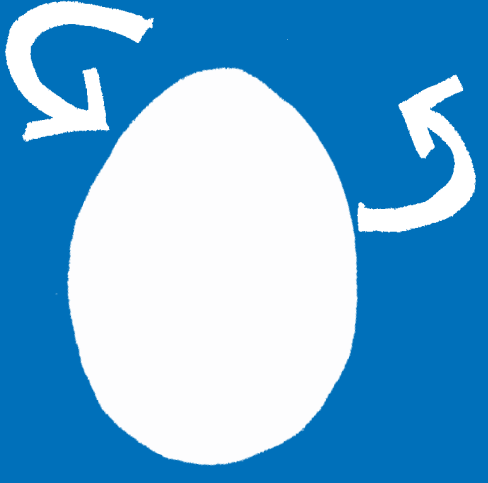
SCIENCE
CHALLENGE

11

INERTIAL EGGS



THE
JAMES
DYSON
FOUNDATION

INERTIAL EGGS

SCIENCE CHALLENGE 11

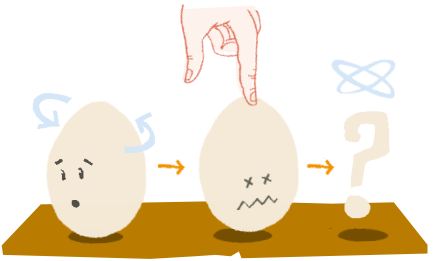
Designed by Tom,
Design engineer at Dyson

The brief

Use eggs to find out about momentum and changing direction.

The method

1. Spin each egg, one hard boiled and one fresh, on a table.
2. Leave it to spin for a few seconds then momentarily stop it by placing your finger on top.
3. Release the egg and observe what happens next.



Materials

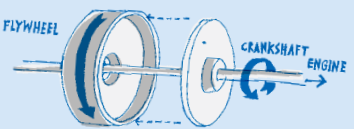
One hardboiled egg

One fresh egg – the fresher the better

How does it work?

The fresh egg will start to spin again when the finger is released, while the other will remain at a dead stop. The fresh egg has egg fluid and yolk inside it which gains momentum.
When the egg is momentarily stopped, the yolk continues to turn inside the shell. When it is released, the viscosity of the fluid between the still spinning yolk and the shell causes the shell to spin again.

Design icons



Inertia is the tendency of a moving object to remain moving or a stopped object to remain stopped. In engineering, flywheels are big, heavy wheels that are spun to gain inertia. The energy is stored and released to smooth out the operation of engines that have a short burst of power during their running cycle.