Agenda

01 Vision and Mission

02 Introductions and Background

03 Uncertain Times and Back to School, Major Challenges Faced

04 Quick Overview of SAM Labs Response to Remote Learning

05 Deep Dive Into New Remote Learning Kits: SAM Labs + Strawbees!

06 Q&A and Giveaway

Vision:

To inspire and empower generations of problem-solvers

Mission:

To equip educators with the tools, know-how, and mindset to reach learners' potential for computational thinking

Introductions

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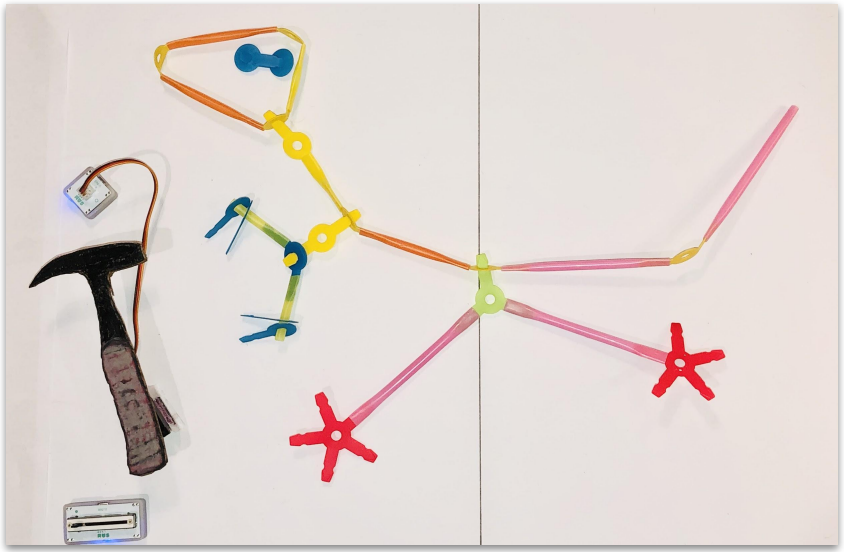
Back To School and Major Challenges: Digging for Solutions



- ★ Planning for hybrid, virtual learning scenarios
- ★ Unanswered questions and constant change
- ★ How to help students struggling with or lack of access of virtual learning
- ★ Challenges of new school safety measures and concerns about health and safety
- ★ Higher expectations for accountability
- ★ Budget shortfalls and funding

How have we adapted?

