Asa Sevelius <asa_sevelius@psbma.org>

ECS NEWSLETTER 4/9/18

Asa Sevelius <asa_sevelius@psbma.org> Mon, Apr 9, 2018 at 12:39 PM
Draft

ECS Newsletter

4/9/18

ECS Mission: To Collaborate with PSB educators to create rigorous, relevant, engaging learning for all students

****

Goals of the Public Schools of Brookline

Goal 1: Every Student Achieving

Goal 2: Every Student Invested in Learning

Goal 3: Every Student Prepared for Change and Challenge

Goal 4: Every Educator Growing Professionally

****

@ECSbrookline

@tanyagregoire

WWW.ECSbrookline.weebly.com

Psbma

Quotes of the Week

All of these quotes are from 8th graders who just completed making their own kinetic sculptures (see below for more details)

Failure made me motivated to try harder, and fix my mistakes to make it better.

Don't stop. If it doesn't work out the first time, then try again. If your mechanism is not correct, make a new one and prototype it. It is all about the process not the product.

The best part of this project was being able to build and collaborate with my peers.

During this project, I learned that both sketching out a plan and measuring pieces of my sculpture before building are essential when building.

The advice that I would give students who will do this project in the future is to not be scared of challenges or making intricate sculptures because they may think it is too hard, but they will be surprised and feel accomplished when they actually finish it and realize it wasn't as hard as they thought. Teachers are also always there to help.

Help each other.

My favorite part of this project was being able to think of something that i want to do and making something that i wanted.

I learned how to better deal with problems. Instead of getting mad or upset that my project wasn't working the way I wanted it to, I tried to find a way to fix it. I think this is a hard skill for children and adults and I feel like this project helped me acquire it.

if plan A doesn't work don't worry there are 25 more letters

I had never used power tools before so this project taught me a lot about how to be responsible. I also enjoyed giving and getting feedback from my peers.

I had no idea how complicated cardboard wheels could be!

I solidified my learning of the difference between kinetic and potential energy. Also, if you have a big gear and a small gear connected by a chain, they both turn at different rates. For example, in my mechanism, the small gear turned 2X faster than the big gear, given it was 2X smaller.

Current Goings On

Kinetic Sculptures - Grade 8 Collaboration

This project was a wonderful collaboration. It was planned and taught by Science, Art, Enrichment and Challenge and Educational Technology teachers. We plan to run it again next year. I think the teachers loved it as much as the students.

