

# BIOSTEAM RESOURCE QUICK GUIDE

*This quick guide highlights some of the resources used to develop the BioSTEAM curriculum tools. Explore these live linked resources and more on the BioSTEAM project pages and in the wiki located in the Design Tool. The biomimicry curriculum methodology is derived from and in consultation with Ana MacArthur. The Pollinator Concentrator installation by Ana MacArthur inspired and informed the [Pollinator Concentrator Project](#). Visit [Ana MacArthur](#) website to learn more.*

The BioSTEAM Curriculum tool methodology is founded in the STEMarts Model and starts with creative inquiry into the concepts and themes found in the featured artist's work, interdisciplinary collaborations, and real world challenges. The tool is rooted in exploration; open-source research; STEM experimentation; creative design; and connecting to local youth, educators, artists, and place based cultural innovation through art, science and technology.

As a whole, the *BioSTEAM Curriculum Tool* aligns with core ideas from the Next Generation Science standards(NGSS), and the P21 Framework for 21st Century Learning. In addition, each *project* addresses specific science standards relating to that sci-art intervention. The *BioSTEAM Curriculum Tool* designs to the United Nations Sustainable Development Goals which address current global challenges. Through this partnership students know that they are working on meaningful solutions toward building a sustainable future for all.

## BIOSTEAM RESOURCE FAVORITES

Check out these links to some of our favorite resources found in the BioSTEAM Curriculum Tool.

[Biodiversity Teacher Resources](#)

[Pollinator Concentrator](#)

[Interdisciplinary Knowing](#)

[Participate in Science](#)

[UNESCO Commitment to Biodiversity](#)

[Biomimicry Institute](#)

[Biomimicry Toolbox](#)

[Biomimicry Global Design Challenge](#)

[Ask Nature](#)

[Bat Conservation International Species Profiles](#)

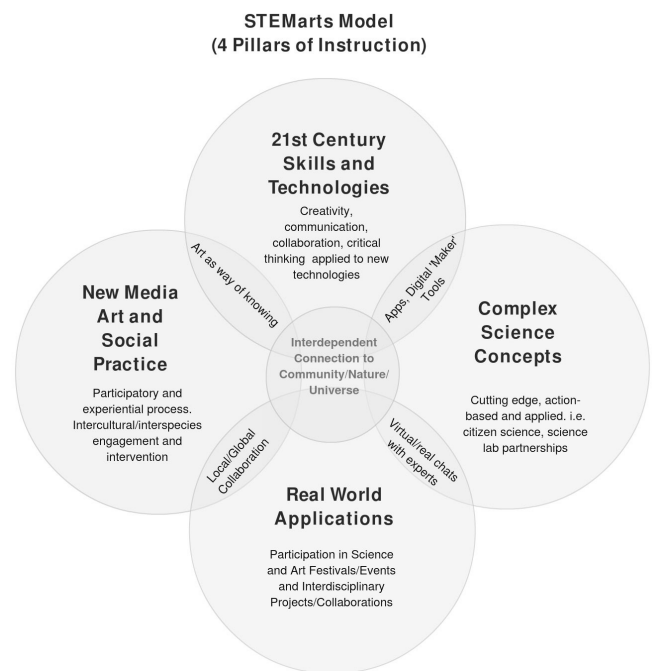
[Arduino Project Hub](#)

[Adafruit Create & Learn](#)

## Archive

[STEMarts Lab Archived Feedback & Activity Guides](#)

[STEMarts Archive Art-Sci Inspiration & Tools](#)





## • BIOSTEAM WIKI FAVORITES

Check out these links to some of our favorite open-source resources found in the BioSTEAM Wiki in the Design Tool. The live links below are organized by design tool stages.

### EXPLORE

#### ***Art + Ecology***

[Ana MacArthur](#)  
[Creative Pollination](#)  
[Rio Fernando Park](#)

### RESEARCH

#### ***Biodiversity***

[Why is Biodiversity so important?](#)  
[Ecosystem Services](#)  
[Introduction to Ecology](#)  
[Soundscape Ecology](#)  
[How Nature Can Protect Us From Pandemics](#)  
[Pollinators Need You, You Need Pollinators](#)  
[Citizen Science in Researching Biodiversity](#)  
[Pollinators Under Pressure](#)

#### ***Bioculture***

[Biocultural Crops and Traditional Farming](#)  
[Biocultural Diversity Combats Climate Change](#)

#### ***Biomimicry***

[Design Inspired by Nature](#)  
[The World is Poorly Designed, but Copying Nature Helps](#)  
[The Innovators Using Nature's Design Principles to Create Green Tech](#)

#### ***Bio-machine***

[Biobots](#)  
[DOLPi Polarimetric Camera](#)  
[David Dunn's Bark Beetle Patent](#)  
[Biomachine Wind Animals](#)  
[PHOX Ears](#)

### ***Pollinator Inspiration***

[Bat-lovers unite!](#)  
[Echolocation](#)  
[Why Nature Loves Hexagons](#)  
[Electric Bazaloo! How Bees See the Invisible](#)  
[Bee-eye Camera: See like a bee](#)  
[Secrets of the Hummingbirds Tongue](#)  
[Desert Bees Have A Secret](#)  
[Bio Strategies of Butterflies + Moths](#)  
[Bio Strategies of Wasps](#)  
[Bio Strategies of Bats](#)  
[Bio Strategies of Bees](#)  
[Bio Strategies of Hummingbirds](#)

### EXPERIMENT

#### ***Sensing the Invisible***

[Polarization of the Sky](#)  
[Only Some Humans Can See This Kind Of Light](#)  
[Interactive Polarized Light Viewer](#)  
[Industructables: Sensors](#)  
[Echometer Touch 2](#)  
[Linear Parabolic Reflectors: Practical Experiment for Students](#)  
[Twisting Light](#)  
[Polarized-Light Mosaic](#)  
[How To Make Polarized Art With Household Items](#)  
[Invisible Art: Mosaics. Polarized Light, and 3D Glasses](#)  
[See Like A Bee](#)

### DESIGN

[BIO-MACHINE Challenge](#)  
[Bio-inspired drawing samples](#)  
[Biomimicry Global Design Challenge Entries](#)  
[Lesson Plan: How Mimimicing Nature Inspires New Inventions](#)

### CONNECT

[Biosteam Partners](#)  
[Youth Corps](#)