Lead plumbing

In ancient times, Romans used lead pipes to hold and carry drinking water.

Wikimedia / Chris 73

Lead plumbing

Lead was a popular, inexpensive, and readily available material for the Romans. It is flexible and durable, and it's easy to work with. Romans used it for plumbing and to make everyday items like eating utensils and dishware!

But, lead is also highly toxic. Lead poisoning can cause nerve damage, interrupt cell production, and damage major organs. It took the ancient Romans a long time to connect their lead use to all of those terrible side effects. Lead use in certain products is now banned in countries all over the world.

Penicillin

Penicillin, once called a “miracle drug,” was first discovered in common air and dust mold.

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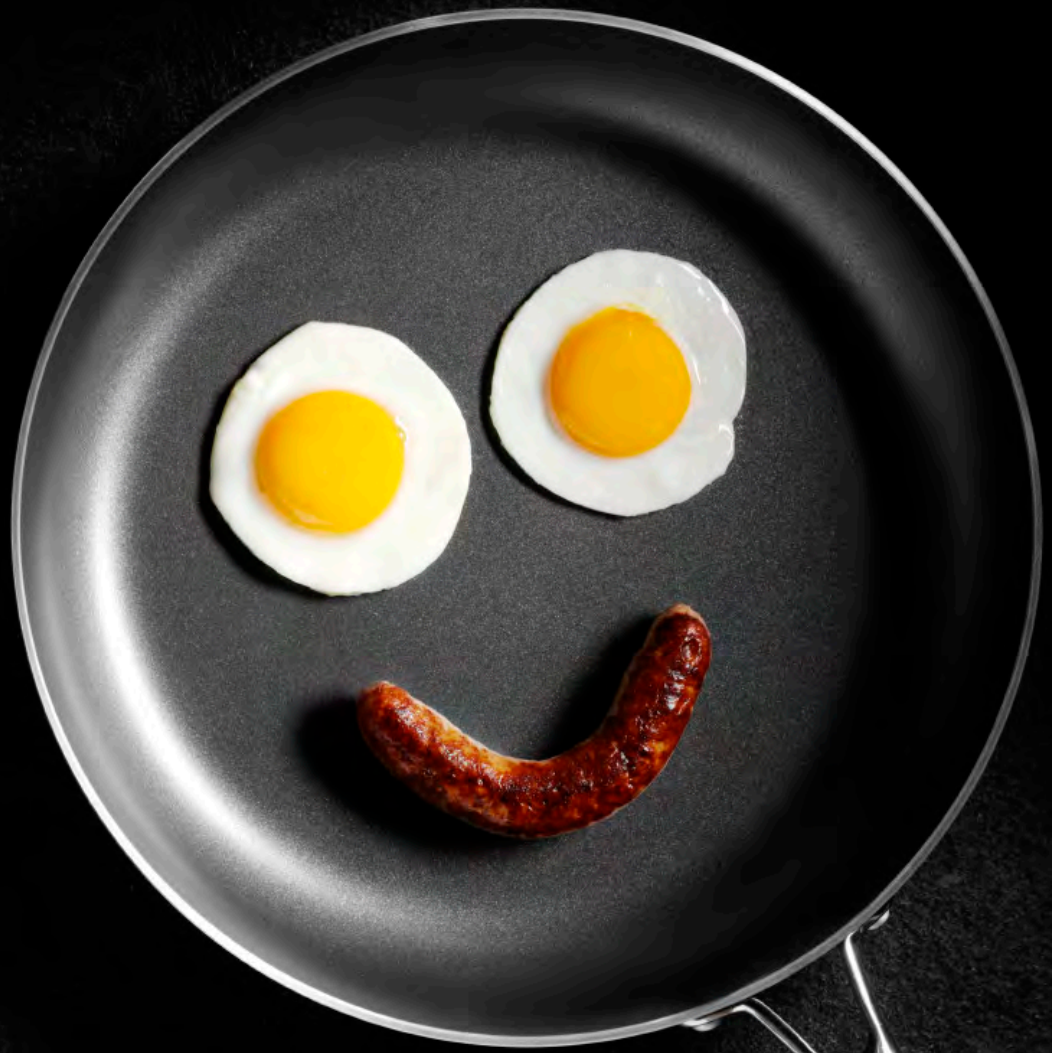
Penicillin

Penicillin's ability to cure people of many once-fatal bacterial infections has saved many, many lives. It's even been called a "miracle drug."

