



Sparking Creativity in the Classroom through Technology and Physical Computing

<https://tinyurl.com/techiek-5>

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CREATIVITY

NEW

ORIGINAL

GENIUS

CONCEPT

SOLUTION

THINKING

POSITIVE

MIND

INCUBATION

FUN

BRAINSTORMING

INVENTION

IDEAS

INTELLIGENCE

ILLUMINATION

INNOVATION

ART

INSIGHT

Creativity

Creativity and Design (Designer)

- Computational thinking skills can empower students to create computational artifacts that showcase personal expression. Educators recognize that design and creativity can encourage a growth mindset, and they work to create meaningful CS learning experiences and environments that inspire students to build their skills and confidence around computing in ways that reflect their interests and experiences.

Computational Thinking Meets Student Learning

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Educators:

- Design CT activities where data can be obtained, analyzed and represented to support problem-solving and learning in content areas.
- Design authentic learning activities that ask students to leverage a design process to solve problems with awareness of technical and human constraints and defend their choices



Educators:

- Guide students on the importance of diverse perspectives and human-centered design in developing computational artifacts with broad accessibility and usability.
- Create CS and CT learning environments that value and encourage varied viewpoints, student agency, creativity, engagement, joy and fun.



Creativity through Engagement , Enhancement, and Extension



Engagement in learning goals

Time-on-task

Actively focused on learning goals


Allows students to participate in active social learning (through co-use or co-engagement).



Enhancement of learning goals

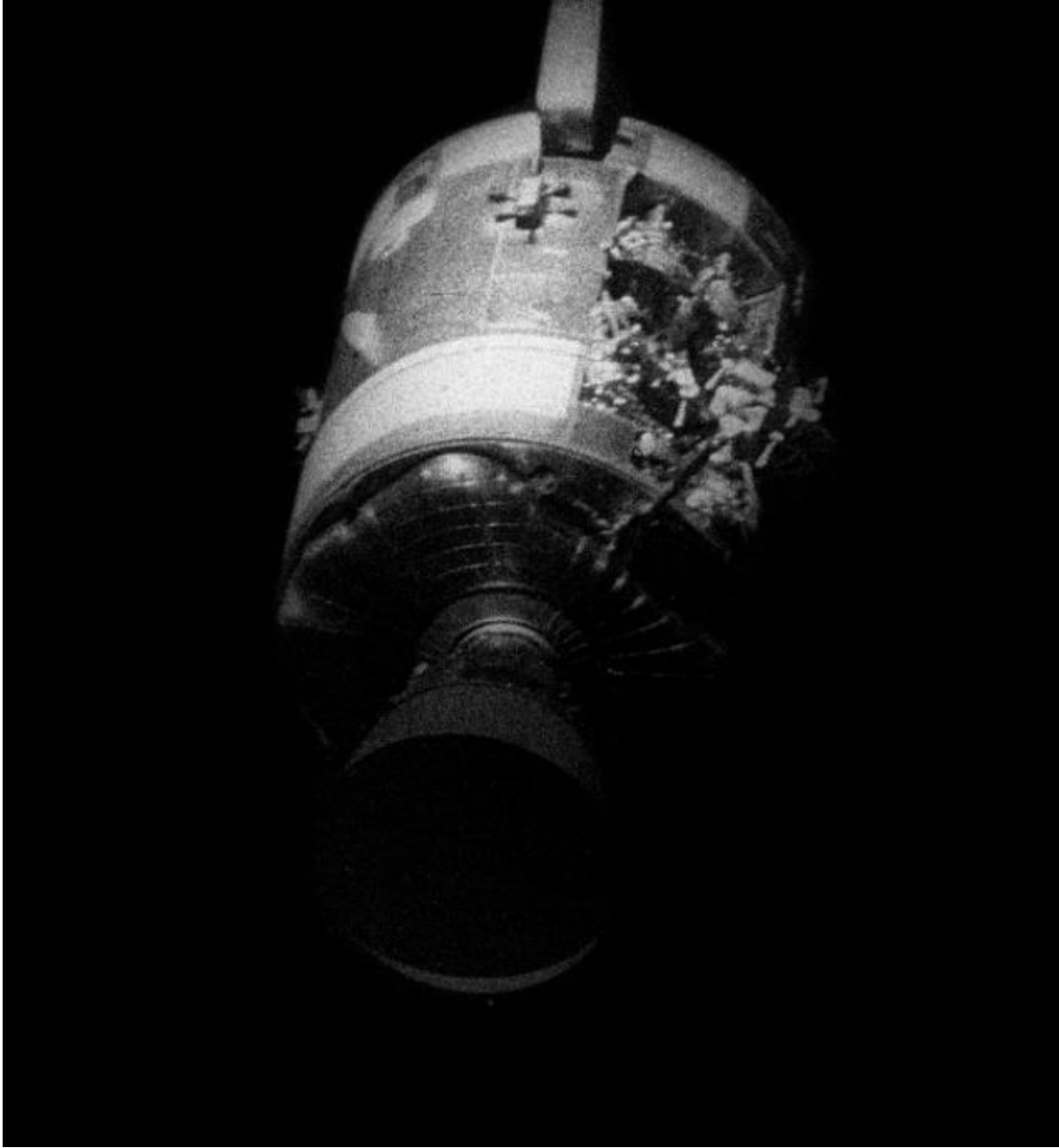
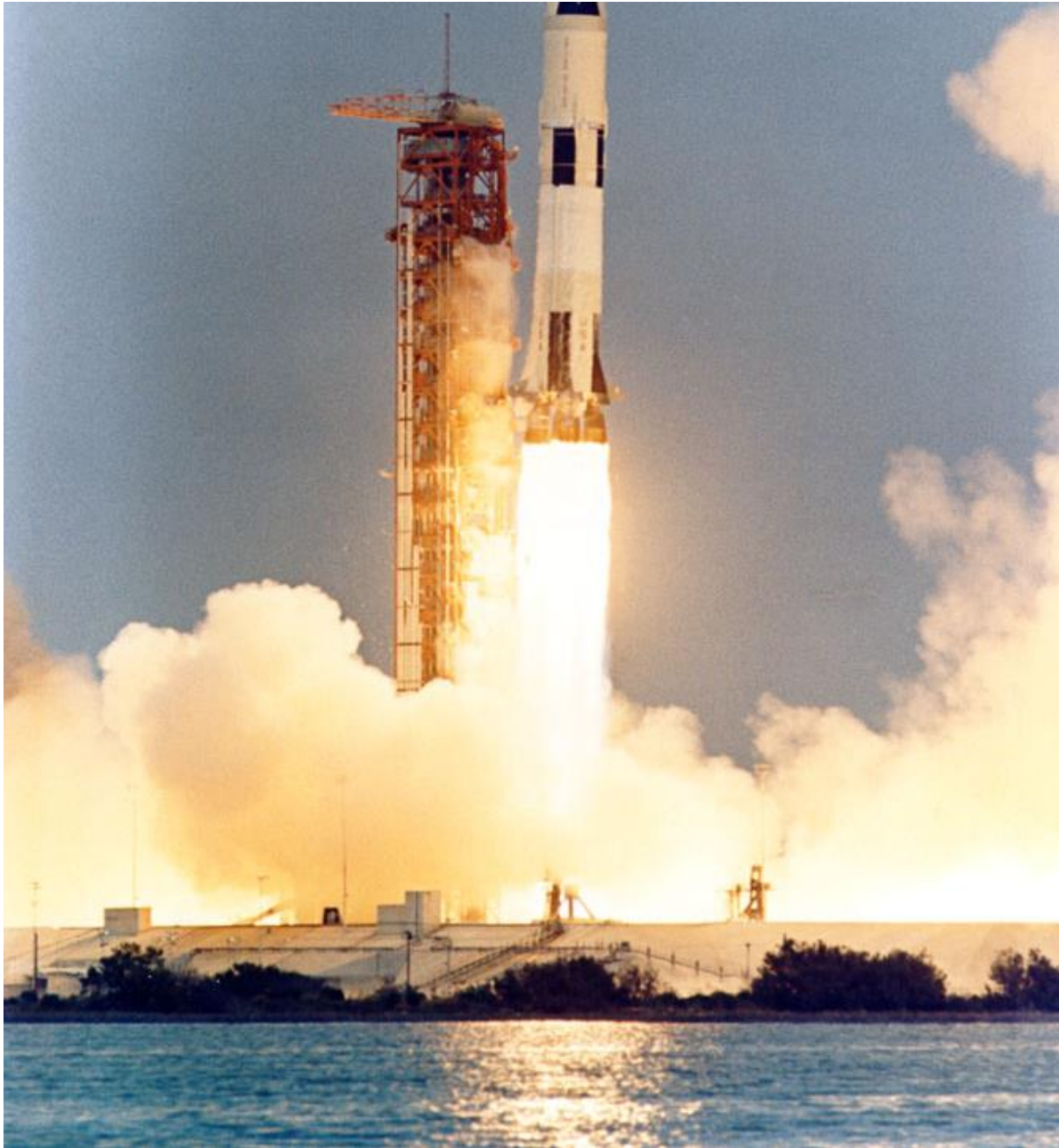
What is the added value of using technology tools?