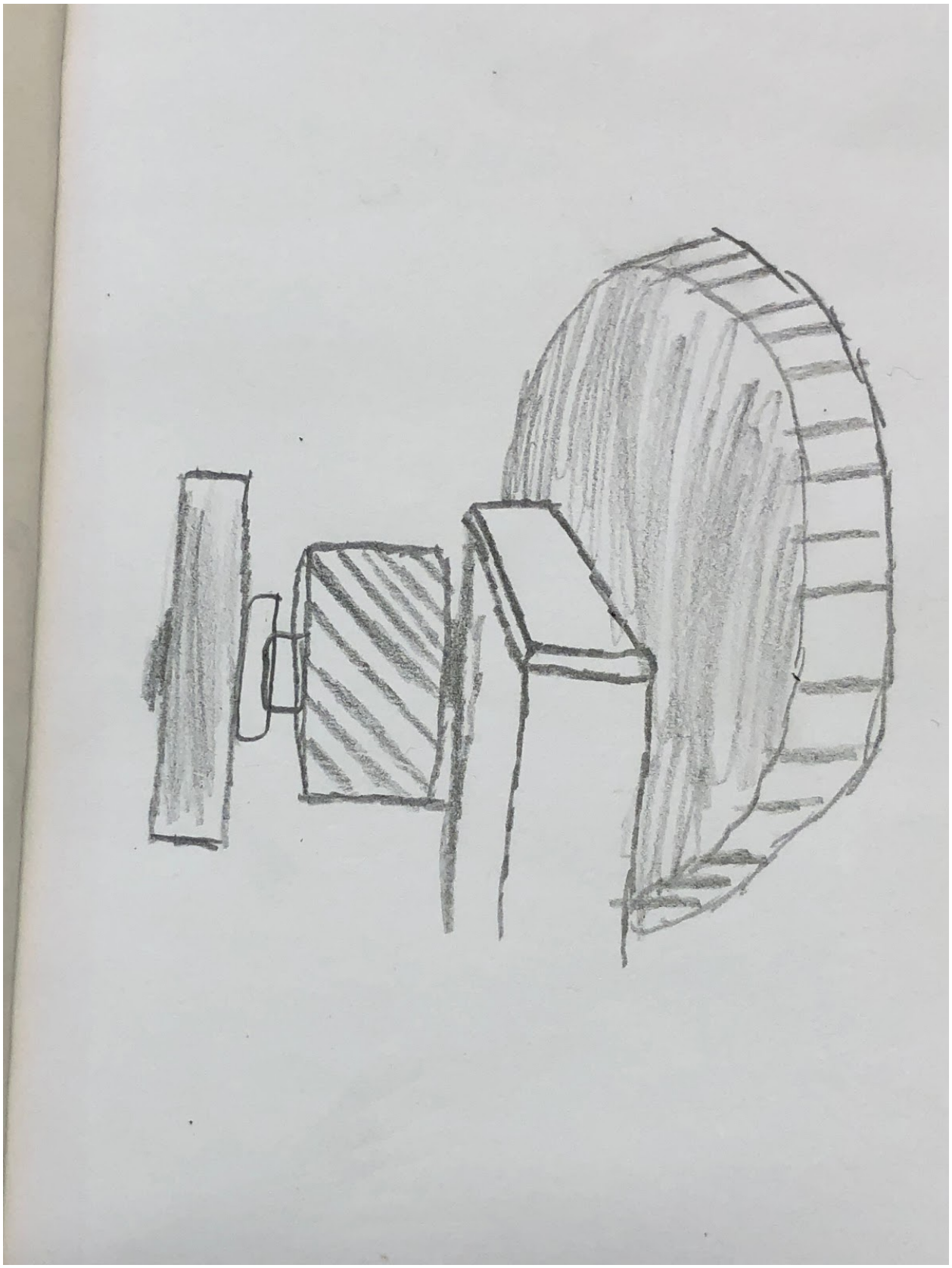
It was a 4 week project that had its roots in maker thinking/design thinking. Students started the project by taking a field trip to the MIT museum to see Arthur Ganson's

