



# Car Safety Features

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Pre-IB

# Objectives

- Seatbelts
- Air bags
- Crumple zones



# Seatbelts

Shoulder Belt (lap)

Safety Belt (lap)

2Carpros.com

Explained in all terms of all three of Newton's laws

Person will act violently with the steering wheel, the dashboard, etc...

This may cause the crumple zone

# NOTE!

*DID YOU EVER THINK  
OF WHAT HAPPENS IN  
HEAD INJURIES DURING  
CAR ACCIDENTS?*

- Frontal lobe is crashed...
  - Tire easily
  - Hard to remember what was said or done
  - Can lose their jobs
  - Socially isolated
  - Frustrated
  - Depressed

# Seatbelts

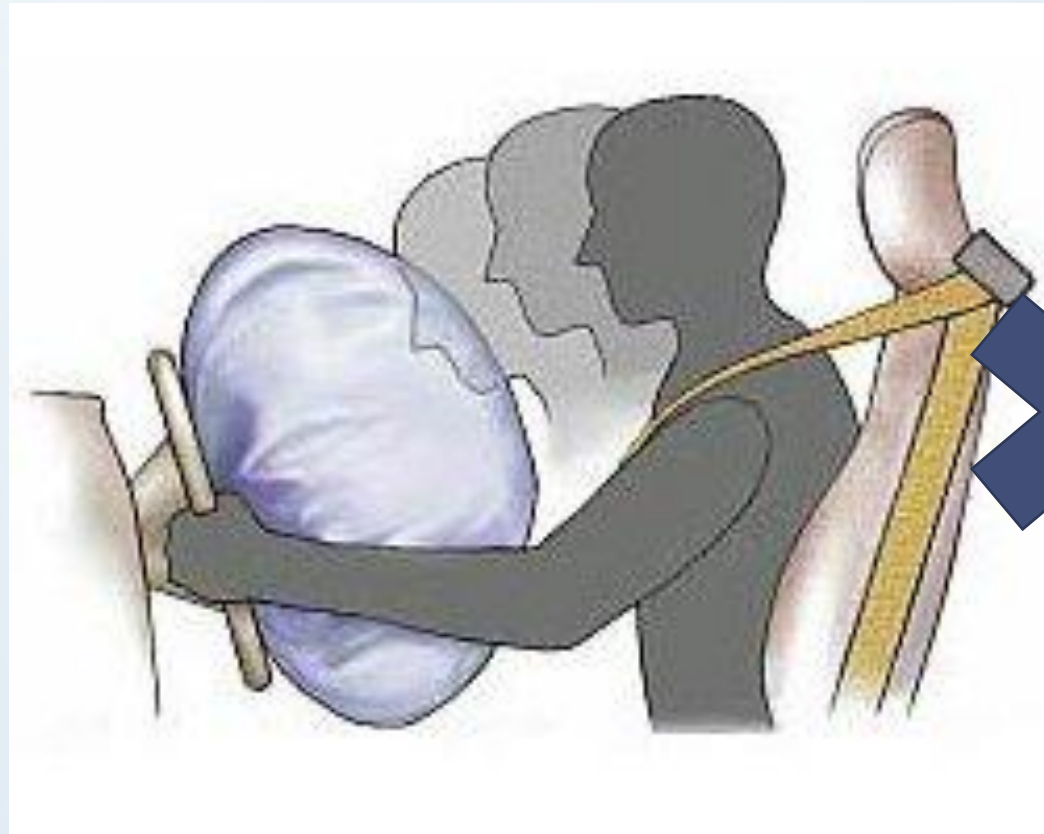


- Force is directly proportional to the acceleration
  - Seatbelts are not completely rigid

# Air bags

**Designed.....**

alternative to seatbelts



**Newton's Second Law...**

when the acceleration is reduced the force is reduced too



# Crumple Zones

*What are crumple zones?*

**Newton's Second Law also!!**

“It used to be thought that the ‘tougher’ and stronger the car the safer it was for the occupants”

**SAFETY CELL!!!**

# REFERENCES

Physics 4/5 for the international student

Google images



THANK  
YOU!!!