Technology supports co-use, active learning, differentiation, personalization, higher-level thinking skills, and real-world connections that traditional tools could not.



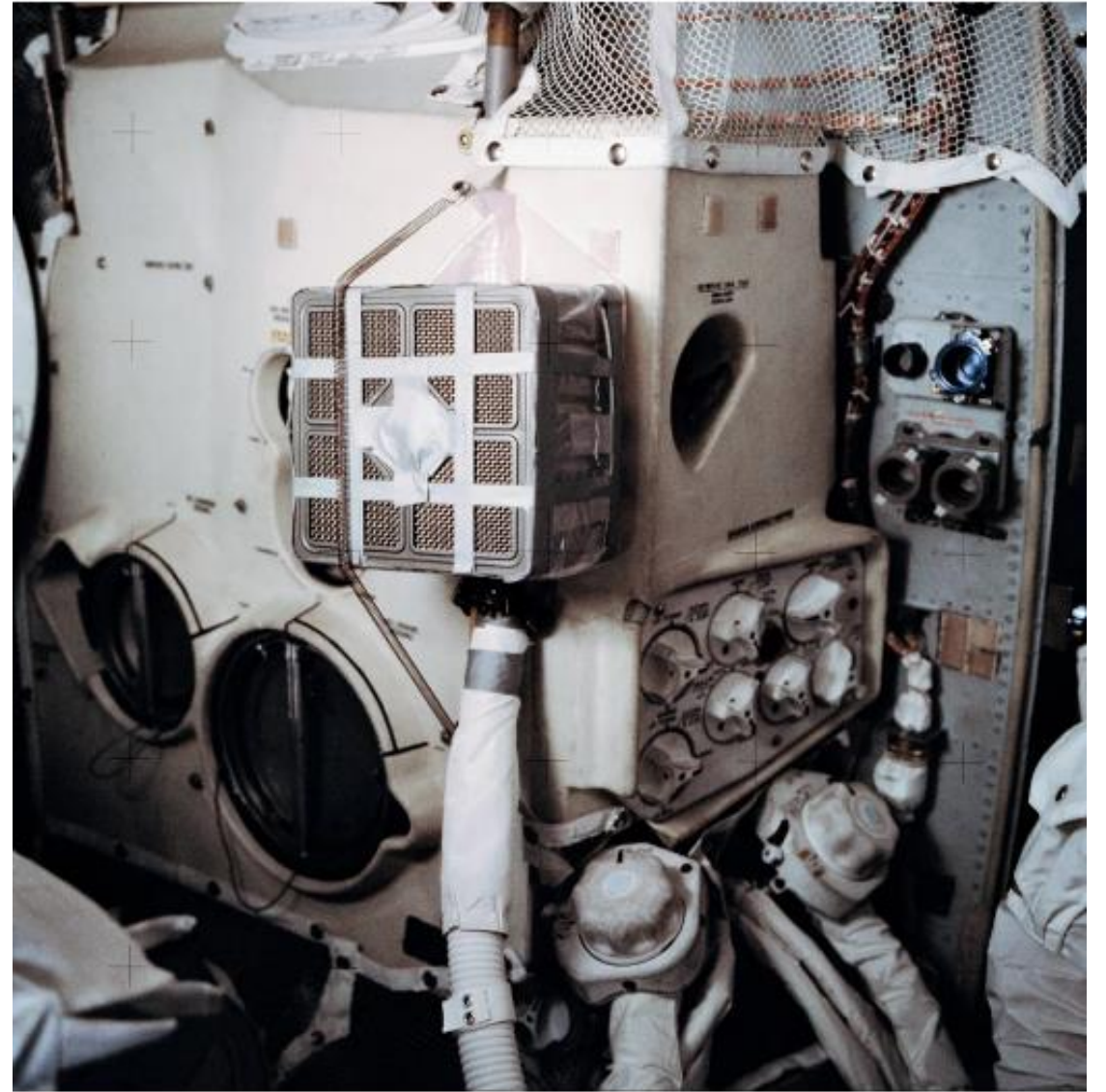
Creativity through Engagement , Enhancement, and Extension

- Extension of learning goals:
 - Creates a bridge between classroom and everyday lives
 - Developing soft skills that will be useful in the students' everyday lives.





The fix for the lithium hydroxide canister is discussed at NASA Mission Control prior to having the astronauts implement the procedure in space. Credit: NASA



So, why is creativity so important?

