Get MOVING Wilder…
…try a Double Ball Drop!

A ball bouncing on the ground is nothing special, but when you put one ball on top of another ball and let them bounce together, something surprising happens!

This experiment is best done outside on concrete, or other hard, flat surface.

Supplies

- Large ball (basketball, soccer ball, or similar size)
- Smaller ball (tennis ball or similar size)

Do It!

1. Hold the large ball out at shoulder height and drop it. How high does it bounce?
2. Hold the small ball out at shoulder height and drop it. How high does this ball bounce?
3. Now, place the small ball directly on top of the large ball.
4. Hold them together at shoulder height and drop them together. Now how high do the balls bounce?

What's Happening?

When you hold the ball out, ready to drop, the ball has stored away energy, or ***potential energy***. When you release the ball, gravity pulls it downward, turning that stored energy into motion, or ***kinetic energy***. When the large ball hits the ground, it compresses, or squishes, and its motion energy gets stored as ***elastic energy*** (like a spring). As the ball releases, it pushes up on the small ball on top, passing on that stored elastic energy.

Why does the small ball go SO high? The small ball has much less mass than the large ball so that extra energy causes it to go even faster than the large ball, which means it bounces much higher than it would on its own.

Use QR code to learn more about Wilder's STEM Fair. Find link to register a Student Project. →