The **Unbreakable Egg** Experiment

**Supplies:**
- One raw egg
- Sandwich bag
- Bowl or plate

**Step 1**
Place egg into bag and seal it closed
*If you are brave- try without a bag

**Step 2**
Over the bowl or plate- Place the egg in the palm of your hand and wrap your fingers around it (Make sure you aren’t wearing any rings as they will create uneven pressure)

**Step 3**
With an even amount pressure squeeze as hard as you can

**Step 4**
Next hold the egg at each ends with your thumb and forefinger

**Step 5**
Now squeeze as hard as you can

**Step 6**
Repeat step 2 but wear a ring this time
*(if you do not have your egg in a bag- do this step over a bowl or plate)*

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**The Science Behind the Unbreakable Egg**

The egg’s unique shape gives it tremendous strength, despite its fragility. Eggs are similar in shape to a 3-dimensional arch, one of the strongest architectural forms. The egg is strongest at the top and the bottom (or at the highest point of the arch). That’s why the egg doesn’t break when you add even pressure or pressure at both ends.

The curved form of the shell also distributes pressure evenly all over the shell rather than concentrating it at any one point. By completely surrounding the egg with your hand, the pressure you apply by squeezing is distributed evenly all over the egg. However, eggs do not stand up well to uneven forces which are why they crack easily when you wear a ring (or why it cracks on the side of a bowl). This also explains how a hen can sit on an egg and not break it, even though a tiny little chick can break through the eggshell. This is because the weight of the hen is evenly distributed over the egg, while the pecking of the chick is an uneven force directed at just one spot on the egg.