Purpose of School!
Prepare Students for a world we can't envisage



Thought: Dylan William

So when they're **STUCK** with something



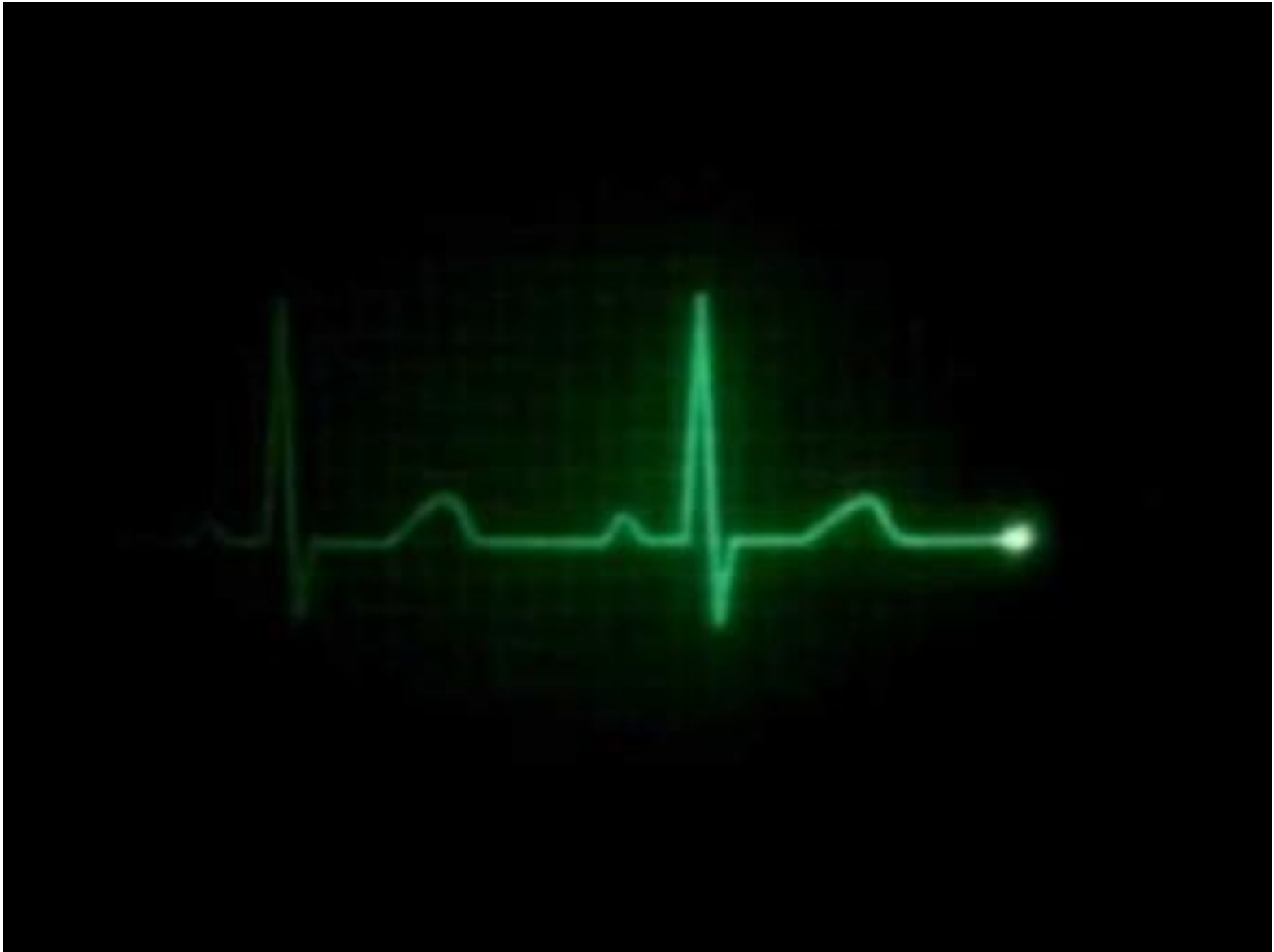
they've never **SEEN** before

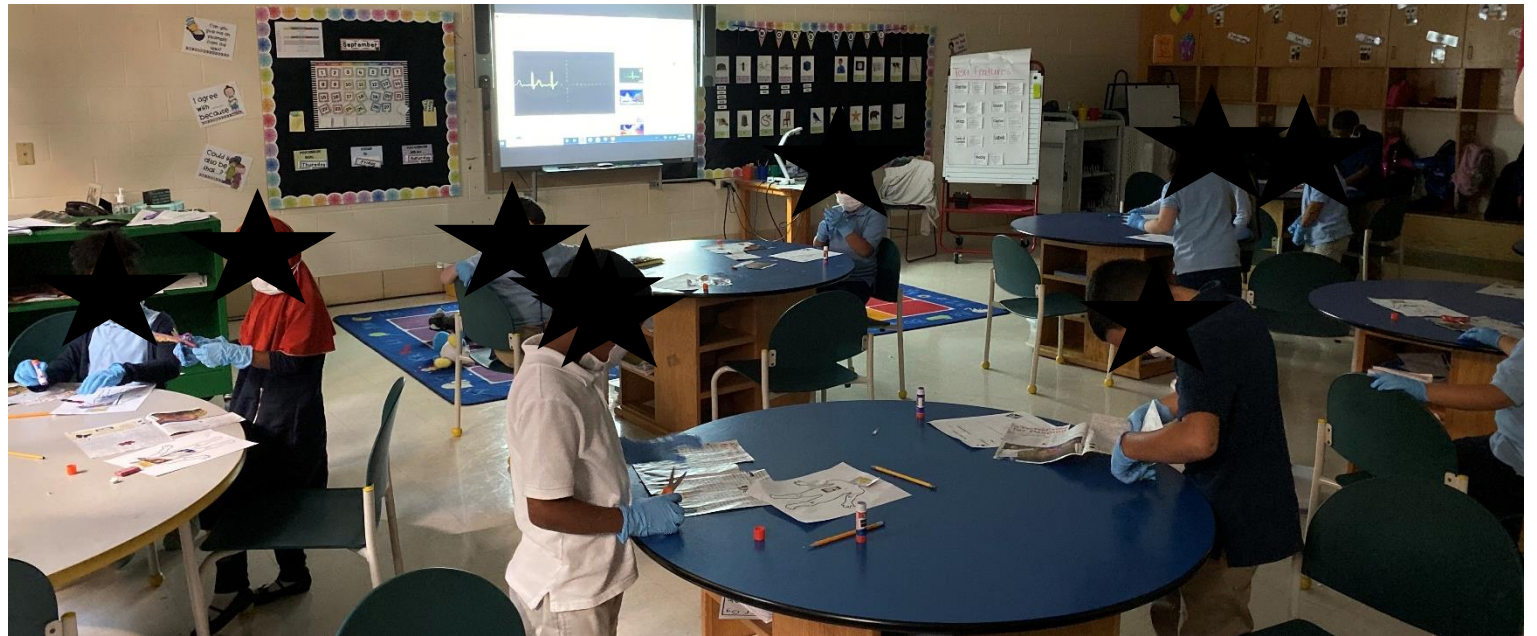


they choose to **THINK**



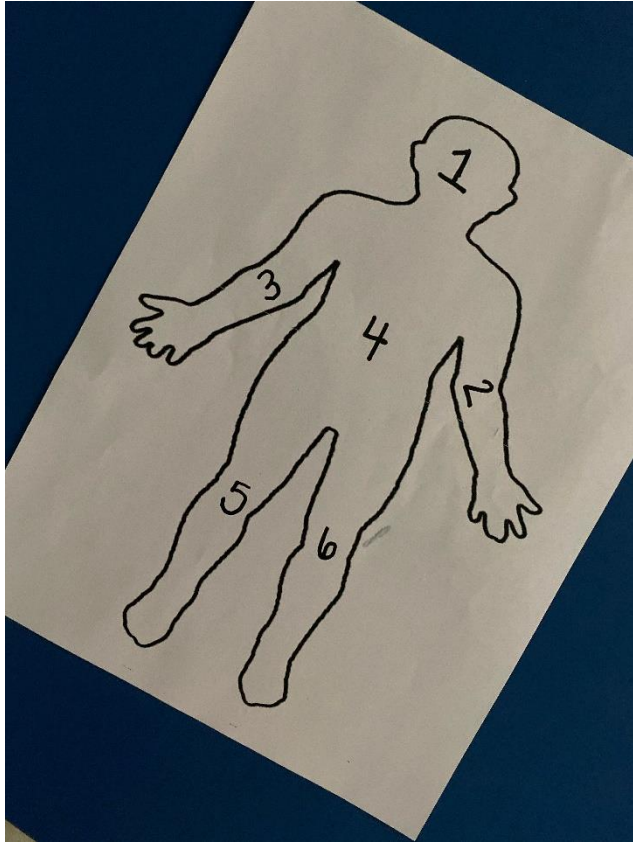
Instead of **REMEMBER**





Medical Text Features


Medical Text Features



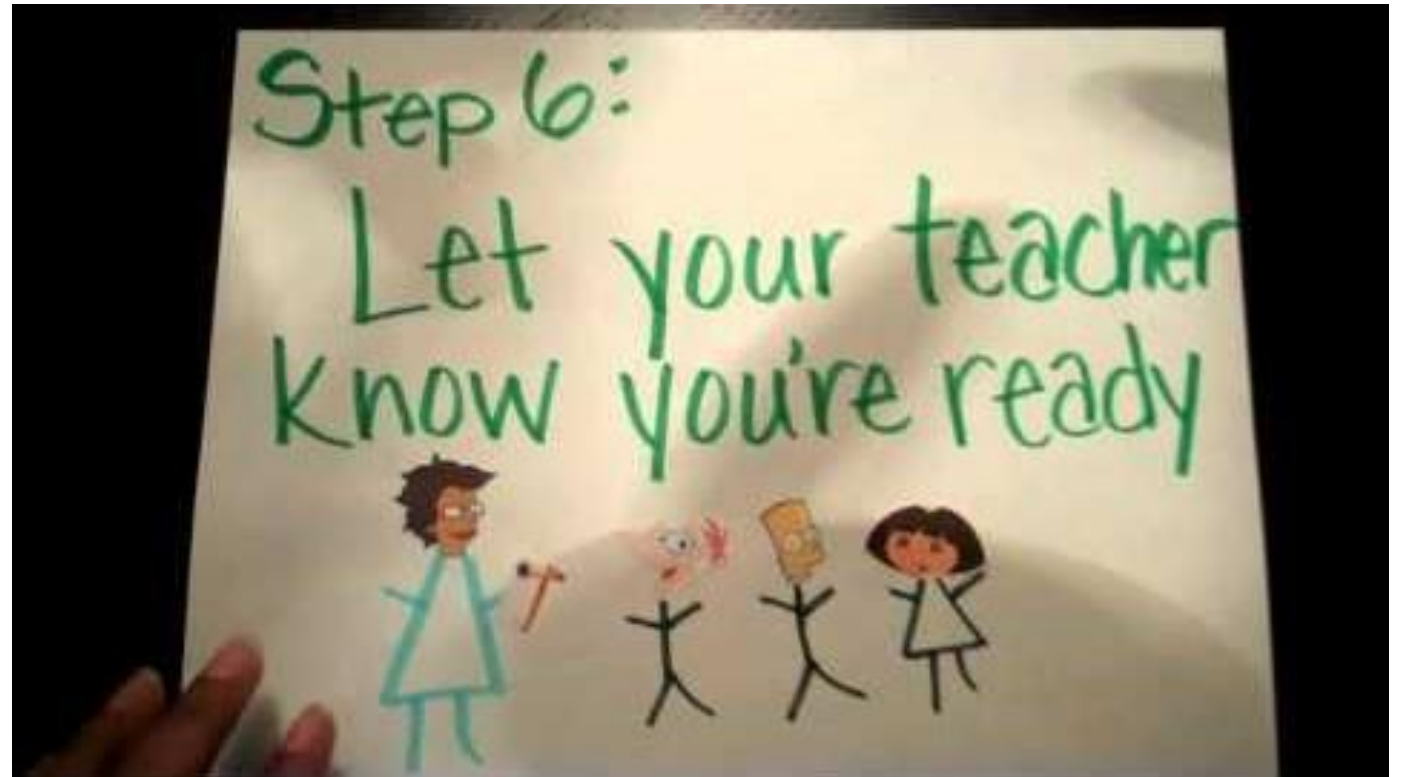
Text Feature Surgery

What is the purpose?

Text Feature	
1: Map	
2: Subtitle	
3: Caption	
4: Photograph	
5: Heading	
5: Bold Words	



Paper Slide Project-
Here is a how to video
on how to make one.
We couldn't show the
kids projects due to
privacy.



Podcasting



The Boland School Spotlight

By Daniel Manseau

Highlights interesting and exciting things happening at Boland Elementary School.

Listen on  Spotify

 Send voice message



Office 365

PowerPoint Intro Presentation

Introducing >>> Abrianna



I AM

Smart

CALM

Strong

My STRENGTHS

I am good at
baking,
drawing, writing.

Things that make
me SMILE

- Food
- Family
- Friends

My HAPPY Place



I will work hard
to IMPROVE...

Trying to get good
grades.