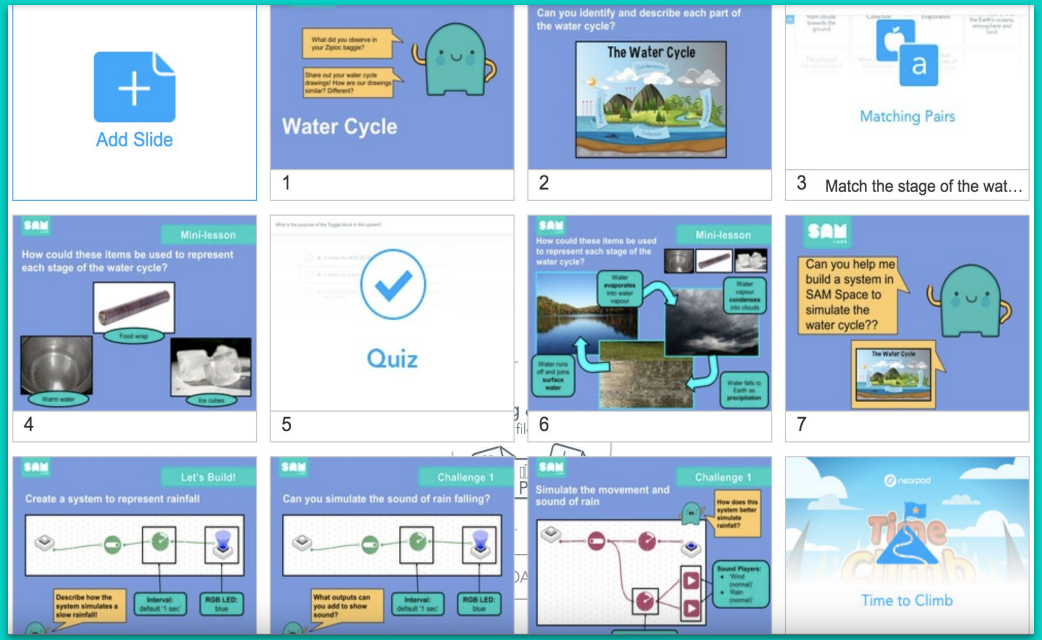
Adapted Content for Distance Learning

- Distance learning with SAM Labs **with or without** the bluetooth blocks
- Adapted content for engagement + more tinkering and designing = hands-on learning on and off screen
- School Year Options:
  - ***In person***- Block set-up, SAM Space download and overview
  - ***At home***- Synchronous Lessons or Asynchronous Self-paced lessons, extension activities

Adapted Products for Distance Learning

- Hybrid Kit- extra trays and lids for kids to take blocks home
- STEAM@Home kit- no-tech materials with activities for students with limited access to technology
- Alpha Kit- individual sized kits for students to use at home
- **Creators Series Kits- 2 blocks per kit + accessories + standards aligned lessons**

How have we been distance teaching with SAM Labs?



- Engagement-- vocabulary matching, formative CFU, games, videos, self-paced option
- Integrations- Google slides, Zoom, Microsoft Teams
- Teachers can export student data to drive instruction and take grades
- Student & parent friendly

SAM Labs Digital Classroom: Sneak Peak!

[Sneak Peek Link]

Showcases

- Kindergarten, 2nd, and 5th Grade Student Lesson
- Read-Alouds to add to your digital library
- Materials required for each lesson

Join us next Friday, August 21st for an in-depth exploration into our adapted content!

Adapted Content In-Progress

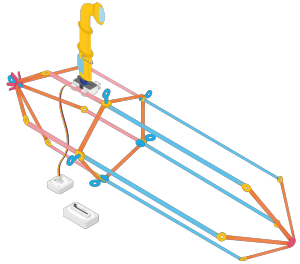
- Currently adapting all STEAM and Learn to Code Lessons for asynchronous, self-paced student lessons
- Includes audio, video, and engagement activities embedded within slide deck
- Includes opportunities for off-screen exploration and prototyping
- Copy link and include straight into your Google Classroom! (No editing required, but still possible if preferred)

Starter Lessons	STEAM	STEAM	L2C
Mid-August	**Mid-September**	**End of September**	**End of October**
STEAM K-1 & 2-5 Starter Lessons Distance Learning Release	STEAM 2-5 Distance Learning Release	STEAM K-1 Distance Learning Release	Learn to Code 4-8 Distance Learning Release

Creators' Mini-Kit Breakdown: Relevant, Standards-Driven, High-Interest Topics

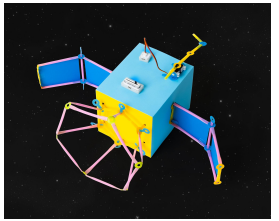
2nd/3rd Grade Lesson Clusters

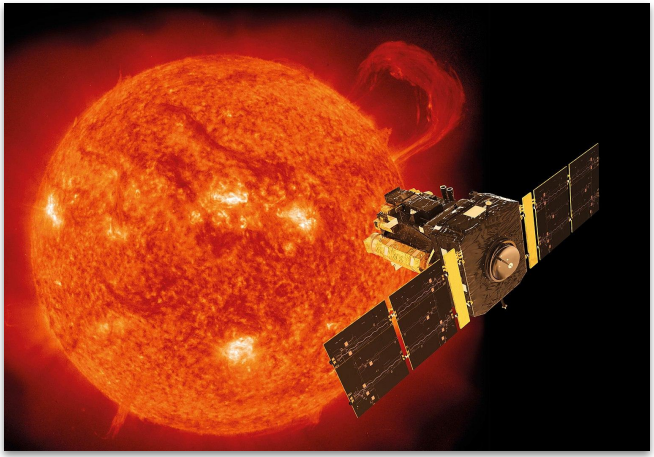
Madagascar Adventure
Ring of Fire
Arctic Voyage
Operation Hurricane
Dinosaur Dig



