Things don't normally turn unless a force acts

Some force must hold the object in the circle.

How?

Turning or staying in a circle requires a FORCE to hold you in

Must point toward the center

Must be exactly the right strength to hold the object in the circle.

too little -> leave the circle

too much -> come in toward the center

How much force is just right?

DEPENDS ON...

- How much mass there is
- How big the centripetal acceleration is

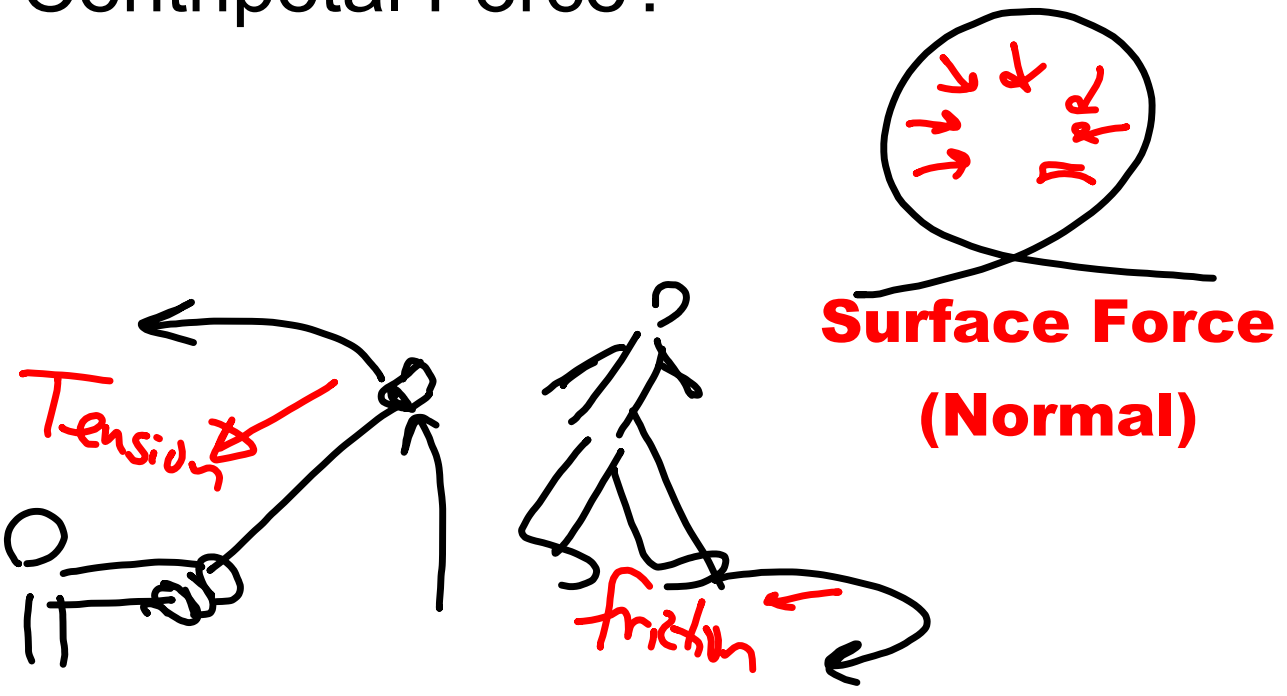
Turning or staying in a circle requires a FORCE to hold you in