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Digital Stories



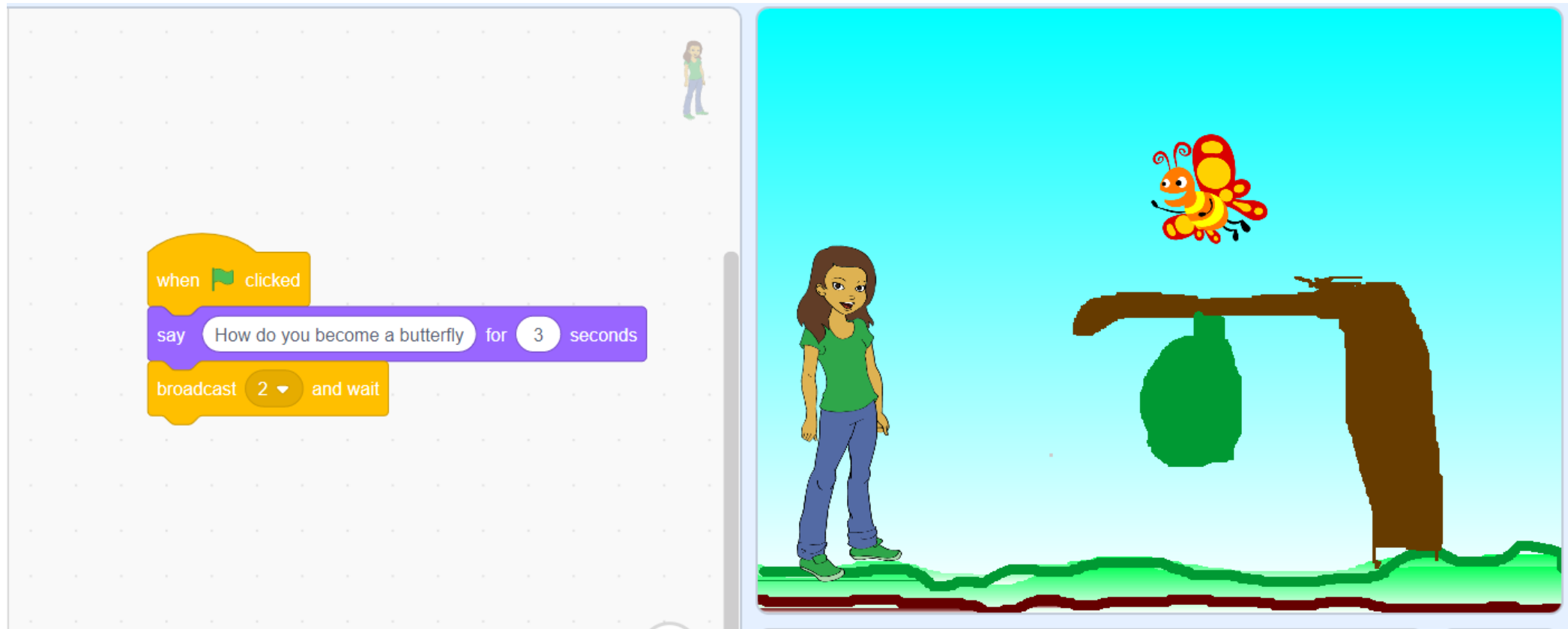
Weather Project

Highs and lows of July

Niger Kanak




Scratch



The image displays the Scratch programming environment. On the left is the code editor, and on the right is the stage.

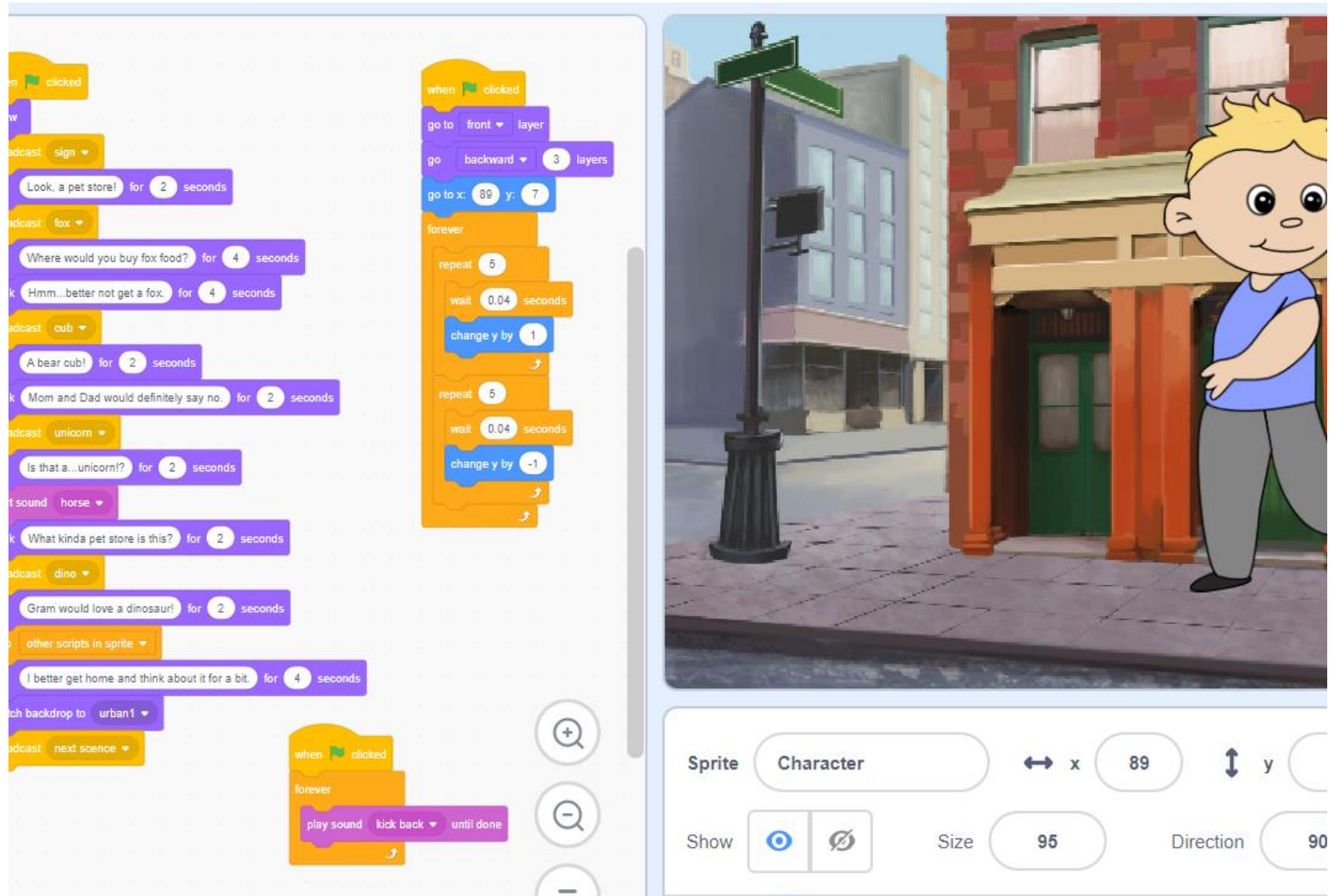
Code Editor:

- when  clicked
- say How do you become a butterfly for 3 seconds
- broadcast 2 and wait

Stage:

- A girl character stands on the left.
- A tree trunk is on the right.
- A green cocoon hangs from a branch.
- A colorful butterfly is flying above the cocoon.

CS First: Storytelling



The image displays a Scratch project interface. On the left, a script for a character's dialogue is shown, starting with a 'when clicked' event and followed by a series of 'broadcast' and 'wait' blocks. The dialogue includes: 'Look, a pet store!', 'Where would you buy fox food?', 'Hmm...better not get a fox.', 'A bear cub!', 'Mom and Dad would definitely say no.', 'Is that a...unicorn!', 'What kinda pet store is this?', 'Gram would love a dinosaur!', and 'I better get home and think about it for a bit.'. The script concludes with a 'kick back' block. On the right, the stage view shows a cartoon boy character standing on a sidewalk in front of a building with a green door and a street sign. The character's position is set to x: 89, y: 7. The interface also shows a 'Sprite' panel with 'Character' selected, a 'Show' panel with 'Show' checked, and a 'Size' of 95.

```
when clicked
broadcast sign
  Look, a pet store! for 2 seconds
broadcast fox
  Where would you buy fox food? for 4 seconds
  Hmm...better not get a fox. for 4 seconds
broadcast cub
  A bear cub! for 2 seconds
  Mom and Dad would definitely say no. for 2 seconds
broadcast unicorn
  Is that a...unicorn!? for 2 seconds
  horse
  What kinda pet store is this? for 2 seconds
broadcast dino
  Gram would love a dinosaur! for 2 seconds
other scripts in sprite
  I better get home and think about it for a bit. for 4 seconds
kick back to urban1
broadcast next scene
```

```
when clicked
go to front layer
go backward 3 layers
go to x: 89 y: 7
forever
  repeat 5
    wait 0.04 seconds
    change y by 1
  repeat 5
    wait 0.04 seconds
    change y by -1
```

<https://scratch.mit.edu/studios/25269070/>



Art

Intermediate 8 activities 8-12 hours

Create animations, interactive artwork, photograph filters, and other exciting projects.



Storytelling

Beginner 8 activities 8-12 hours

Storytelling emphasizes creativity by encouraging students to tell fun, unique, and interactive stories.