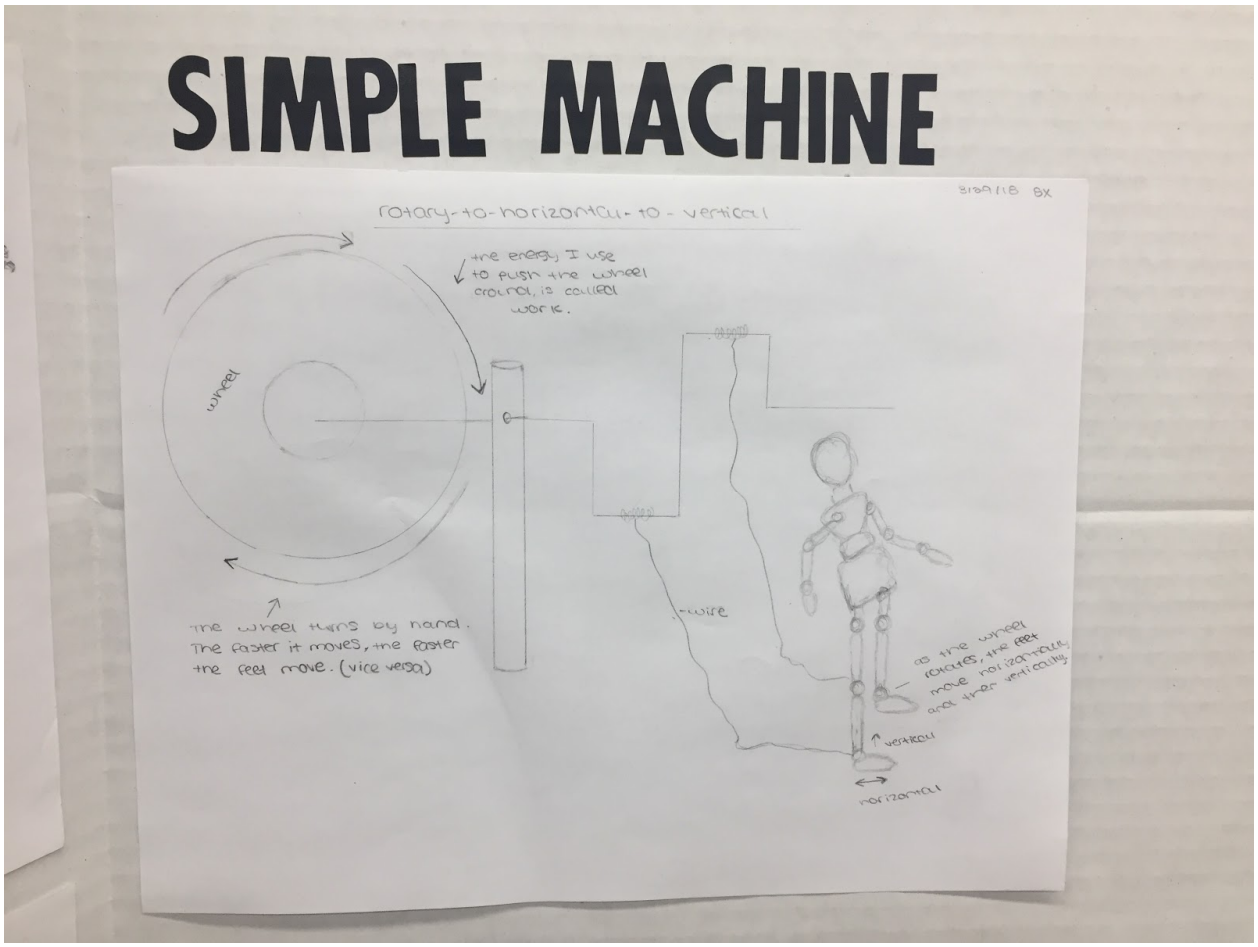
kinetic sculptures. Here is Arthur Ganson's TEDtalk (watch before showing to kids, there is one sculpture that he describes in a slightly off-color way.)

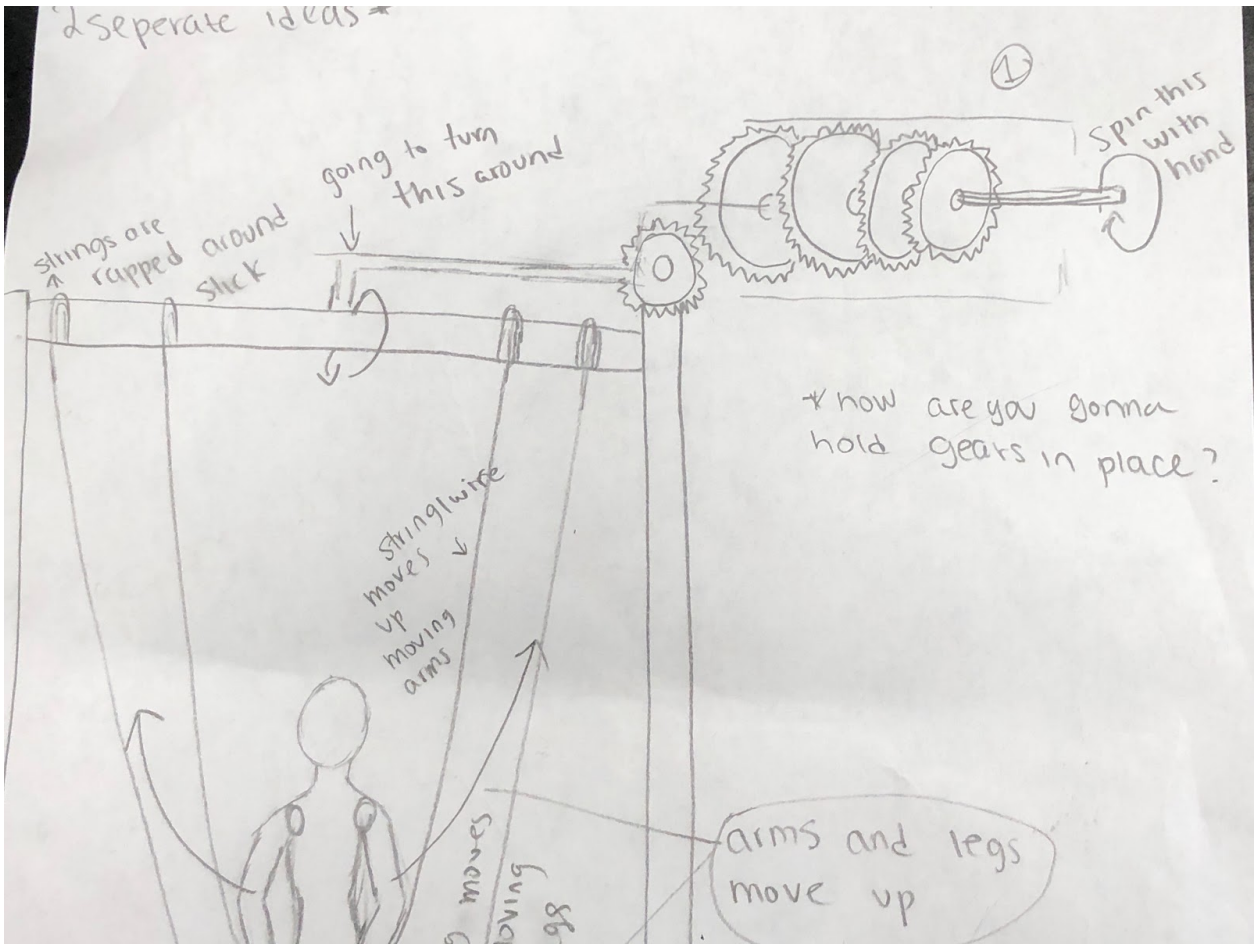
Back at school, they learned a lot about the physics of energy and simple machines, as well as how to draw observational and movement sketches, and how to sketch out their designs. Each student chose what they wanted to build and how they would do it. Teachers were always on available to bounce ideas off of and to offer a tutorial on how to use a certain tool.

