The lab of MR.Q

The Yolk's on you, Gravity!

What you need:

1 LARGE BED SHEET OR TABLECLOTH
1 RAW EGG
OPEN OUTDOOR SPACE OR A HALLWAY
TWO EXTRA HELPERS

What to do:

HAVE THE TWO HELPERS HOLD THE BED SHEET LOOSELY BY ITS TOP AND BOTTOM CORNERS, CREATING A SMALL "WELL" IN THE BOTTOM SECTION OF THE SHEET.
TOSS A RAW EGG INTO THE CENTER OF THE SHEET FROM A SHORT DISTANCE.
OBSERVE WHETHER THE EGG BREAKS.
REPEAT BY THROWING FROM DIFFERENT SPEEDS - THE EGG SHOULD NOT BREAK!

What's going on?

WHEN THE EGG IS TOSSED INTO THE SHEET, IT SLOWS DOWN GRADUALLY AS THE SHEET STRETCHES AND BENDS. THIS INCREASES THE TIME IT TAKES FOR THE EGG TO STOP, WHICH REDUCES THE FORCE OF THE IMPACT, A CONCEPT IN PHYSICS CALLED IMPULSE. IMPULSE IS THE PRODUCT OF FORCE AND TIME, SO IF THE TIME INCREASES, THE FORCE CAN DECREASE. THE SOFT SHEET SPREADS OUT THE FORCE OVER A LONGER DISTANCE AND TIME, GENTLY BRINGING THE EGG TO A STOP. IF THE EGG HIT A HARD SURFACE INSTEAD, IT WOULD STOP INSTANTLY, AND THE FORCE WOULD BE MUCH HIGHER, CAUSING IT TO CRACK. THIS SAME IDEA IS USED IN AIRBAGS, PARACHUTES, AND SPORTS PADDING TO SAFELY SLOW THINGS DOWN.

https://www.youtube.com/@YeanyScience