Game Design

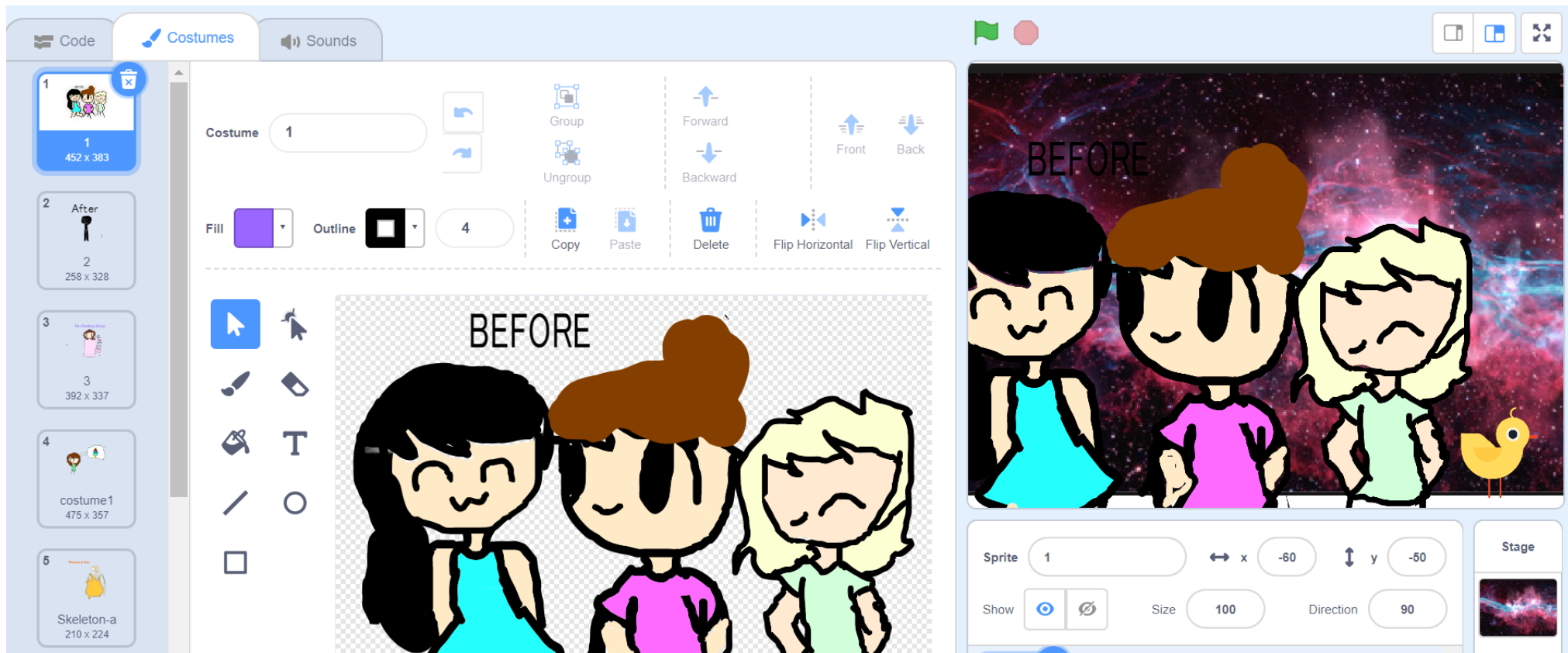
Advanced 8 activities 8-12 hours

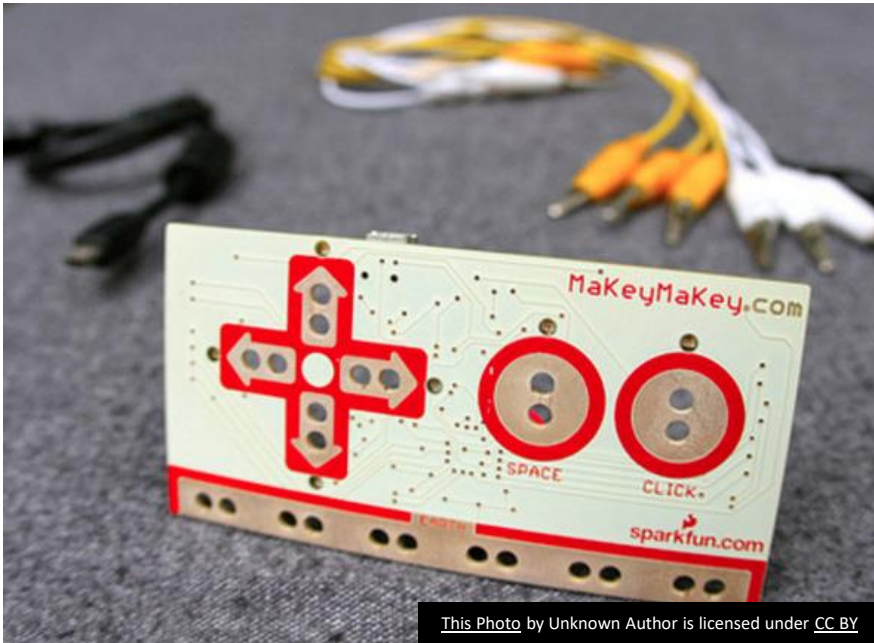
Learn basic coding concepts by making different types of video games, including racing, platform, launching, and more!

CS First Computer Science Curriculum

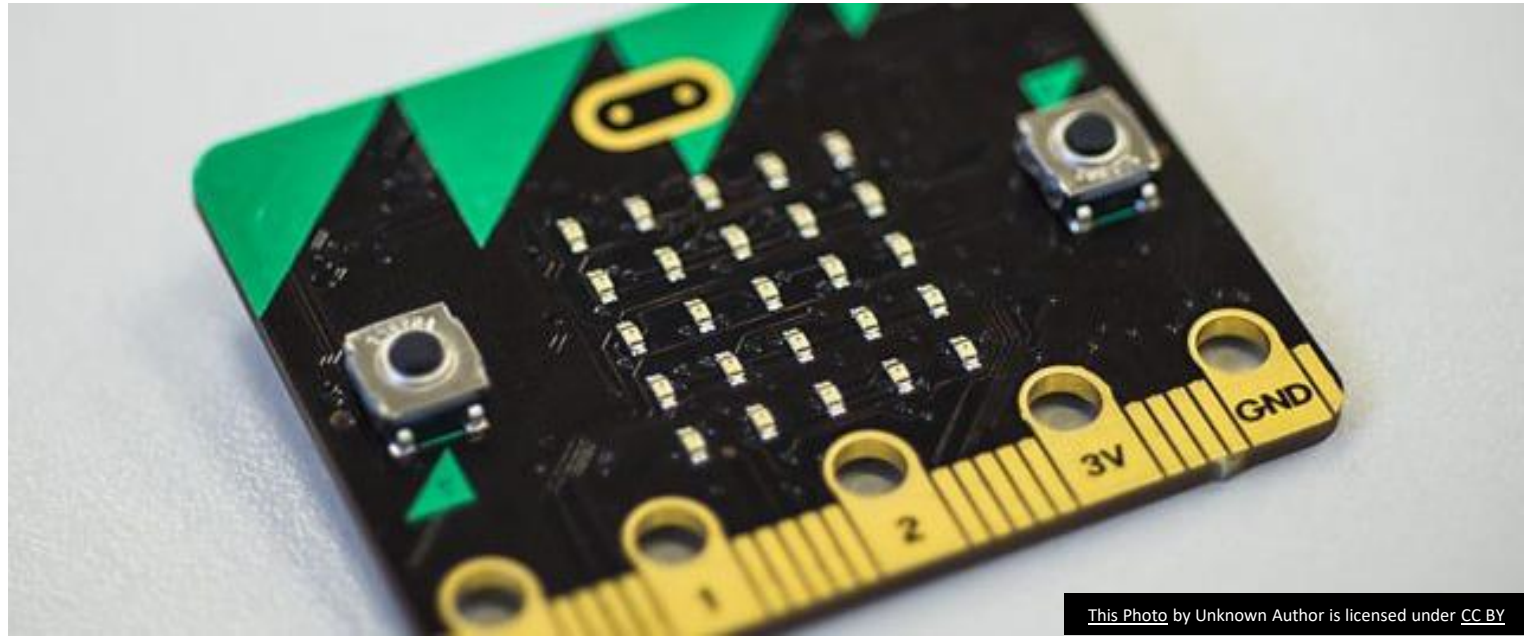
csfirst.withgoogle.com

Multiple Animator Project – “Fight Song”