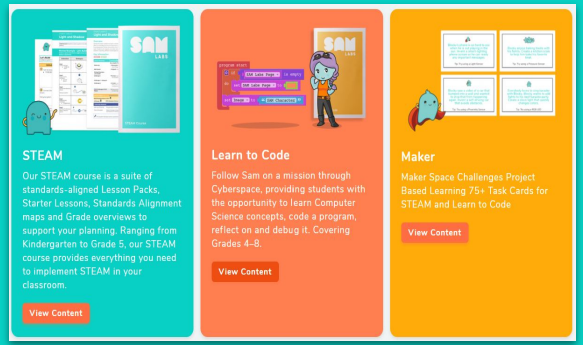
4th/5th Grade Lesson Clusters

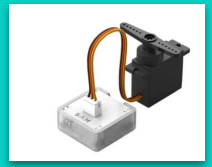
Carnivorous Plants
Arcade Ball Drop and Gravity
Huntings with Raptors
Speeding Towards the Sun
Guardians of the Earth





SAM Labs Creators STEAM Kit Includes:





https://samlabs.com/us/content

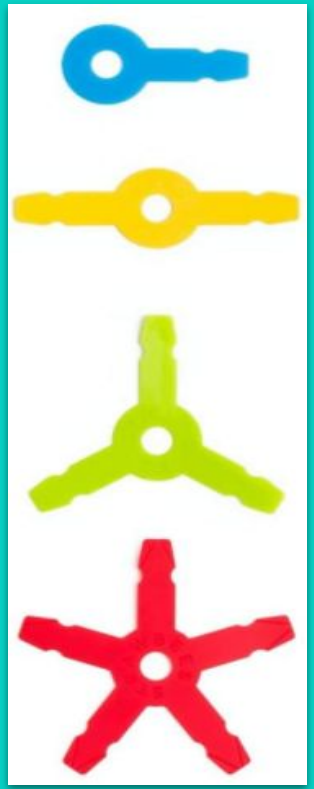
https://classroom.strawbees.com/

- ★ Two SAM Labs Physical Blocks
  - Slider and Servo Motor
- ★ All SAM Space app Virtual Blocks
- ★ Strawbees Building Straws and Connectors!
- ★ Pipe Cleaners
- ★ Free access to:
  - Strawbees learning lessons and activities
  - Free access to SAM Labs Content Hub
- ★ Post assignments virtually or make printouts to send home

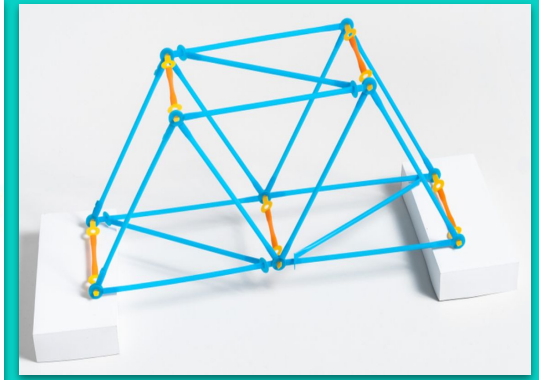
Strawbees! Open-ended construction!

