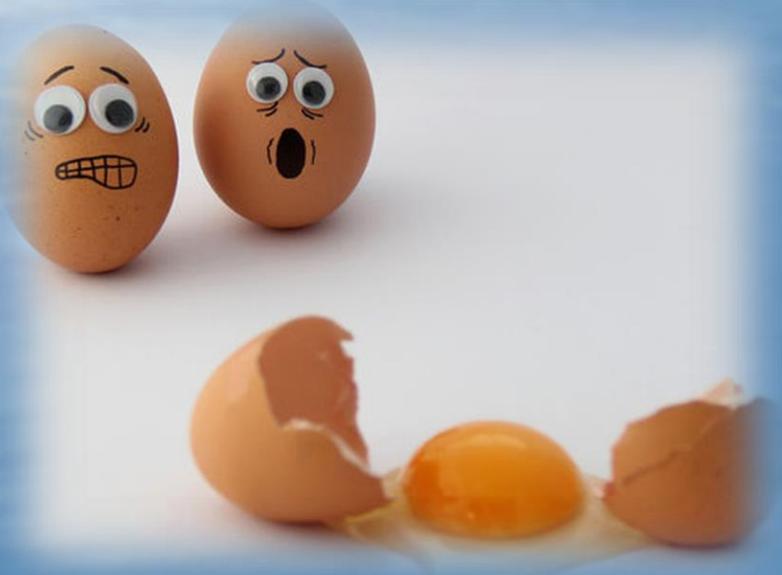


EGGVENT 3



Parachute



Which forces are acting on these skydivers?

Think back to Mrs Palmer-Young's video and your forces glossary.



Which forces are acting on these skydivers?



Gravity

The pull on an object caused by the Earth's mass.



Air resistance

The friction caused by air molecules which slow a falling object.

What do they need to help them land safely?



How does a parachute work?

Watch this slow motion video of a parachute opening ...

<https://www.youtube.com/watch?v=IKJiLb5xpKU>

Can you describe what is happening when a parachute opens?

Try to use some of our key vocabulary...

area

air

gravity

resistance

friction

speed

drag

Did anyone watch this parachute jump?

<https://www.youtube.com/watch?v=FHtvDA0W34I>

When an object is dropped, it gets faster and faster as it falls. This happens because the weight of the object (the force of gravity) pulls them down towards the centre of the Earth.

Eventually, the object's weight is balanced by the amount of air resistance and reaches a steady speed. **It can no longer speed up due to the friction of the air.** This is called **terminal velocity**, and is different for different objects depending on the amount of air resistance (drag).

Objects with large surface areas, such as parachutes or shuttlecocks fall more slowly because they experience more air resistance (drag).

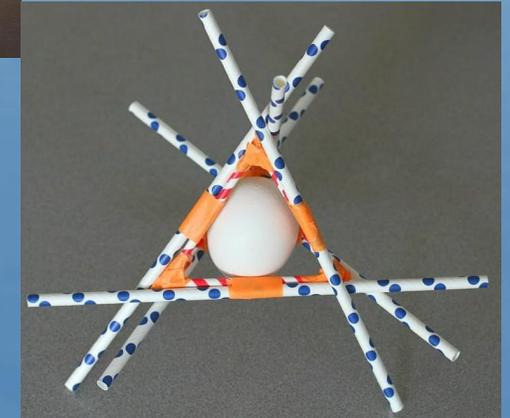
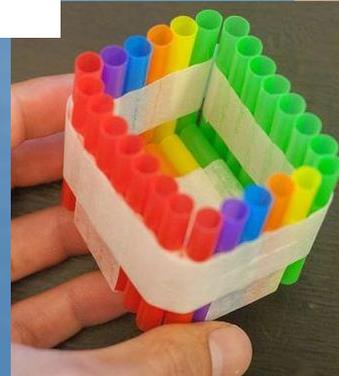
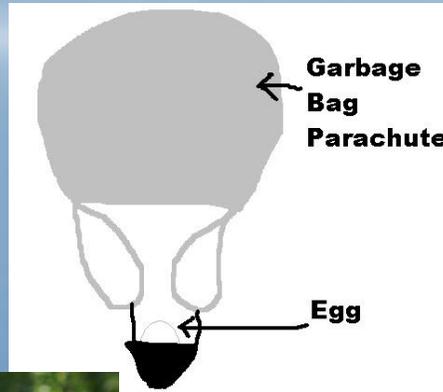


Gravity acts downwards on the weight of the egg, and causes the **egg to accelerate** towards the ground.

A **parachute** increases the amount of **air resistance** on the egg (by increasing its surface area) and **slows the egg's fall** towards the ground.



Your task this week is to design a parachute and harness for an egg which will allow it to be dropped from a height (first floor window – please check with an adult) without cracking.



You will need to consider how you can slow the egg down – use your knowledge of air resistance.

You will need to protect the egg on impact – how can you soften the landing?

Design
your
parachute.



The Ecclesall Egg-lympics

WALT design a parachute and holder which will stop an egg cracking when it is dropped

A labelled diagram of my parachute design.

My explanation of how a parachute works. Mention what forces are working on the egg and parachute.

The Ecclesall Egg-lympics

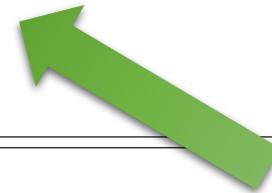
WALT egg-valuate our parachute

Did your parachute work? Why/why not?

What went well?

What problems did you encounter? How did you overcome them?

What would you do next time?



Evaluate
your
parachute.

Good Luck – send us some videos or pictures