

# Annual Science & Technology Competition 2025-26 EGG BRAKE

## Design Brief

1) The aim is to design and build a **self-propelled** transporting device (buggy) capable of carrying a **raw egg**. The buggy must attempt to reach a wall the following distances from the starting point, stopping as close to it as possible. The closer the buggy stops to the wall without touching it, the fewer the number of points awarded. The winner will be the buggy scoring the lowest number of points.

KS1 (Years 1 and 2) – 2 metres to the wall  
LKS2 (Years 3 and 4) – 4 metres to the wall  
UKS2 (Years 5 and 6) – 5 metres to the wall

2) The buggy must be self-assembled. Commercially made chassis will not be accepted, nor will any form of remote control or manufactured timing devices. Individual parts of the machine may consist of manufactured pieces e.g. motors but commercially made buggy chassis will not be accepted. Construction kits i.e. Lego Technic / Meccano / K-Nex may be used.

3) The egg must also be **protected**. If an impact occurs and the egg breaks at any point during the run, then **35 points** will be added to the overall score.

4) The eggs used will be ASDA smart price (medium) sized. (Provided by us on the day). They will be raw and not hard boiled (not even a little bit).

5) The finished transporter must **not be**:

- A)..... Longer than 80 cm.
- B)..... Wider than 70 cm.
- C)..... Higher than 100 cm.

### Ideas/Starting Points

5) Some possible methods for driving the buggy might be:

- Elastic/elastic bands wound around an axle and secured to the chassis.
- An electric motor driving the wheel controlled by a self-built cut off device.
- An electric motor driving a propeller controlled by a self-built cut off device.
- An elevated weight driving the wheels as it falls.
- A thin springy object used to store a given amount of energy connected to an axle by cord.
- Jet power, using a carefully filled balloon and a very light and efficient chassis with low resistance, remember your egg will weigh around 63 grams.
- Stored power in a bent piece of metal.
- Any other method you come up with.

6) Your buggy may need a **braking system** or you might chose to experiment with varying the amount of drive and leaving the breaking to the (minimal) friction on the school's smooth wooden hall floor (freewheeling).

