Engineering

What You Need

- nylon stockings
- rubber bands
- balloons
- yarn
- plastic sandwich bag
- pennies
- an egg
- newspaper
- ruler

Engineering Scoop

When you **drop** the egg, the falling egg stretches the bungee cord. As the cord stretches, it **slows** the egg until it stops falling. Then the bungee cord **springs back**, pulling the egg up and away from the ground.The bungee cord stretches because it's made from materials that are **elastic**. Things that are elastic return almost to their original shape after they've been stretched or squashed by a force. The amount the bungee cord stretches depends on how **elastic** the materials are and how much the egg **weighs**. What **materials** did you use to make a stretchy bungee cord?

Egg Bungee Jump Design a bungee jump so that the egg stops within 2 inches of the floor when dropped from 5 feet!

> I Gather the nylon stockings, rubber bands, balloons, and yarn. Pull each to test how elastic, or stretchy, they are. Then use these materials to make a bungee cord.

2 Make a test egg: fill a plastic bag with pennies until it weighs about the same as a real egg.

3 Test your bungee design with the test egg. Measure how close the test egg comes to the ground.

4 Evaluate your design. What changes can you make to improve your bungee design?

5 When you're ready, **try** your bungee design with a **real egg**. What happens?

Did the egg stop within 2 inches of the floor? If not. what could you change so that it does? What happens if you change the **length** of the bungee cord? What happens if you change how you arrange the materials? Or, what happens if you add more **weight** to the egg? Choose one thing to change (that's the variable) and make a **prediction**. Then test it and send your results to ZOOM.

Sent in by Rachel K. of Champaign, IL

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