

Engineering behind Parachutes!

UW Science Explorers
Yu Jung Shin



When do we need parachutes?



Gravity: force of attraction that pulls together all matter

On earth, it pulls down towards the ground (center of the earth) causing things to 'fall'



Air resistance: force that air pushes against a moving object

Also called drag force

Air resistance always tries to slow objects down!

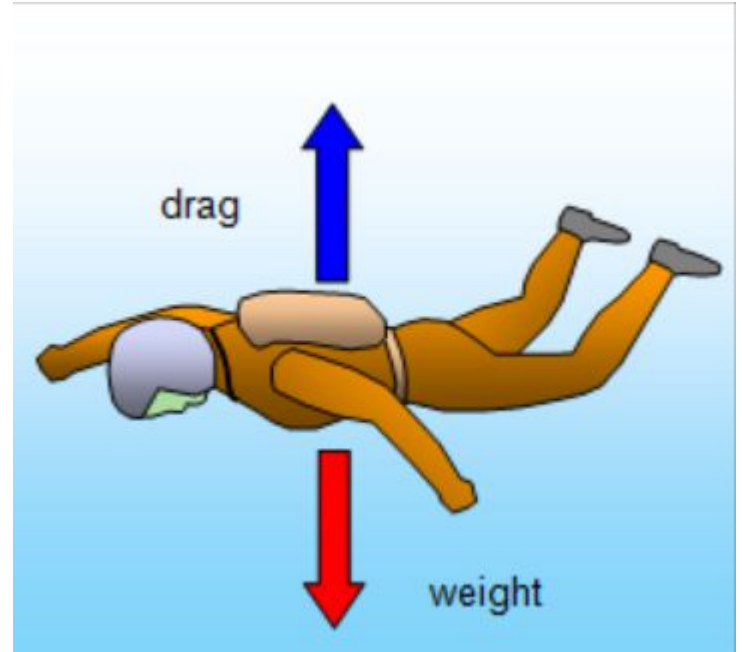


How does parachutes work?

Terminal velocity: when gravity pulling down equals the air resistance pulling up. **Constant speed of fall**

Parachutes decreases terminal velocity!
(90% decrease)

Saves our lives!



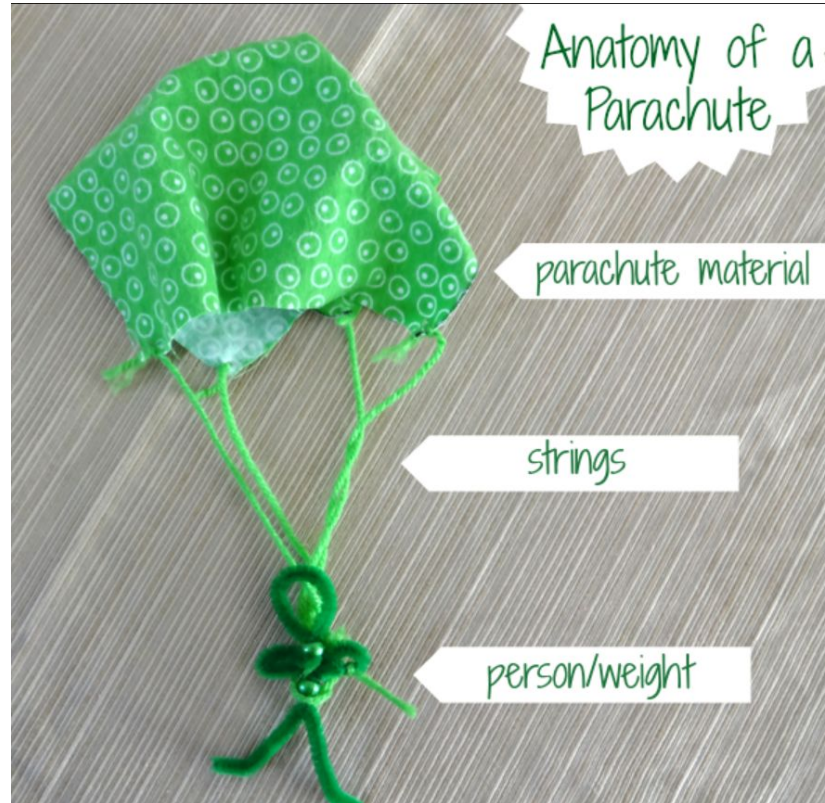
What does parachutes look like?



Design your own parachute

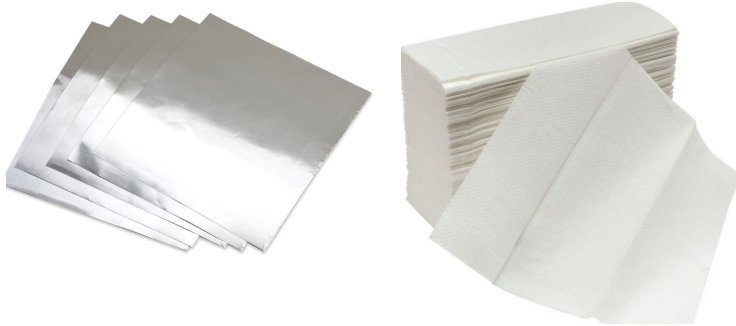
Challenge: Make a parachute that flies longer in air

Components of a parachute



Materials

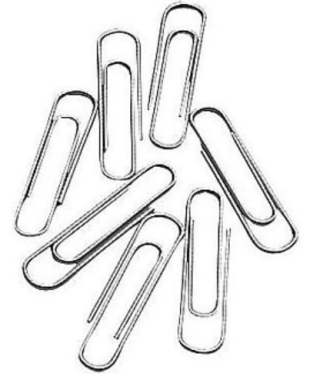
Canopy materials: foil, paper towel, fabric or magazine paper



strings



Weights: paper clip



Things to think about when designing parachutes

- What material for the canopy?
- How long do you want the strings to be?
- What shape and size of canopy would work the best?
- How many paperclips can your design hold?

Questions?