



Dear Tatiana,
 Bouncing is barely believable.

When you drop a ball, you release a lot of energy. If the ball is brittle, it might be enough energy to shatter it. If the ball has some give, you deform it. You flatten its bottom.

That ball will push back the bottom until it's round again. There's usually enough energy left over to lift the whole ball.

Beakman
 Beakman Place

Experiment #1

WHAT YOU NEED: Soccer ball or basketball - tennis ball

WHAT TO DO:

Go outside for this, OK? You'd get marks on the ceiling otherwise.

Hold the tennis ball directly on top of the basketball, touching.

Drop them to a driveway or other paved surface. Don't throw them down. Just drop them together.

What happens will amaze and delight you in a way that just reading about it cannot do. Barely believable, like I said.

WHAT JUST HAPPENED:

The tennis ball took off and bounced higher than a house, like a rocket. How? Well, the energy needed to lift up a basketball is a lot more than the energy needed to lift a tennis ball. When you flattened the bottom of the basketball, it snapped back with enough force to lift the

basketball. That much force can lift that tiny tennis ball way up there. And everyone who sees it will need to try it for themselves.

Experiment #2

WHAT YOU NEED: Same stuff
WHAT TO DO:

Reverse the stacking of the balls. Put the tiny tennis ball underneath the basketball. Make sure they are touching and drop them together to the driveway. It might take a few tries to get this one right.

WHAT HAPPENED:

The basketball bounced about 2 inches. It bounced so badly, it's barely believable.

EXCUSE ME?

The energy needed to lift the tennis ball is not enough to lift the basketball.

P.S. from Jax: Things that bounce do not need to be soft or squishy. Steel ball bearings will bounce and so will glass marbles.