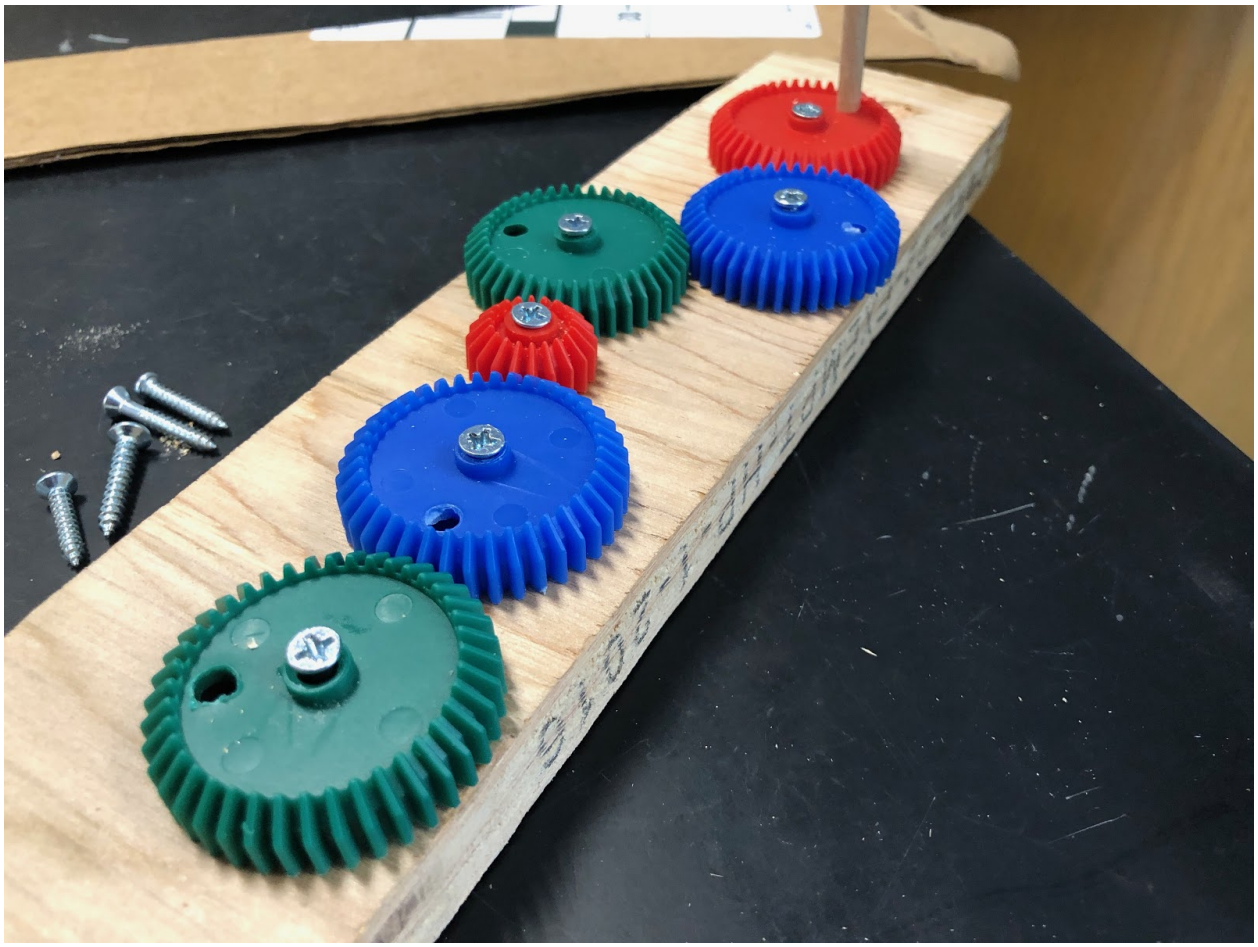
This is our ten minute Kinetic Sculpture movie , it brings the whole experience to life.

