

Article by Jay Newman. Originally published in *Do Geese Get Goose Bumps? & 199 More Perplexing Questions with Astounding Answers*.
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A NO-WIN SCENARIO

Q: Paper or plastic?

A: If possible, choose neither—that's if you're even given the choice at your local supermarket. Let's look at the pros and cons of both.

Plastic grocery bags certainly get the worst press; they've been outlawed in many areas and are being phased out in others. Since they were introduced in 1977, trillions of plastic bags have found their way into lakes and oceans, where they can harm wildlife that mistake them for food. Plus, they're made from ethylene, a by-product of oil, gas, and coal production—all nonrenewable resources. The petroleum used to make 14 plastic bags is enough to drive a typical car one mile. What's more, plastic bags may take up to 1,000 years to decompose.

But paper bags aren't much better. For one, they come from trees. Although wood is a renewable resource, it's a slow-growing one: It takes a tree several years to grow from a seedling to harvestable size. And manufacturing one paper bag creates 70 percent more



air pollutants and 50 times more water pollutants than making a plastic bag; that's not to mention the gallon of water needed to produce every single one. And because paper bags are larger and heavier than plastic ones, fewer can be transported per truck, which results in higher fuel consumption.

Plastic bags require less energy, oil, and water to produce compared with a paper bag made with 30 percent recycled content, but they take a long time to break down. Paper bags break down in a fraction of the time. According to the U.S. Environmental Protection Agency, it takes 91 percent more energy to recycle a pound of paper than it does to recycle a pound of plastic.

The best solution: buy some sturdy cloth bags and use them over and over.

WHAT THE BRICK?!

Q: Why does it hurt so much when you step on a Lego?

A: For most of human history, we didn't have shoes, so in order to traverse an unforgiving landscape without getting injured, the bottoms of our feet developed extra pain sensors. The more a body part hurts, the quicker the nervous system will react to removing it from the pain source. And the pain caused by Legos—with their hard, sharp corners—mimics the dangerous ground objects—quills, sharp rocks, etc.—that could take a hunter-gatherer out of the game. In fact, the bottom of your feet have more pain receptors per square inch



than almost anywhere else on your body.

You have two main types of pain receptors: *C fibers*, which detect slow, lingering pain, and *A-delta fibers*, which detect more acute pain. There are more than 200,000 A-delta receptors in the bottoms of your feet, more per square inch than anywhere else on your body.

Another factor at play is the chemical makeup of the Legos themselves. According to the American Chemical Society, the bricks are made of ABS plastic—a terpolymer, which has three main monomers: one for strength, one for resistance, and one for shininess. Combined, they make the little bricks very strong. And in order for Legos to fit together so snugly, the edges must be formed at exact right angles, which makes them quite sharp.

When you step on an errant Lego at 3:00 a.m. on your way to the bathroom, the full force of your weight impacts on the Lego. The brick's strength doesn't give at all, causing the sharp edges to protrude far into your skin—impacting all of those A-delta receptors—which transmit pain signals to your brain faster than you can yell, “Who left that \$@#% Lego on the floor?!”

SOME QUESTIONS HAVE NO ANSWERS

“Why are women so much more interesting to men than men are to women?”

—VIRGINIA WOOLF

