

creating materials of the future

MAKING STUFF

4 X 53 HD

stronger · smaller · faster · cleaner



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Invisibility cloaks. Spider silk that is stronger than steel. Plastics made of sugar that dissolve in landfills. Self-healing military vehicles. Smart pills and micro-robots that zap diseases. Clothes that monitor your mood. What will the future bring, and what will it be made of? In NOVA's fascinating new four-hour series MAKING STUFF, popular *New York Times* technology reporter David Pogue takes viewers on a thrilling tour of the material world we live in, and the one that may lie ahead—offering viewers a behind-the-scenes look at scientific innovations that are ushering in a new generation of materials that are stronger, smarter, smaller, and cleaner than anything we've ever seen.

Making Stuff: Stronger helps viewers understand what defines strength, examining everything from mollusks to a toucan's beak and testing the world's strongest materials. Pogue travels from the deck of a U.S. naval aircraft carrier to a demolition derby to the country's top research labs to check in with the experts who are re-engineering what nature has given us to create the next generation of strong "stuff."

Making Stuff: Smaller examines the latest in high-powered nano-circuits and micro-robots that may one day hold the key to saving lives and creating materials from the ground up, atom by atom. Pogue explores the star materials of small applications, including silicon and carbon. "Smaller" and more portable stuff has already revolutionized the way we live. The nano-technology to come could change the face of medicine, with intelligent iPills that know what medicine to release into the body and treat patients from the "inside" based on changing needs, robots that repair damaged body parts, and more.

Making Stuff: Smarter looks into the growing number of materials that can shape themselves—reacting, changing, and even learning. For inspirations, material scientists turn to nature and biology, modeling a material after sharkskin to develop an antibacterial film that, when sprayed in hospitals, could eliminate MRSA and other antibiotic-resistant bacteria from clinging to surfaces. This episode concludes with a vision of the future, the ultimate in "life-like" stuff: programmable matter that could create a duplicate of a human being.

Making Stuff: Cleaner explores the rapidly developing science and business of clean energy and examines alternative ways to generate it, store it, and distribute it. One scientist is using America's abundance of chicken feathers to create a cheap way to make hydrogen cars safer. Others are developing a process where batteries can run on molten salts or on genetically engineered viruses. Pogue investigates the latest developments in bio-based fuels and in harnessing solar energy for our cars, homes, and industry in a fascinating hour full of the "stuff" of a sustainable future.

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CREDITS

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