Here are some still photos of the students' planning and building their sculptures. However, the still photos don't do it justice - watch the movie!




SIMPLE MACHINE
3/29/18 BX
rotary-to-horizontal-to-vertical
the energy I use to push the wheel around, is called work.
wheel
the wheel turns by hand. The faster it moves, the faster the feet move. (vice versa)
wire
as the wheel rotates, the feet move horizontally and then vertically
vertical
horizontal


2 seperate ideas
1
spin this with hand
going to turn this around
strings are rapped around stick
* how are you gonna hold gears in place?
string/wire moves up moving arms
arms and legs move up



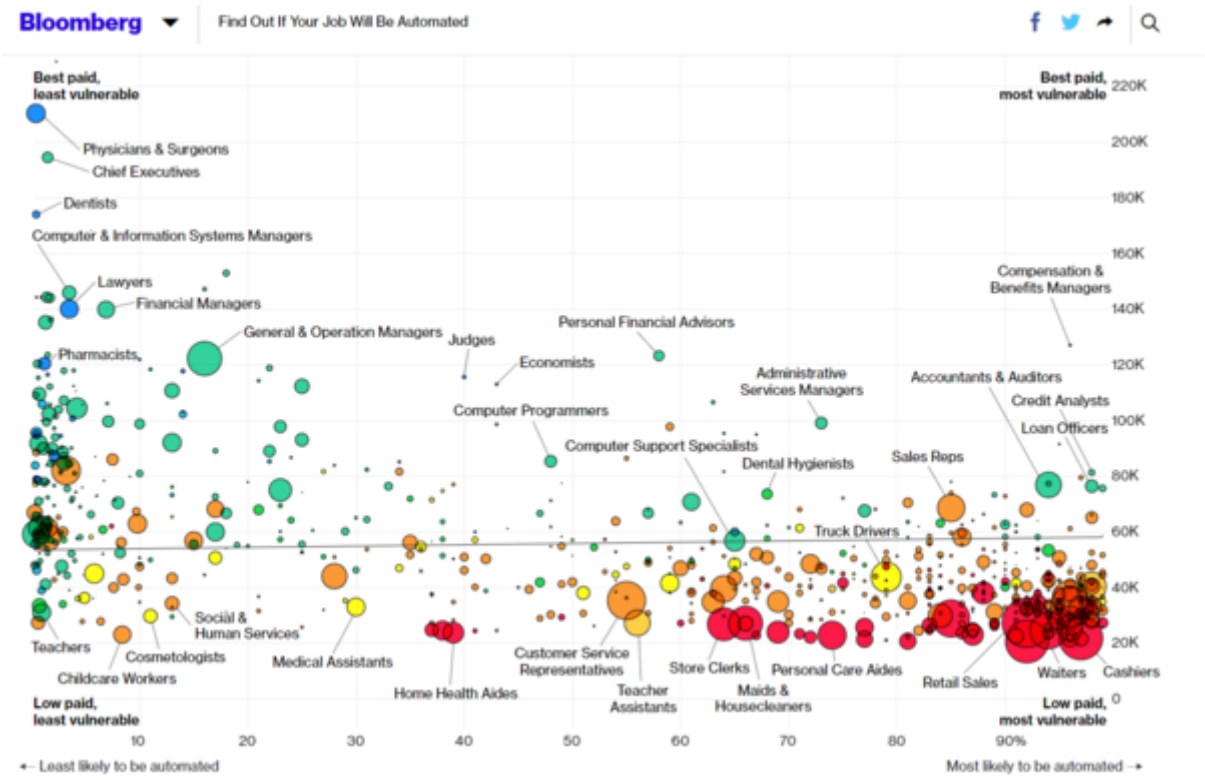

250
245
240

Articles and Resources

Are You Helping Prepare Students for Jobs That Will Be Lost to Automation?

It's interesting to think about the endgame. How do we best prepare our students for their lives after school? What will our kids be doing when they graduate? What will life be like in five or ten years? How will technology and the acquisition of information be different than it is today? How does all of this relate to what we are teaching right now?

Here is a link to a bigger image of this graphic



Can you imagine your students inventing products like the following? Robots cannot think creatively, but our kids can!


GOODYEAR IS PROTOTYPING
TIRES LINED WITH LIVING-MOSS
TO HELP ABSORB CARBON
DIOXIDE ON THE ROAD.
GREENMATTERS


LEGO IS WORKING WITH THE
WORLD WILDLIFE FUND TO
MAKE PLANT-BASED PLASTICS
SOURCED FROM SUGARCANE.
GREENMATTERS
LEGO

Holliston Students Modify Classmate's Wheelchair for Soccer

(Thanks Matt R!) This is another fine example of students being creative and innovative! Middle school students created several models in their technology education classes and ultimately one was chosen for actual use by a student who has cerebral palsy. On one level this is an amazing example of empathy, community, and authentic learning. At the same time, the district has made a point of publicly sharing innovative teaching and learning experiences under the hashtag #HollistonInnovates. You can check this out on Twitter. So how can we do something similar???

You Can't Cover Everything

(Thanks Matt R.) Teachers have mandated content to cover, but also seek to develop skills that students will use long after they have forgotten rote facts.

Equity/All Students Achieving

A Diversity & Cultural Literacy Toolkit

There are a lot of excellent and unique resources here.
Some examples are:

- Dimensions of Diversity from Johns Hopkins Diversity Leadership Council
- Unpacking the Invisible Knapsack by Dr. Peggy McIntosh (via National SEED Project)
- How the Biases in the Back of Your Mind Affect How You Feel About Race via PBS Newshour
- What Are Microaggressions? from Derald Wing Sue
- National Association of Black Journalists Style Guide
- National Center on Disability and Journalism Style Guide
- A Collection of Resources for Teaching Social Justice from Cult of Pedagogy

Diversity Wheel from the Dimensions of Diversity

Oscar-Nominated 'Traffic Stop' Explores Violent Arrest of Breaion King (a teacher)

This powerful 30 minute film tells the story of an African American Teacher who was violently arrested by a white officer in Austin,Texas for a traffic violation. For those of us who are white, this film gives us a front row seat to what it is like to experience racism, and insight into what it is like for our students and colleagues of color.

Tinkertime

Trash to Treasure Challenge

Anyone can enter and win! The prizes are a UHD TV or a sawzall! But to me, the fun is in the creating! What treasure can you make from trash? Here are some of the entries, made by people just like you (all instructions on how to make them can be found at the link above):

An old dial phone transformed into a mobile phone!

