



SUSTAINABILITY LEADERS NETWORK

Deepening Learning & Practice for People & Planet

Bringing a Biomimicry Perspective to Environmental Education

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My Goals Today

- ✓ Offer a brief intro to Biomimicry
- ✓ Present our open source Biomimicry curriculum
- ✓ How Biomimicry is used to learn from and interact with nature
- ✓ Respond to questions





What is Biomimicry?

- Bio – life
- Mimicry – copy or emulate
- The science and art of studying nature's best ideas and then imitating these designs and processes to solve human problems.

Examples



Using biomimicry, people have learned from beetles how to collect water even in dry places like deserts, like this Namibian beetle does.



We've learned from the lotus leaf how to make self-cleaning paint, so that buildings don't have to be cleaned anymore because the rain does it for free.



From termite mounds we've learned how to keep buildings cool in the summer without using expensive air conditioning systems.





From sharks we've learned how to create boats that glide through the water more smoothly, using less energy... and to make swim suits used in the Olympics that have less friction.

Think of the fuel savings if airplanes had a similar skin with less friction.

**T-shirts that wick sweat like a
horned lizard**



**Vitamins based on the diet
of forest apes**



**Fasteners that
stick like burrs**



**Shoe soles that
grip like a
mountain goat**



Why teach Biomimicry?

- Expose students to **new ways** of knowing and loving the natural world
- Contribute to a shift from seeing nature as something to exploit for short-term human benefit – to seeing **nature as an invaluable teacher and model**
- Become **stewards** of the land
- Learn how to **regenerate** natural resources, organize our societies, and live lightly on Earth



Hypothesis

"The more our world functions like the natural world, the more likely we are to endure on this home that is ours, but not ours alone."

- Janine Benyus, leading Biomimicry scholar





Course Goals

1. Become **knowledgeable and enthusiastic** about Biomimicry.
2. **Get outside** and strengthen relationships with the local environment.
3. Learn to better recognize, **observe, and think creatively** about processes and systems in nature.
4. Shift to see nature not as something to exploit, but **nature as a teacher and model**.
5. Collaborate with nature to **devise and apply practical solutions** to current challenges.



Course Sections

1. Intro to Biomimicry and Systems
2. Innovation Inspired by Nature
3. Being a Biomimic: Designing and Acting to Change Systems





How to use the curriculum

- **Appropriate** for middle schoolers, teenagers, university students, and adults
- **Flexible** in terms of content and order
- Important to **adapt to local surroundings** and realities, getting students outside as much as possible

This curriculum may only be used for not-for-profit, educational purposes:

www.sustainabilityleadersnetwork.org/2013/03/biomimicry-curriculum/