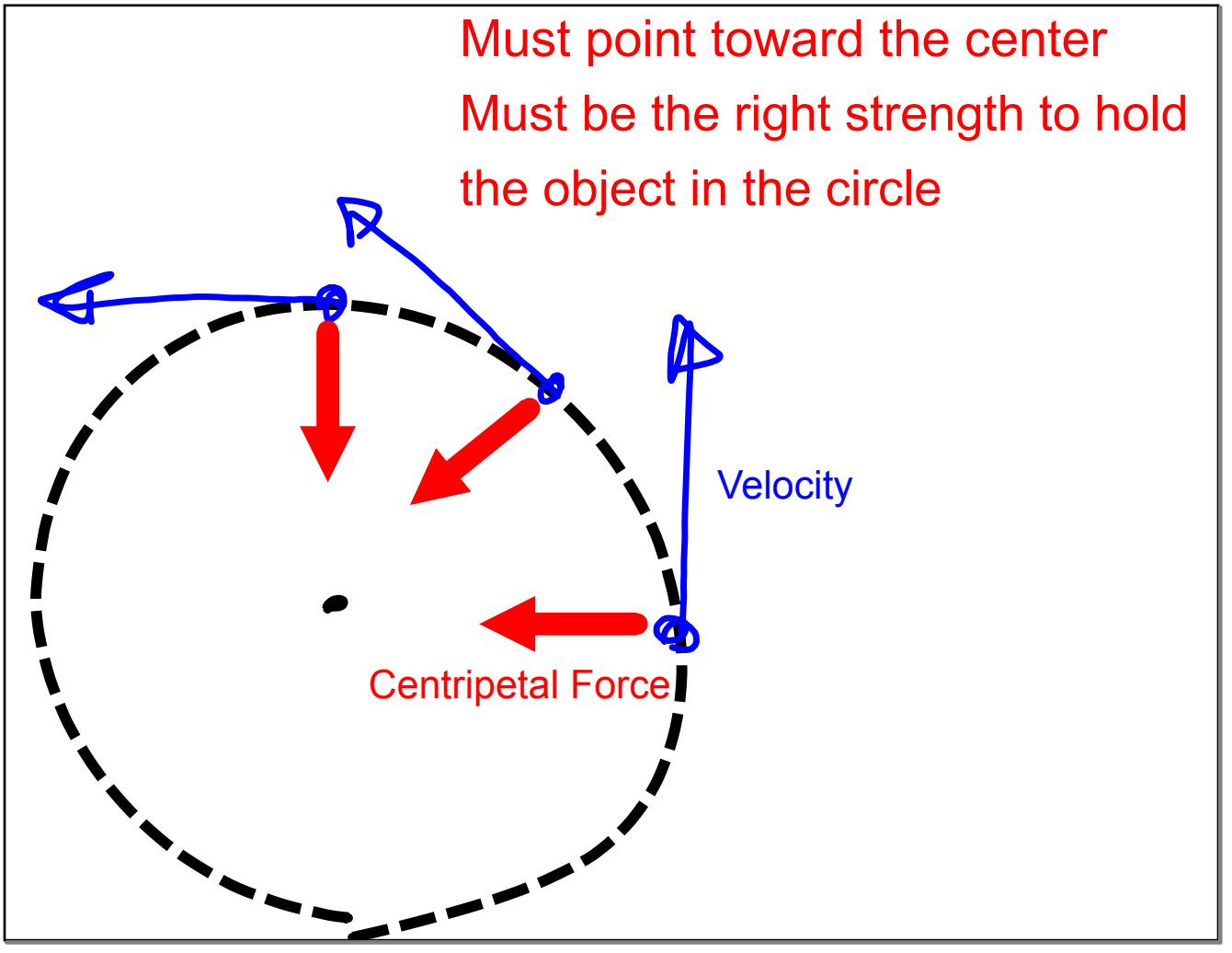
Something must provide the Centripetal Force

Must point toward the center

Must be the correct amount to hold the object in the circle

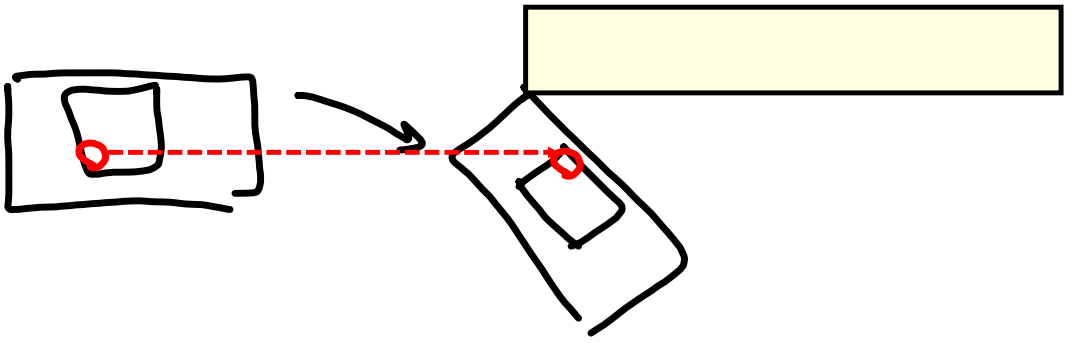
What provides the Centripetal Force?