Scottish scientist and Nobel laureate, Alexander Fleming originally discovered chemical penicillin in common air and dust mold. Additional research and experimentation by German, Austrian, and English scientists led to mass production and commercialization as an antibacterial medicine. Just like many other modern medications, Penicillin went through testing to be sure it was safe and effective.

Non-stick pans

Non-stick pans help make cooking and clean-up quick and easy!



Non-stick pans

Some cookware is coated with a special material that creates a permanent non-stick surface. These pans make cooking and cleaning-up an easier task. Cooking can also be healthier because you don't need additional oils or fats to keep food from sticking.

But pans that have non-stick coatings come with a warning from the EPA, or Environmental Protection Agency. Toxic chemicals used in creating this non-stick substance have been found in lakes and rivers, and if scratched the pans can be harmful to human health.

Saccharin

Sugar substitutes, like saccharine, are very popular in our health and weight conscious society.

Saccharin

Created in the lab, saccrine was first made widely available during World War II when there were shortages for many staple goods like sugar. Before the 21st century a label on the packets warned consumers that saccharin is a cancer-causing chemical in lab animals and possibly humans.

Consumers today are no longer warned of this possible concern anywhere on the package. The United States National Toxicology Program (USNTP) removed saccharin from its list of cancer-causing substances in 2000. After 40 years, the USNTP believes that saccharin is safe for human consumption.

Benny the Bear

This toy bear has nanosilver in his stuffing to keep him clean.

Benny the Bear

Silver is naturally antimicrobial, and tiny nano-sized particles are especially effective at killing germs. Pure Plushy, the company that made Benny the Bear, originally included nanosilver in the stuffing to keep, mold, and dust mites at bay.

While the company claimed that the germ-free effects of the nanosilver made the toy safer for children with allergies and asthma, some consumers asked whether the nanosilver itself was safe for children. There is no scientific evidence that shows nanosilver is harmful to humans, but to avoid controversy the company switched to a chemical pesticide.

