THE MACHINE INSIDE: BIOMECHANICS

Spider webs stronger than steel? Fish that can bite through bricks? All species—from the long-extinct to the recently-discovered—have evolved specialized ways of adapting to the world. In this new traveling exhibition from The Field Museum, discover the marvels of natural engineering—and see how humans can draw inspiration from the innovations of evolution.

Through immersive design, real objects and scientific models, interactives, and media, this exhibition will take visitors past the familiar surface of nature, and deep into its invisible workings. Examples will draw from the entire natural world, from ants to microbes to humans. Major themes include:

**Built to Survive**

Featured Sections: Structures and Materials, Pumps and Pipes, Insulation and Radiators*

Every living thing must contend with the elemental challenges of life on Earth.

Plants and animals have evolved clever shapes and novel materials that provide extraordinary strength against external forces. Under the surface, nature’s pipes and pumps tirelessly transport nutrients to sustain every cell. And in Earth’s most uninviting environments, species are some of nature’s greatest innovators.

• How does a giant redwood tree lift water up hundreds of feet to its leaves?

• What trick does an Arctic fish have to prevent its blood from freezing while hunting in icy waters?

*Insulation and Radiators exclusive to 7,500 ft² (750 m²) version
Built to Move

Featured Sections: Jaws and Claws, Legs and Springs, Wings and Fins

In the constant quest to find food and evade predators—whether through air or water—animals exhibit many modes of locomotion. Learn how size, shape, drag, and viscosity affect one’s ability to move. And, see how a springy spine is the key to the cheetah’s speed.

• How does the Mantis Shrimp deliver a punch so hard it can crack open clams, crabs, and aquarium glass?

• Some snakes in Asia glide through the air by launching themselves from trees and even seem to steer their fall.

Built to Discover

Featured Section: Beyond Eyes and Ears

Explore the tools and techniques plants and animals use to respond to the mysterious world around them. It’s much more than our five familiar senses.

• Bats catch their microscopic prey in the dark thanks to the ingenious use of sound waves.

• Hammerhead sharks have special electrical receptors that detect prey or predators from far away.

Biomimicry

Taking inspiration from nature’s ingenuity, scientists and designers have made new technological breakthroughs in the field of biomimicry. Throughout the exhibition, explore examples of how biomechanics holds keys to pressing human problems.

• Carbon fiber prosthetic limbs replicate the rebound effect of the Achilles tendon and allow athletic amputees to sprint to the finish line.

Exhibition Details

SIZE:
7,500 ft² (750 m²) and 5,000 ft² (500 m²) versions available

RENTAL FEE:
Please inquire

AUDIENCE:
Families, school groups, and adults

APPROPRIATE FOR:
Natural history museums, science centers, children’s museums

SHIPPING:
One-way, inbound, paid by host venue (international arrangements vary)

LANGUAGE:
English and Spanish provided

SUPPORT:
Experienced Field Museum staff lead onsite installation and de-installation

Digital Educators’ Guide in English

Exhibitor Toolkit in English, including logo, installation photographs, rights-free images, B-roll, press kit contents, and sample advertisements

Installation and Design Manual in English

WEB SITE:
http://fieldmuseum.org/about/traveling-exhibitions/the-machine-inside-biomechanics

For more information and to request an exhibition prospectus:

Visit: www.fieldmuseum.org/about/traveling-exhibitions
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