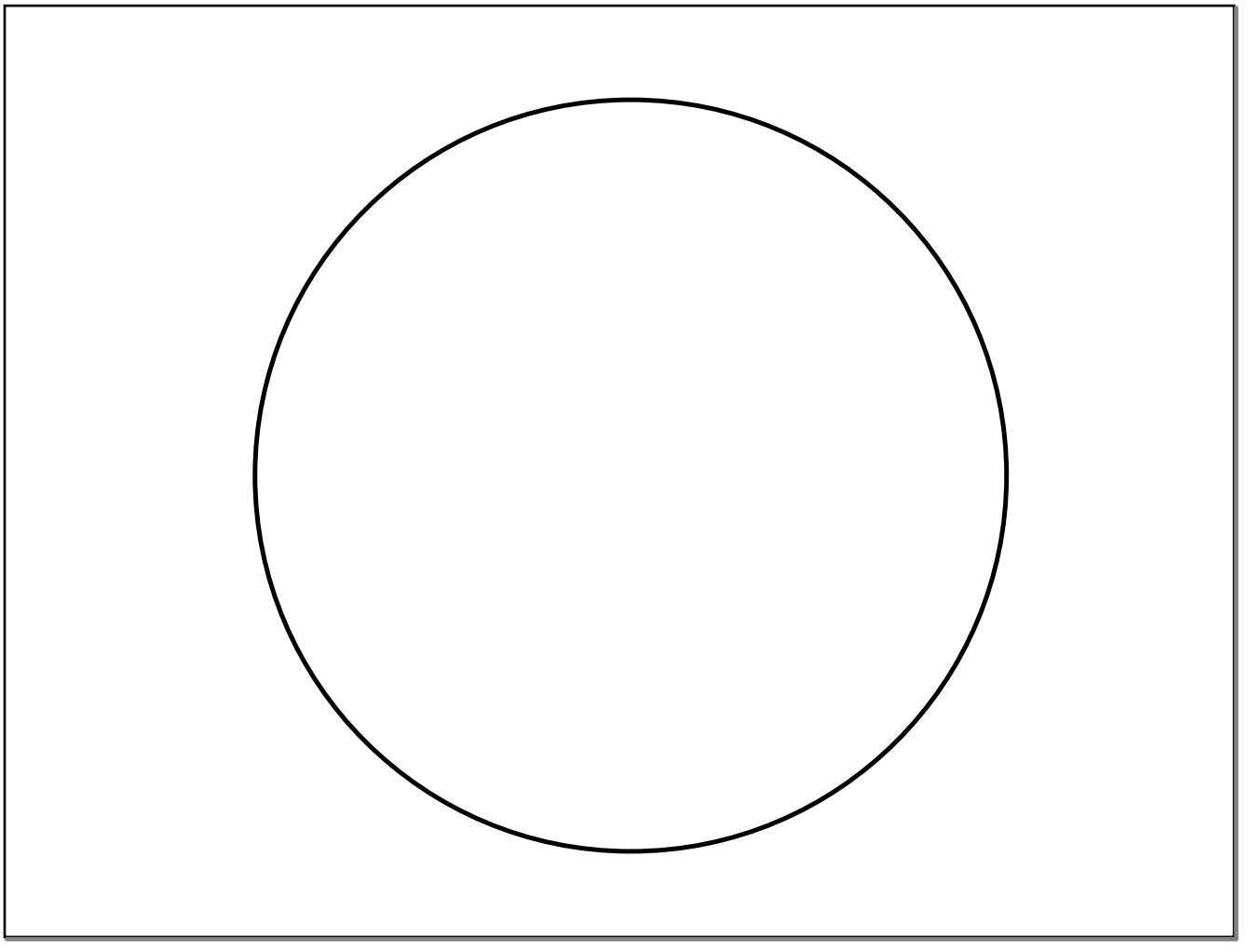

Must point toward the center
Must be the right strength to hold the object in the circle
Velocity
Centripetal Force

What a minute! Aren't you pulled outward??

Centrifugal "Force"



No. You are just leaving the circle in a straight line, which is what things do when there's NO force.



Centrifugal "Force"

could be used

to simulate

gravity in

space.

Spin your ship!