SAM LABS

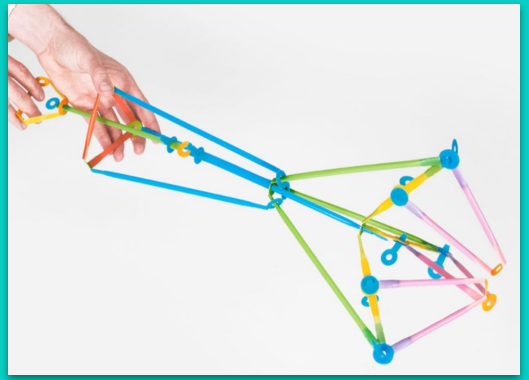
Versatile



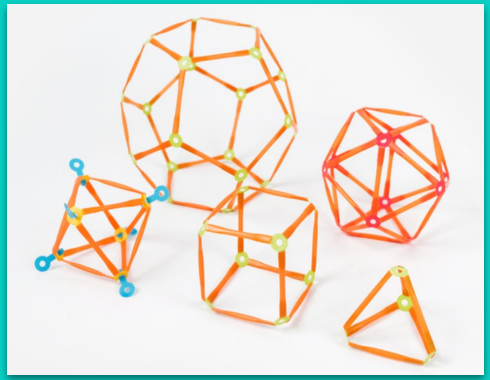
Hands-on



Playful



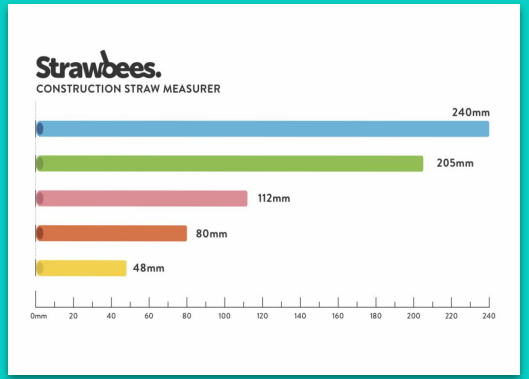
Screen-free



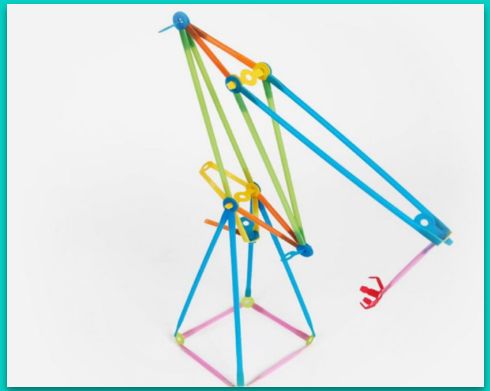
Bendable

Reusable

Adaptable

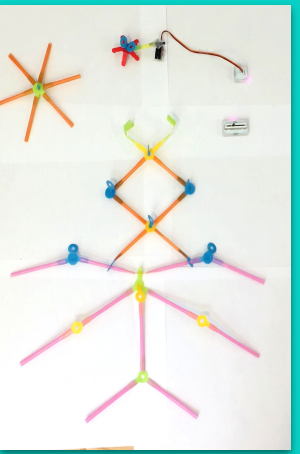


Purposeful

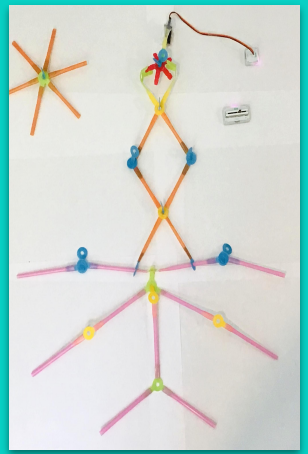


Why is Strawbees a unique construction solution? What do kids think?

Strawbees®

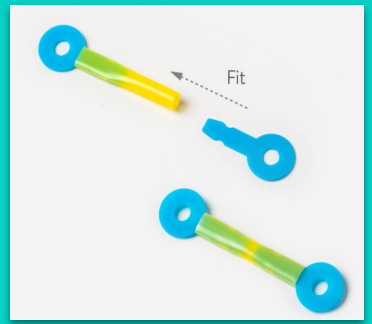


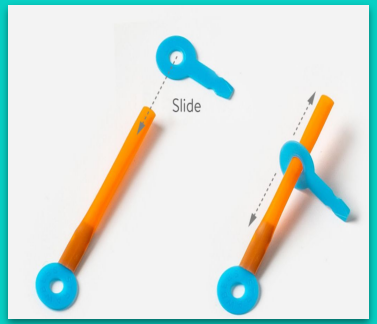
Static

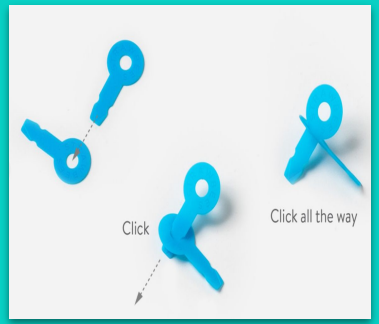


Dynamic

“Strawbees is a construction set, which means it’s made to build things. To say it’s made to build a specific type of things is the same as saying that a certain crayon is only made to draw flowers.







Strawbees Education on YouTube

https://strawbees.com/

Standards-Driven Lessons

Grades 2 & 3: Lesson 4

Operation Hurricane

Overview

During this lesson, students will gain an understanding of the color-coded warning system used for natural disaster awareness and learn about the possible causes of flooding. They will discover action steps to prepare for natural disasters and prevent some of the possible negative effects afterward. Students will integrate and exhibit learning by creating a flood barrier and warning system as a model to protect a community from flooding.