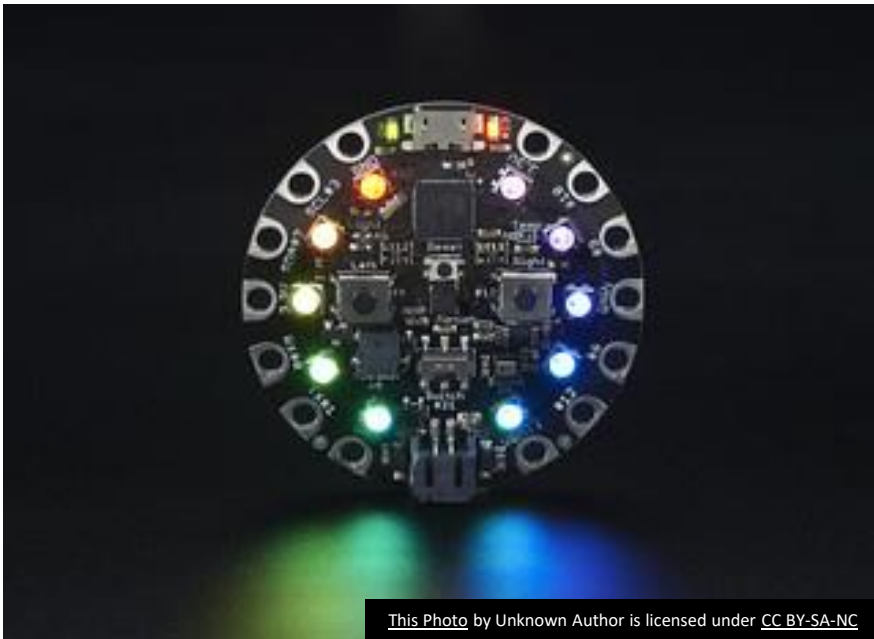




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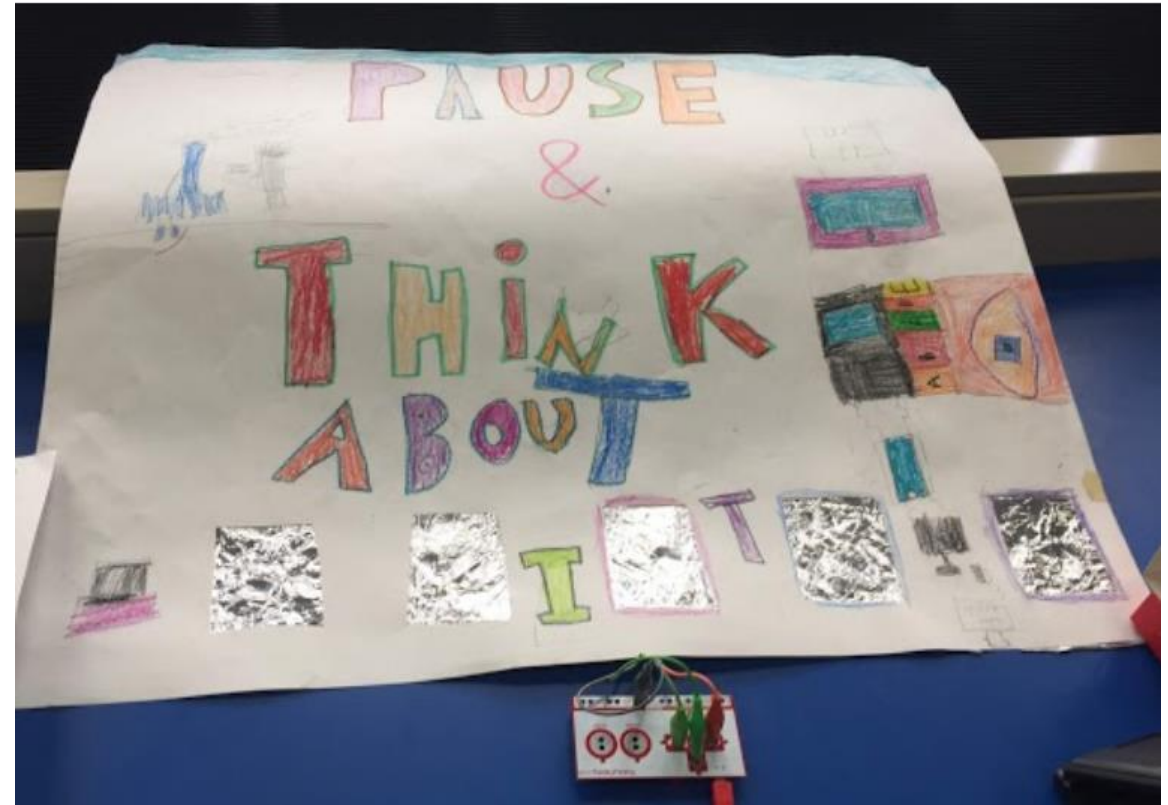
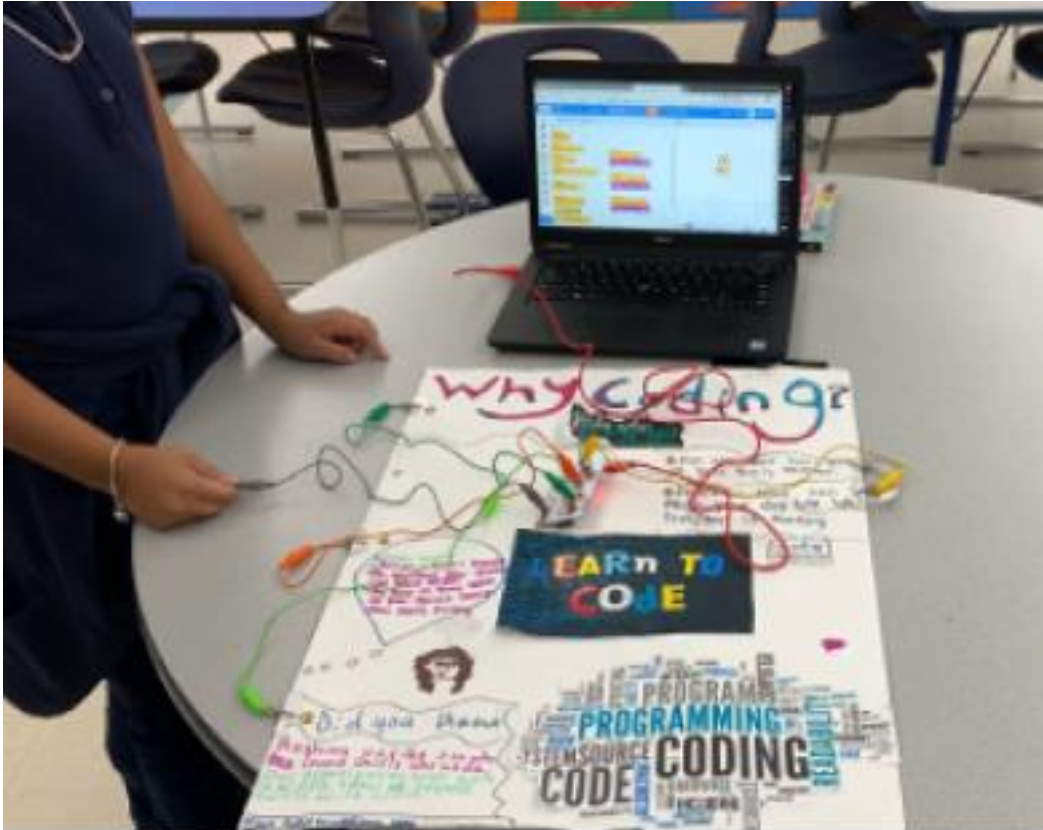
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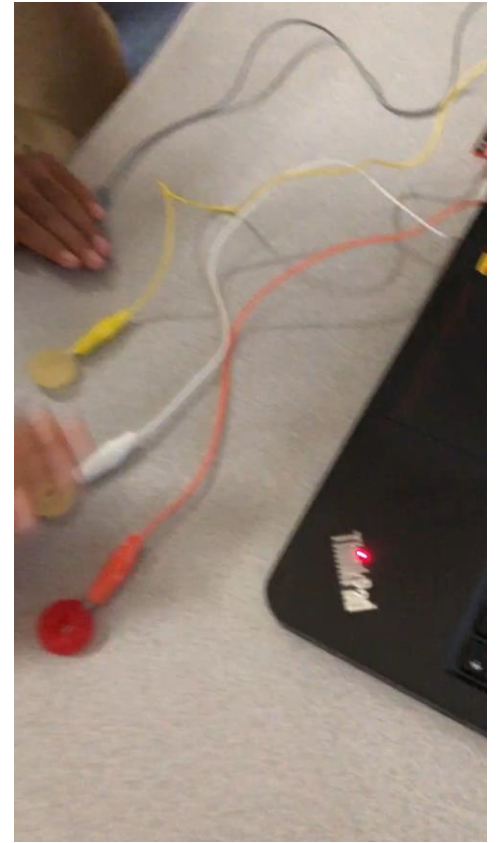
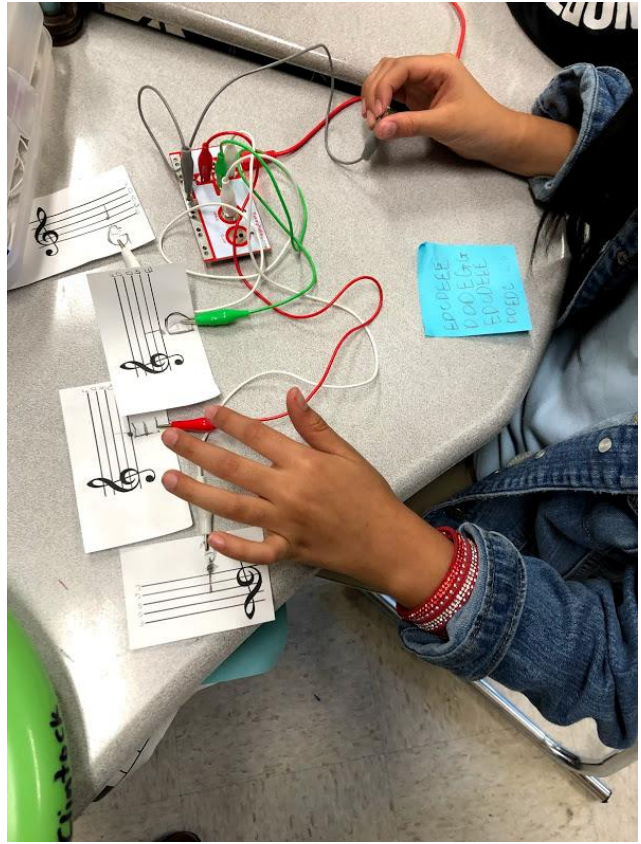
Physical Computing

