Engineers look to wildlife when designing some of the latest gadgets

world roamed by robotic animals might sound like a science-fiction movie that takes place in the distant future. But actually, things like bionic bugs and mechanical mammals are a reality right now.

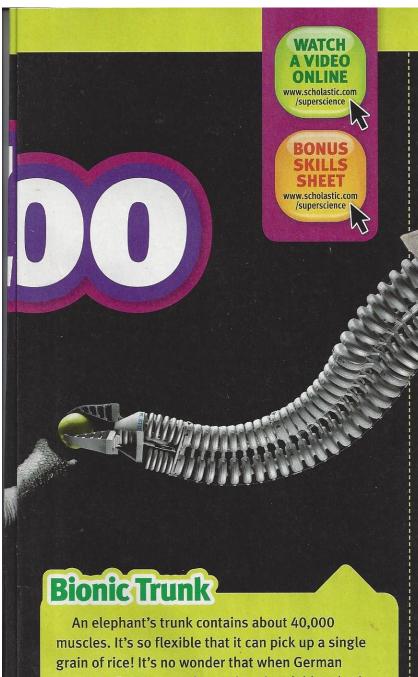
Scientists are using an engineering concept called biomimicry to make technology inspired by nature.

Biomimicry means to imitate, or copy, life. "It's about learning something from the genius of nature's designs," says biologist Janine Benyus. Throughout Earth's history, "nature has learned what works and what lasts."

Here's a close-up look at five of the latest devices inspired by birds, bugs, and beasts.

—Rachelle Burk





company Festo wanted to make a bendable robotic arm, it modeled the arm on an elephant's snout.

Many robotic arms are made of heavy, rigid metal. But Festo's robotic arm is made of a lightweight material. It has three rows of motors that use pumps to turn air pressure into movement. When one row of motors contracts, the others stretch. That causes the arm to bend.

The end of the flexible "trunk" has a threefingered gripper. The inventors of the robotic trunk think it could help people working in factories or hospitals by holding and moving objects. It could also lend a hand to people with special needs.

You think you're looking at. a hummingbird in flight. But what you're seeing is actually a miniature spy craft!

Hummingbirds are known for fancy flying tricks, like hovering in place. So engineers at the U.S. **Department of Defense copied** their body plan when constructing a remote-controlled spy robot.

The flying bot has a 16.5 centimeter (6.5 inch) wingspan and weighs less than an AA batterv. That's about



the size of an actual hummingbird. At speeds of up to 18 kilometers (11 miles) per hour, it can quietly zip into a building or over a battlefield. Then it can

beam live video to its operators through a built-in camera.