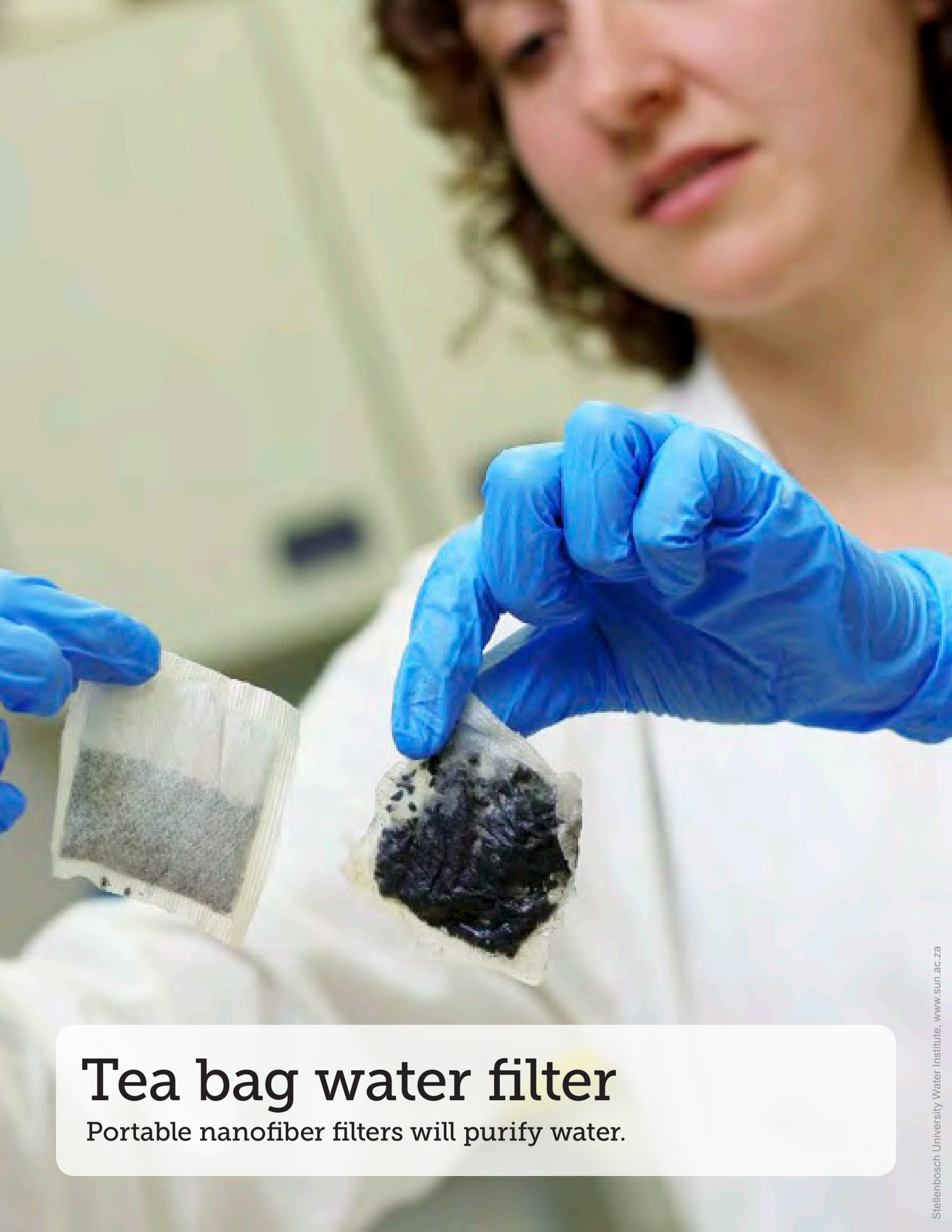
Toothbrush

Nanosilver in this toothbrush keeps germs and bacteria away.

Toothbrush

Silver is naturally antimicrobial, and tiny nano-sized particles are especially effective at killing germs. However, nanosized silver is so small it can't be caught in standard filters and could enter our environment by accident. We don't know exactly how nanoparticles of silver will affect bacteria populations and the overall health of an ecosystem.

There have been many innovations in the dental world including, toothpaste, electric toothbrushes, and mouthwash. Some people question whether we really need something like a special nanosilver toothbrush, too, to help keep our teeth clean and our breath fresh.