Interactive Posters





Science Makey Makey Projects



Music Class

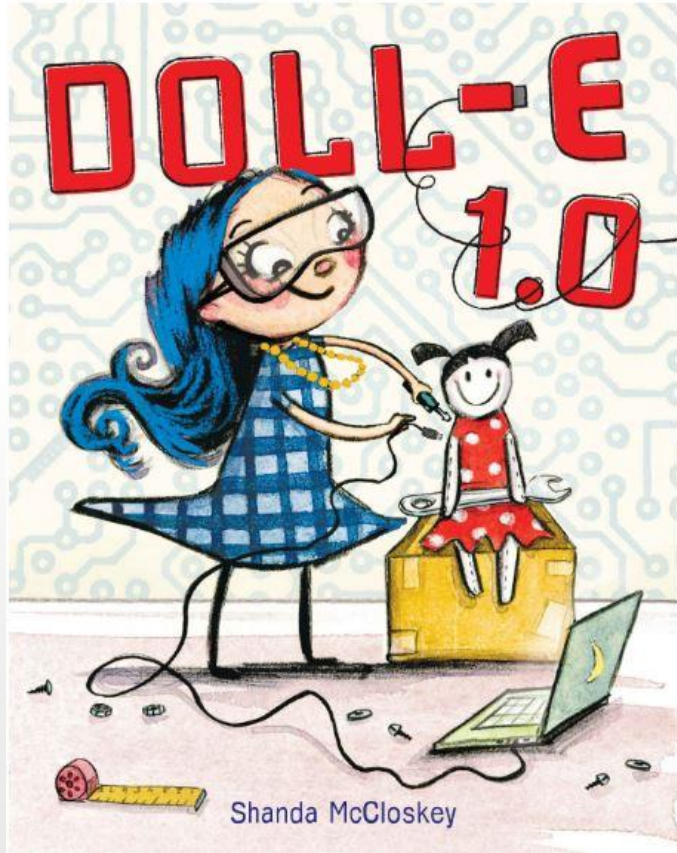


דָּן אֶת־הַיָּהוָה מֶלֶךְ הַעֲוֹנוֹת





Doll-E 1.0



Name: _____



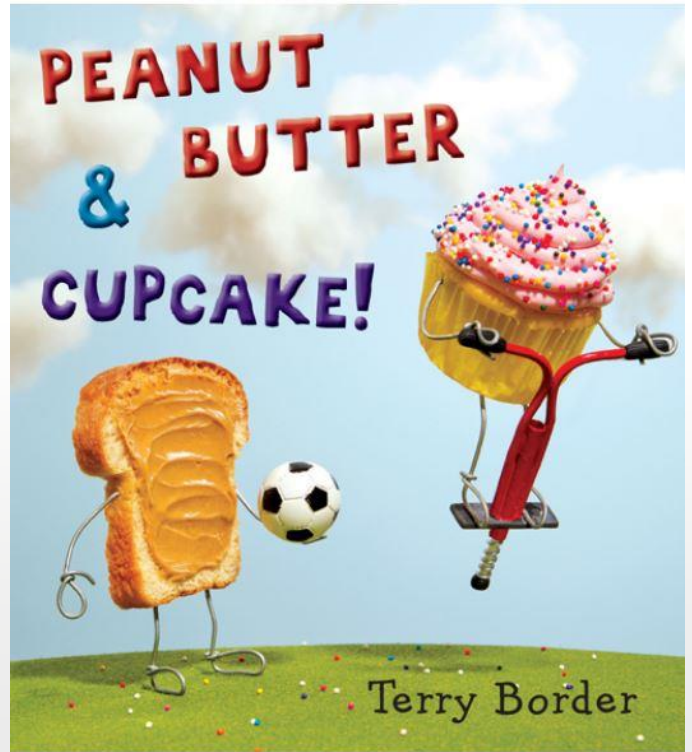
A good friend is....



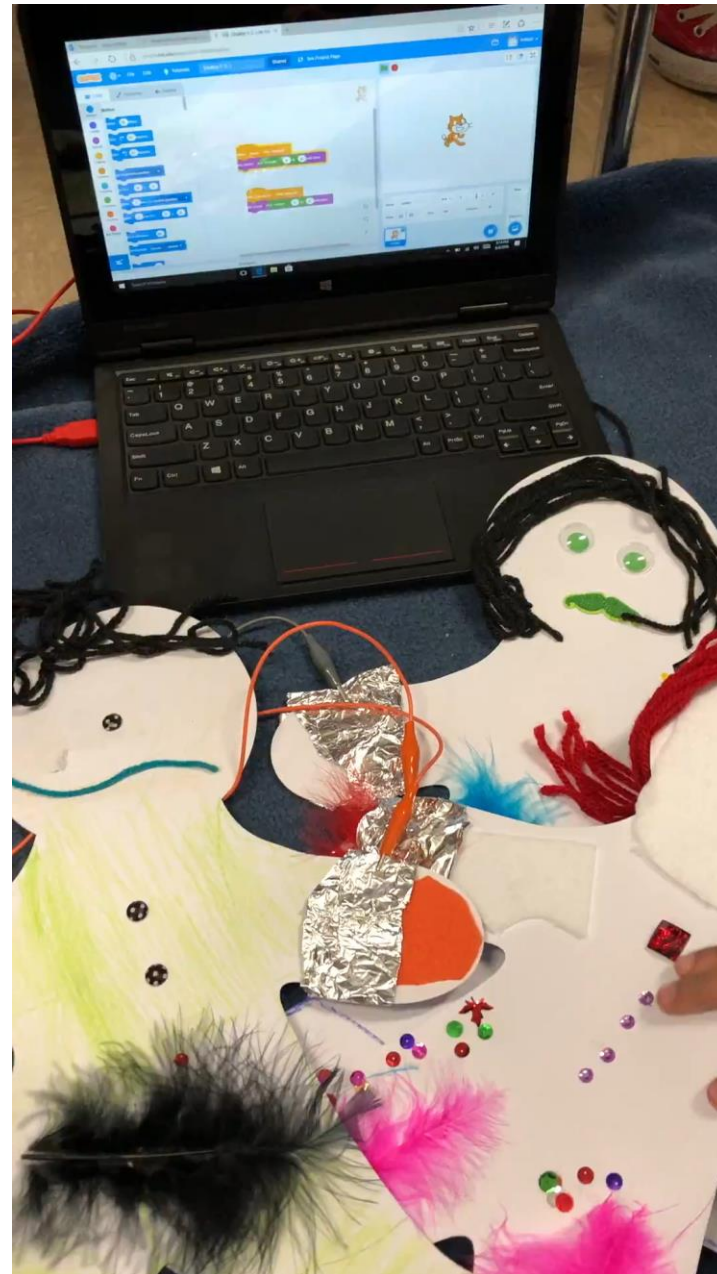
I am a good friend when I _____

It makes me feel good when my friend

When my friend feels sad I make them feel better by _____



Doll- E 1.0

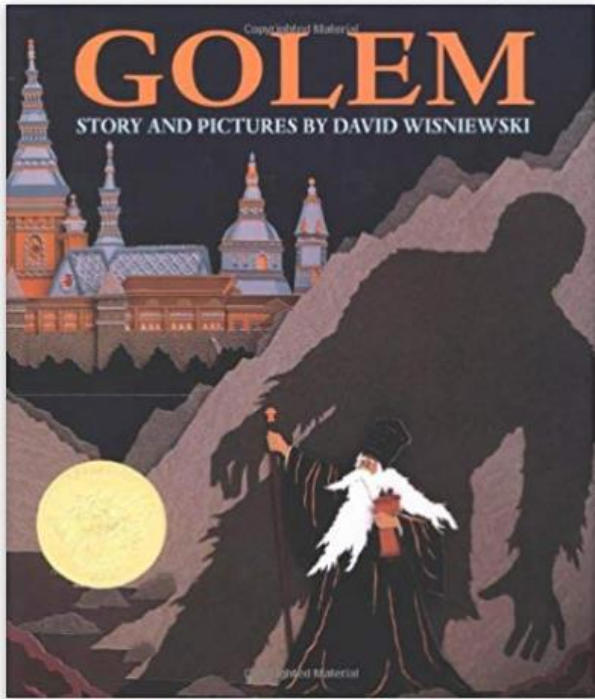


A group of small, brown, clay-like figurines with triangular faces and rectangular bodies, arranged in rows on a dark surface. The figurines are positioned in a grid-like pattern, with some in the foreground and others receding into the background. The lighting is dim, highlighting the texture of the clay.