Key Information

Grades 2-3 | Ages 7-8

45 or 90 minute lesson

Lesson Structure	Learning Objectives As a result of this lesson, students will be able to:
Warm-Up	→ **Recognize** ways that colors can convey important information.
Mini-lesson	→ **Explain** some causes of flooding and ways humans can use engineering principles to combat the effects of extreme weather.
Worked Example – Let's Build!	
Challenge	→ **Create** a flood barrier and warning system as a model to protect a community from flooding.
Chili Challenges & Exit Ticket	→ Opportunity to extend understanding and reflect on learning.

Lesson Topics (refer to the Standards Alignment Map)

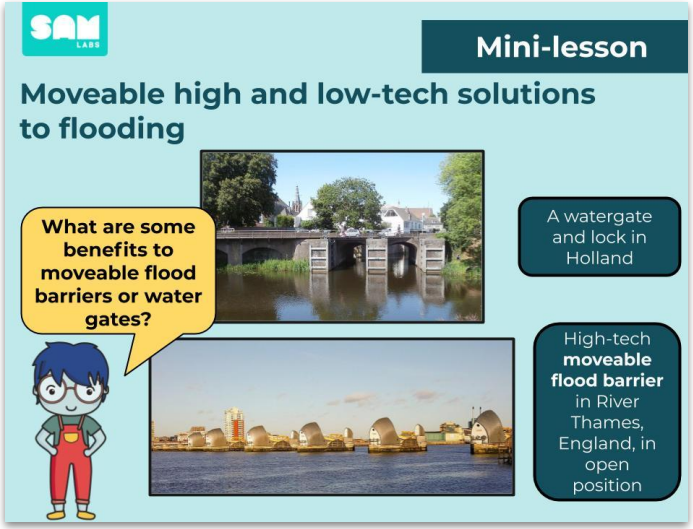
NGSS Earth and Space Science 3-ESS3-1 ESS3.B

CCSS Math | CSTA Computer Science | CCSS English Language Arts

Materials Required

SAM Labs Creators STEAM Kit	Strawbees	Scissors
Tape	Coloring utensils	Assorted plastic lids or cardboard circles
Pipe cleaners	Paper or cardboard	

The Student Handouts can be used alongside each lesson.