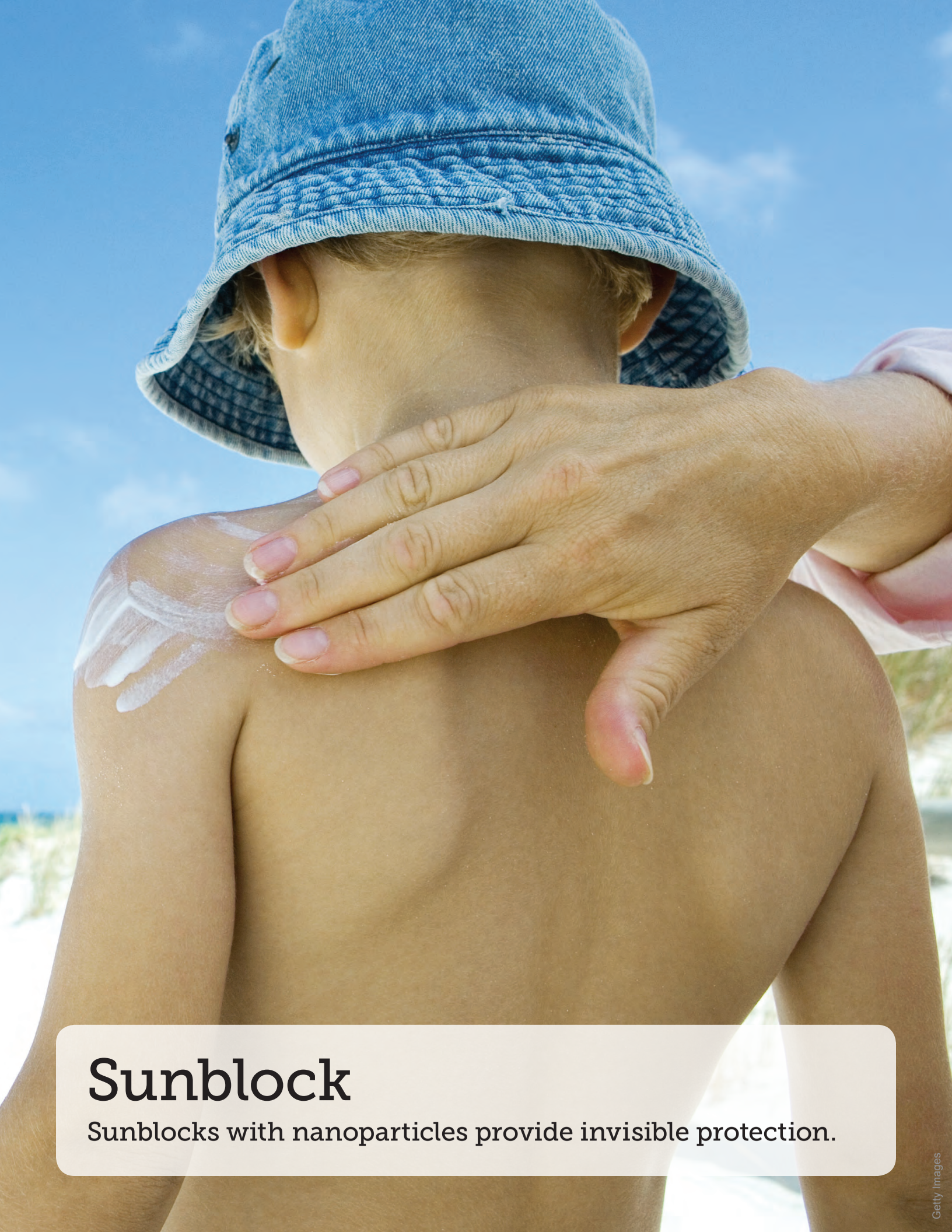
Tea bag water filter

Portable nanofiber filters will purify water.

Tea bag water filter

The tea bag filter is coated with nano-sized antimicrobial fibers and filled with activated charcoal. Together, the fibers and charcoal trap and kill harmful bacteria and toxic chemicals.

This water filter can be taken anywhere in the world, and stuffed into the neck of an ordinary water bottle for use. Each filter costs less than five cents, and can produce one liter of clean water. Making this kind of technology available could help people in developing countries gain access to clean drinking water.



Sunblock

Sunblocks with nanoparticles provide invisible protection.

Sunblock

Sunblocks are one of the most common products containing nanotechnology. Many sunblocks contain nano-sized particles of zinc oxide or titanium dioxide to protect skin from the sun's rays. While older products left a visible white film, sunblocks with nanoparticles go on clear.

We know we should protect our skin from harmful rays, but we do not understand all the effects that these nanoparticles could have on our own health. Some people are concerned that the size of the ingredients may make a difference. What if these nanoparticles are so small that they could go *inside* our own cells. What would happen? Scientists are currently working to answer questions like this.

Liquid Body Armor

When a sudden, strong force is applied tiny nanoparticles make treated fabric super strong.

iStockphoto

Liquid Body Armor

When Liquid Body Armor is forcefully hit, the energy of the sudden impact causes tiny imbedded nanoparticles to quickly clump or tangle together. The material becomes super strong in milliseconds, and then quickly returns to its original flexibility.

Materials like Liquid Body Armor could be used to make military uniforms or football pads. They're even being used to make fashionable ski hats that protect you as well as a hard, plastic ski helmet out on the slopes! One thing to consider is that these products are probably more expensive than the traditional alternative.