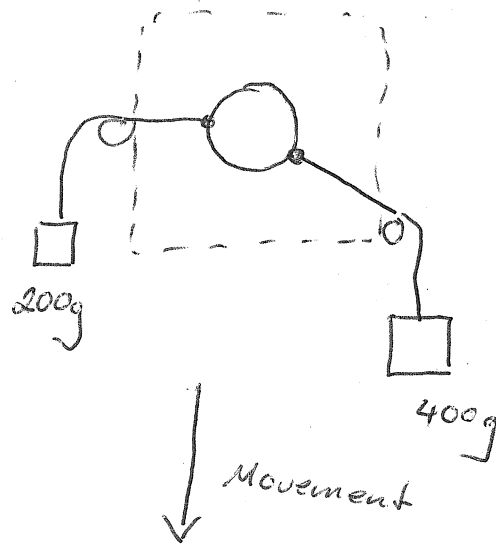
Objects in motion (constant velocity) tend to remain in motion (constant velocity) and objects at rest tend to remain at rest unless acted upon by a net force.

Which way will the object move?

Demonstration  
on  
Force Table



movement  
→



Notice that movement is not always in the direction of the largest force.

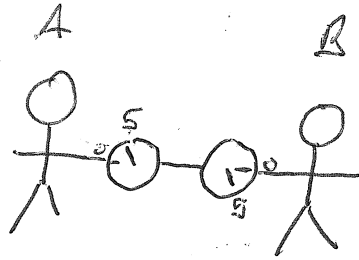
Movement is in the direction of a NET FORCE.

Net Force

- Sum of all forces acting on an object.

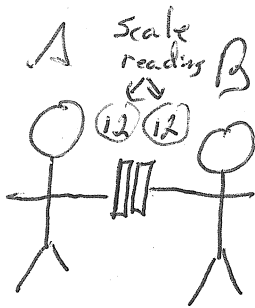
Who is pulling more?

Demonstration with scales



1) When person A is told to push/pull more, the scales read the same.

2) When person B is told to push/pull more, the scales read the same.



3) When both A & B are told to push/pull the same, the scales read the same.

Conclusion: Two objects in contact experience a force of the same magnitude.

Newton's Third Law

- For every "action" force there is an equal but oppositely directed "reaction" force.