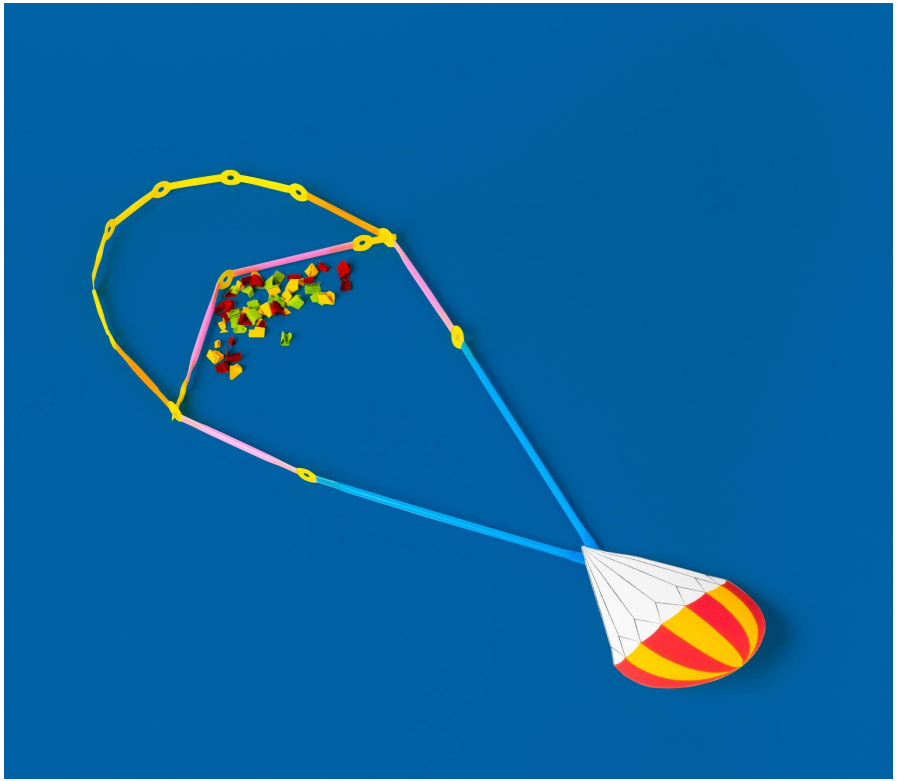


STEAM – Standards Alignment Map

- ★ NGSS
- ★ CCSS – ELA
- ★ CCSS – Math
- ★ CSTA

Putting the Art in STEAM

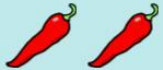
- ★ Drawing and Sketching
- ★ Paper Art
- ★ Shaping Cardboard



Enrichment Opportunities: Promote Higher Order Thinking

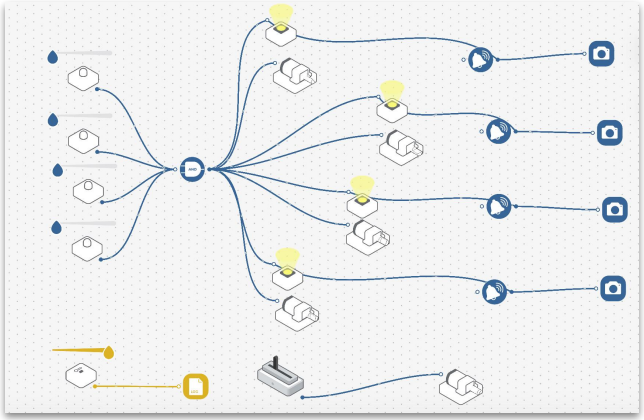
Chili Challenges

Experiment with the Button sensor. Imagine scientists are wanting a way to manually test the camera before the Parker Solar Probe enters space. Can you insert a Button to control each camera? What about one Button to snap photographs with all the cameras at once?

