

incredible!

American Egg Board

Grades K-5

Standing on Eggs

Jaws will drop and eyes will pop when you prove that eggs are way stronger than they're cracked up to be!

What You Need

- several cartons of eggs
- large plastic trash bag
- soap, towel, and tub of warm water (if needed)



What You Do

1. Ask two friends to help you with this experiment. You'll also need to be barefoot.
2. Make sure the eggs in each carton are positioned in the same way (either all pointy side up or all pointy side down). This gives your foot a more level surface on which to stand.
3. Spread the plastic trash bag on the floor. Arrange the opened egg cartons as shown.



Step 3

4. Have a friend help you step up onto the first carton. Make sure you keep your foot as flat as possible so that your weight is evenly distributed across the eggs.

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What You Do (Cont'd.)

5. Have another friend help you place your other foot atop the second carton.



Step 5

6. Remember that if you do crack an egg, you'll need to wash your foot with soap and water.

Why It Happened

Eggs have an arched shape at each end. Architects know that a three-dimensional arch is one of the strongest structures because its curved form distributes weight evenly. When you stand on the eggs, your weight is evenly distributed over the eggs instead of concentrated on one single point. This keeps the eggs from cracking under the pressure!

The egg carton design also helps to keep the eggs from cracking. Egg cartons are made of sturdy cardboard or polystyrene plastic. The individual divots not only support each egg but also keep the eggs from knocking into each other when they are transported.

Now that you've stood on eggs, try walking on them! Just use additional cartons of eggs to make an egg walkway.

This experiment helps to explain why a hen can sit on eggs and not crush them (its weight is evenly distributed over the eggs) while a tiny chick can peck its way out of an eggshell (the chick applies uneven pressure at just one spot of the eggshell).