Sock Snowmen

Doodle pads for Children

Opportunities/Goings on

Cambridge Science Festival

Every April the MIT Museum presents the Cambridge Science Festival in collaboration with the City of Cambridge, community organizations, schools, universities, and businesses. Come to the Museum and enjoy **a week filled with workshops, hands-on activities, demonstrations, tours and more.**

They have a lot of really great opportunities, including… guess what:
Creative Kinetic Sculptures

April 14, 12:00 - 4:00 pm

Included with Museum admission

Families, Teens, Adults

Explore the interface of art and engineering by creating a unique moving art piece engineered to move with gears, cams, linkages, and pulleys. 30-minute sessions available with on-site sign-up.

The Great Create Contest - For Teachers!

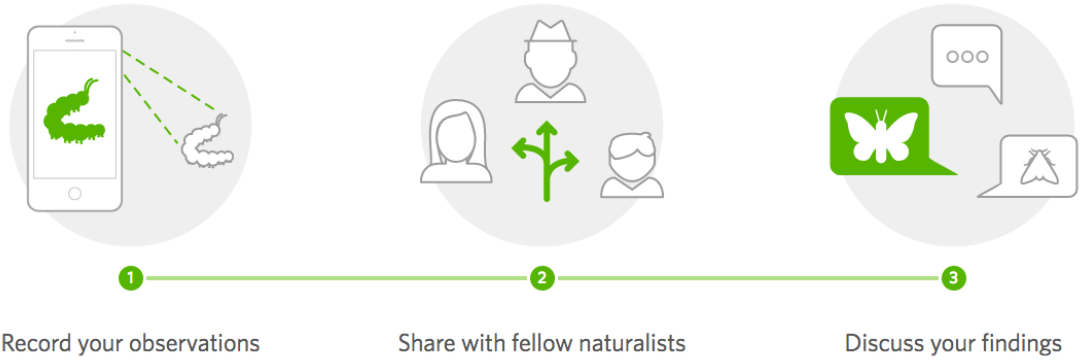
From the article: The world is more interconnected than ever. The days of imparting knowledge from the front of the classroom are over. This means that the impact of the students on you matters as much as yours on them.

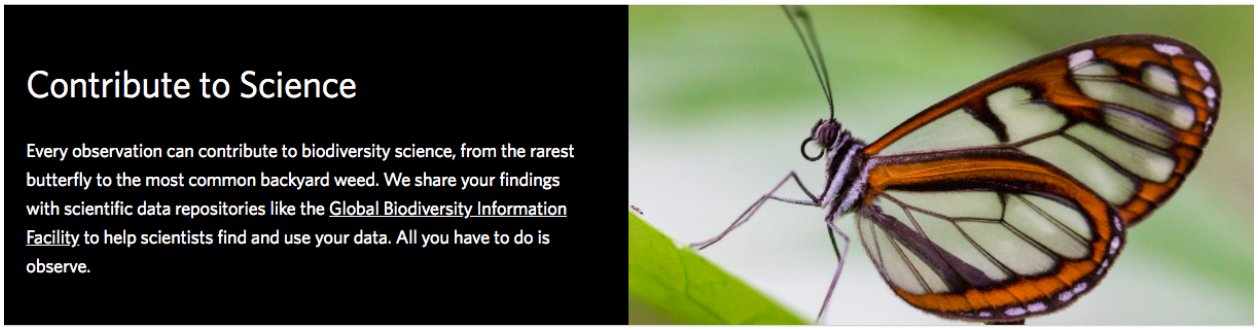
We want you to express this interconnectivity through an artistic expression of your choice. Draw a picture, sing a song, shoot a short film, make a sculpture, write a poem, or any other medium that demonstrates the impact of your students.

The winner will win free airfare, hotel accommodations, and admission to the ISTE conference in Chicago June 24–27, 2018. Finalists will win VIP entry to Ed Tech Karaoke.

iNaturalist

(Thank you KimS.!) This app helps you identify and learn about plants and animals that you observe in your neighborhood and share them with other naturalists from around the world. Together, a large, scientific database is created. Be part of a world-wide community of scientists!





Mass. STEM Summit, Nov. 14: Submit Proposals by May 4

(Thanks Newton STEM!) The Massachusetts STEM Summit invites proposals for exhibits, presentations, and workshop for this year's summit, to be held on **November 14** at DCU Center in Worcester. Proposals may address any of these topics: Early Education, K-12, Higher Education, and Workforce and Business. See the site for proposal forms and guidelines. Proposals are due **May 4**.