Golem

Effects of Innovations

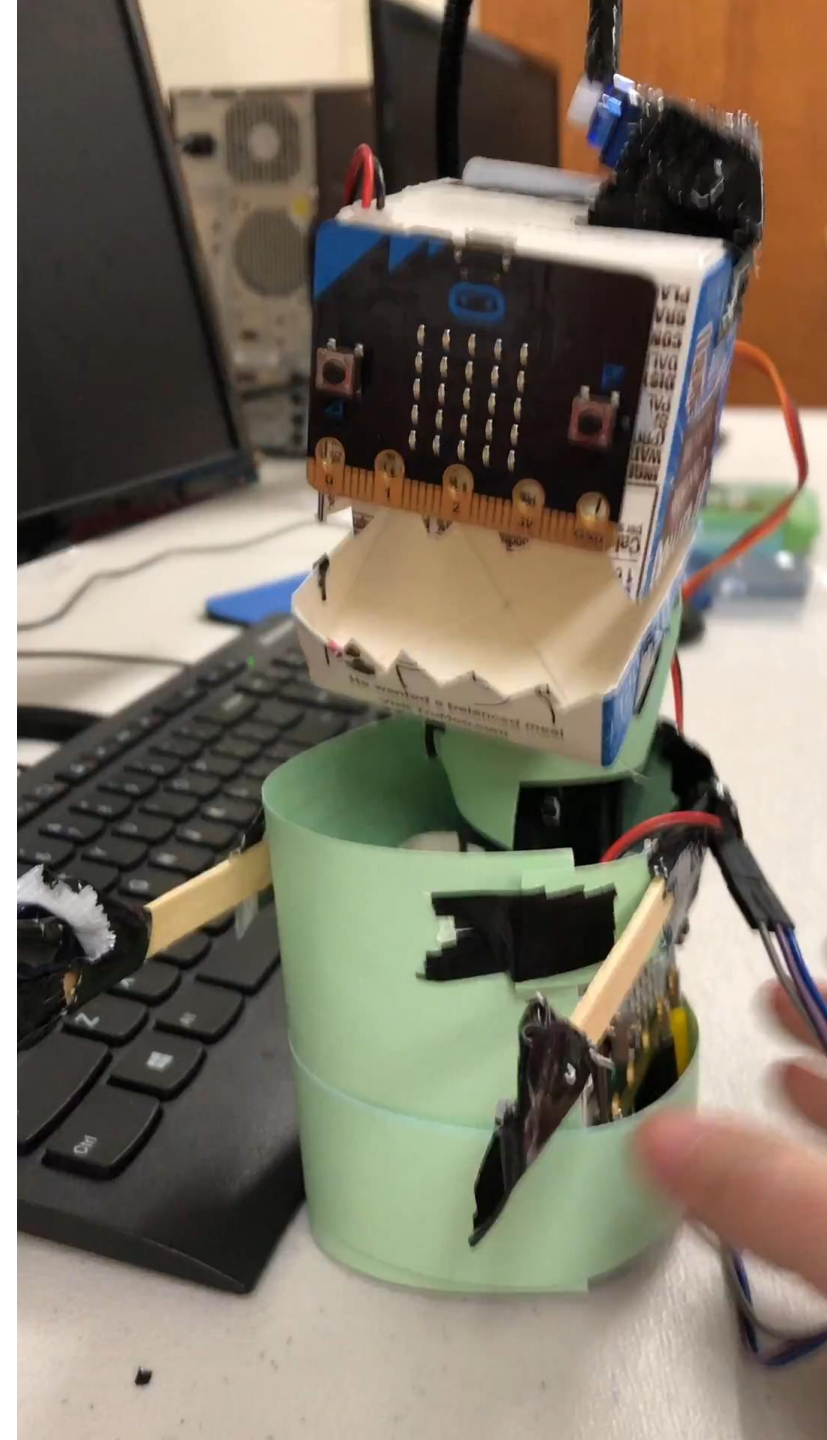
Multimedia Analysis

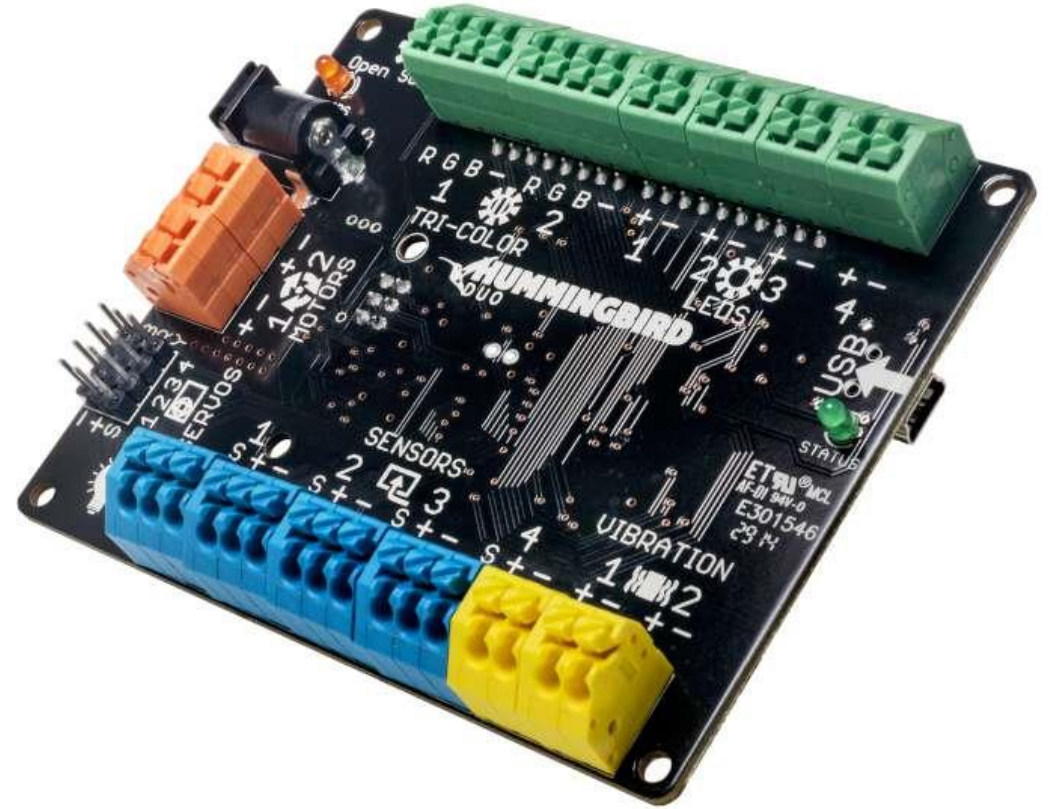
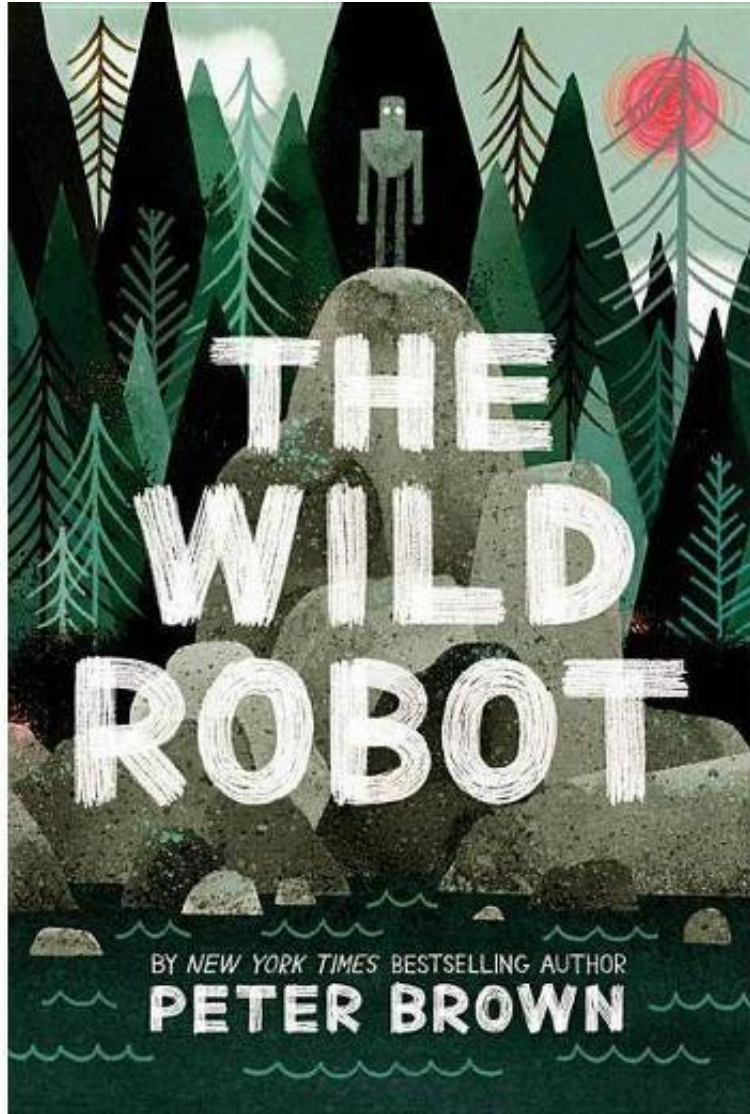


Effects of Innovation



Golem & Micro:Bits





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