

Books on Biomimicry (Nature-Inspired Technologies)

Biomimicry: Inventions inspired by Nature: Dora Lee . 2011. Kids Can Press, ISBN 978-1-55453-467-8 Examines extraordinary innovations of the natural world and the human inventions they have inspired; High-performance swimsuits that are modeled after sharkskin, sleek front ends of bullet trains based on the long, streamlined beak of the kingfisher. New inventions may include a beetle who may be key to developing computers that run on light and how a gecko's foot may hold the secret to closing surgical wounds. Nature's inventions are lean, green machines that are self-sustaining and generate zero waste — yet another cue human are taking from the natural world. Astounding facts and illustrations show the wonders of nature.

New Biomimicry Series to be released in Aug 2012 -

From Cats' Eyes To... Reflectors (21st Century Skills Innovation Library: Innovations from Nature) by Wil Mara (Aug 2012)

From Locusts To... Automobile Anti-Collision Systems (21st Century Skills Innovation Library: Innovations from Nature) by Wil Mara

From Woodpeckers To... Helmets (21st Century Skills Innovation Library: Innovations from Nature) by Josh Gregory (Aug 2012)

From Bats To... Radar (21st Century Skills Innovation Library: Innovations from Nature) by Josh Gregory (Aug 2012)

From Birds To... Aircraft (21st Century Skills Innovation Library: Innovations from Nature) by Josh Gregory (Aug 2012)

From Kingfishers To... Bullet Trains (21st Century Skills Innovation Library: Innovations from Nature) by Wil Mara (Aug 2012)

From Sharks To... Swimsuits (21st Century Skills Innovation Library: Innovations from Nature) by Wil Mara (Aug 2012)

From Thistle Burrs To... Velcro (21st Century Skills Innovation Library: Innovations from Nature) by Josh Gregory (Aug 2012)

Animal Architecture. Jennifer Dewey. 1991. Orchard Books. ISBN 0531059308, 9780531059302 Examines how creatures like arthropods, vertebrates, birds, and rodents build their homes.

Natural Earth, Living Earth. Miranda Smith. 1996. Full-color photography shows how living things interact with the functions and conditions of the earth.

The Way Nature Works. Ed. Jill Bailey. 1992. Macmillan Publishers: ISBN 0021898622815
Drawing on a series of questions that children might ask, a team of scientists proposes answers in this manual for adult readers. They address large issues such as atmospheric phenomena, ecosystem relationships, and animal communication with brief essays, each well illustrated with charts, diagrams, and photographs.

Weird Nature. John Downer. 2002. Firefly Books. ISBN 1-55297-587-8. Some of the most fantastic behaviors of real animals are explored in this beautifully illustrated companion volume to a BBC/Discovery Channel series.

The Shape of Life. Nancy Burnett. 2002. Monterey Bay Aquarium Press. ISBN 1878244396
Based on the National Geographic - Sea Studios Foundation series seen on PBS. Every animal that ever lived fits into one of only eight basic body plans. Those basic forms have given rise to billions of species of animals and continue to define the shape of life on Earth. (Fabulous website with teacher activities and videos at <http://www.pbs.org/kcet/shapeoflife/>)

Online Resources on Biomimicry (Nature-Inspired Technologies)

A. Websites and Web Pages

The Biomimicry Institute Education Pages (Good short video on the importance of Biomimicry in Education) - <http://www.biomimicryinstitute.org/home-page-content/home-page-content/education.html>

AskNature – A growing searchable database of nature’s “strategies” that engineers may want to mimic. <http://www.asknature.org/>

AskNature Slide Show on Retrofitting (A slide show of “20 of Nature's strategies that can give us ideas for retrofitting our homes, buildings, and communities to contribute to a more sustainable world.”) - <http://www.asknature.org/strategy/highlight/Retrofit>

Article on Mussels as Inspiration for a Formaldehyde-free Adhesive to Make Plywood - http://www.columbiaforestproducts.com/Content/Documents/WWP_FlexingMusselsArticle.pdf

B. Biomimicry Videos:

AskNature Nuggets (short videos) - <http://www.asknature.org/article/view/nuggets>

Bio-Inspiration Nature as Muse (11-minute video) -

<http://www.kqed.org/quest/television/bioinspiration-nature-as-muse>

Bio-Inspiration Nature as Muse Teacher's Guide -

http://science.kqed.org/quest/files/imp/download/64/217a_BioinspirationNatureasMuse.pdf

Gecko Adhesive as Inspiration video (4 minutes) - <http://video.calacademy.org/details/260>

2-minute Video on the Importance of Biomimicry in Education - <http://vimeo.com/39282370>

5-minute Video on Saltwater Greenhouses -

<http://www.youtube.com/watch?v=46Vzc8flmaQ&feature=relmfu>

1-minute Animation of Saltwater Greenhouse Approach -

<http://www.youtube.com/watch?feature=endscreen&NR=1&v=Abzzlavlr9M>

Video of "Robotic Maple Seed" -

http://www.youtube.com/watch?feature=player_embedded&v=u23Hqq8QbeE

5-minute Video on Artificial Leaves -

<http://www.youtube.com/watch?v=bByISGTHMkw&feature=related>

"NatureTech" Episode on Natural Materials =

http://www.youtube.com/watch?v=cVVt_Ly30Ug&feature=related

4-minute Video on Paperboard Packaging Design as a Career -

<http://www.paperboardpackaging.org/video.html>

<http://blip.tv/new-video/paperboard-packaging-1538085>