

# TECHNOLOGICAL WORLD

JANUARY 18<sup>TH</sup> 2017





# **CONSTRAINTS**

***DESCRIBES THE EFFECT OF  
EXTERNAL FORCES ON A MATERIAL***

**TORSION  
DEFLECTION  
SHEARING**

# COMPRESSION

NEW

## Definition

[def-uh-nish-uh n]

**This is a force that tends to crush the object**



**Car Getting Crushed**



**Atlas holding up the world**

# TENSION

NEW

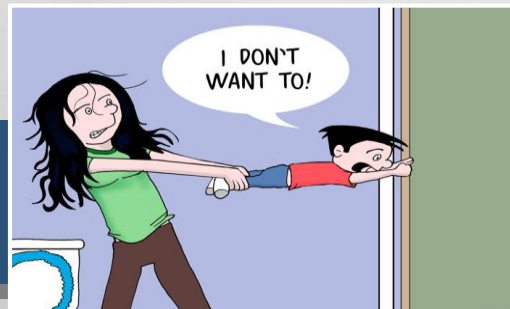
## Definition

[def-uh-nish-uh n]

This is a force that tends to stretch the object



Tug o' War



Reluctant child

# TORSION

NEW

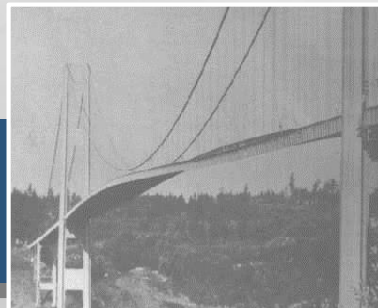
## Definition

[def-uh-nish-uh n]

**This is a force that tends to twist the object**



**Wringing a Towel**



**Twisting Bridge**

# THE TWISTING BRIDGE



# DEFLECTION

NEW

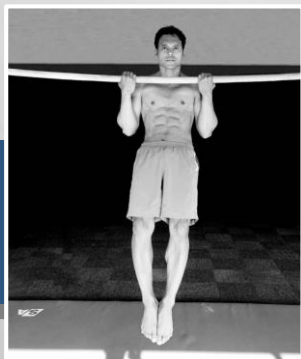
## Definition

[def-uh-nish-uh n]

**This is a force that tends to bend the object**



**Wire getting bent**



**Gymnast on high bar**

# SHEARING

NEW

## Definition

[def-uh-nish-uh n]

**This is a force that tends to cut the object**



**Scissors cutting paper**



**Shun knife cutting potato thinly**





# **DEFORMATIONS**

***DESCRIBES EFFECT AFTER AN  
OBJECT HAS BEEN SUBJECTED TO A  
FORCE***

**ELASTIC  
PLASTIC  
FRACTURE**

# ELASTIC

NEW

## Definition

[def-uh-nish-uh n]



**After a constraint is applied, the object returns to its original shape**

**A Bungee Cord that stretches out when jumping**

**A Memory Foam Pillow that returns to its original shape**

# PLASTIC

NEW

## Definition

[def-uh-nish-uh n]



**After a constraint is applied, the object stays in its new shape**

**A Metal bar stays in its new shape if bent over the head of a gentlemen**

**A Blacksmith flattens a piece of steel to make a sword**

# FRACTURE

NEW

## Definition

[def-uh-nish-uh n]



**After a constraint is applied, the object breaks**

**A Karate Shihan breaks 4 blocks of ice**

**Mr. Tam rips a student's test for cheating**



# INERTIA

Your truck has brakes...the massive hunk of stone doesn't.