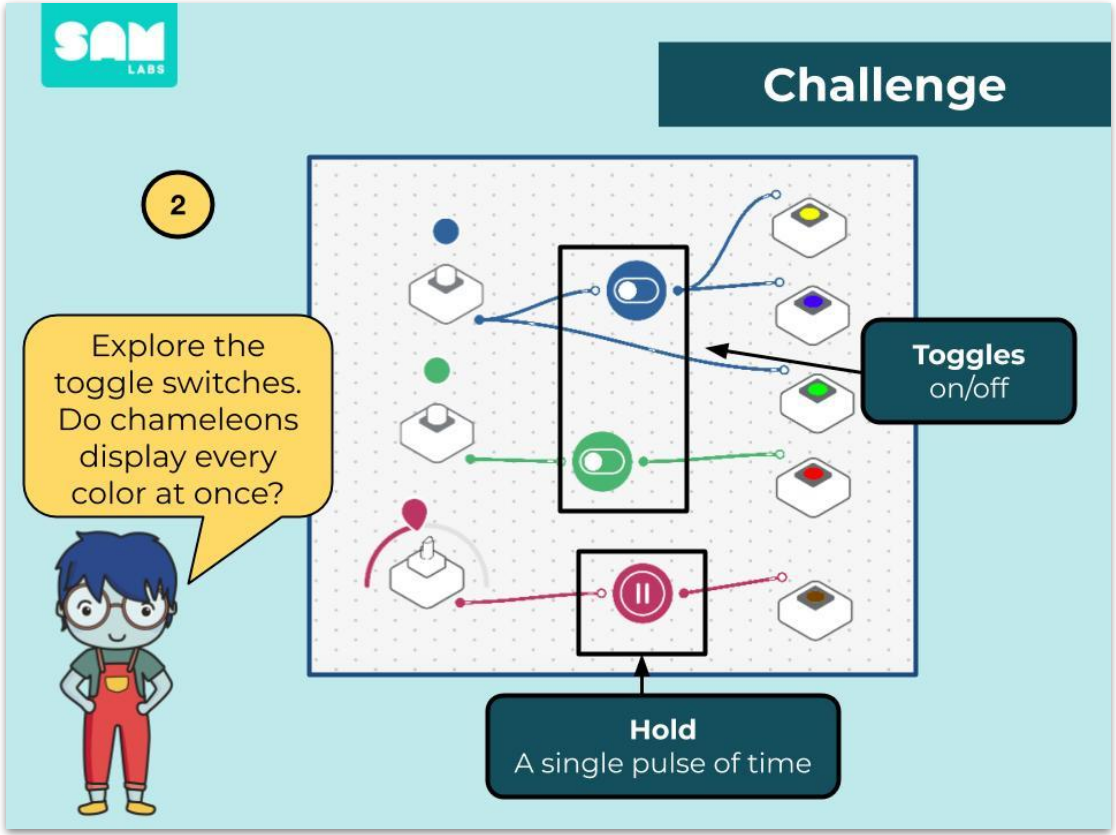


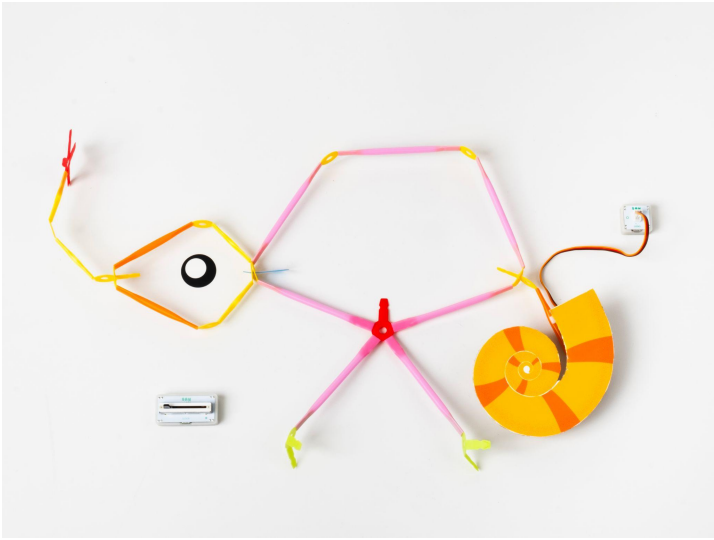
Experiment with the Time Interval and other time behavior blocks. You have been hired by NASA to program a smart magnetometer that turns automatically back and forth, remains on for a specified time, and turns to an exact angle amount. Are you up for the challenge?

Experiment with the Counter and Compare blocks. Design a system that counts the number of photographs you take. Can you set range limits, not taking less or more than a certain predetermined number of photographs?



Visual Coding in SAM Space and Careers in STEAM



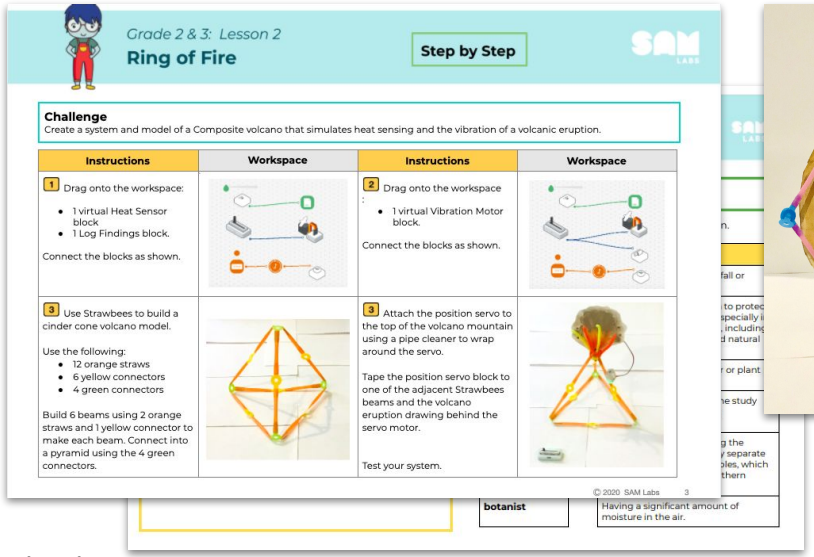


Multimodal Learning to Support All Learners!

- ★ **Visual Learning** - Visual Aids
- ★ **Auditory** - Opportunities for Discussion, Designing programs with sounds and music
- ★ **Kinesthetic** - Role-play, building, and activities that involve movement
- ★ **Reading and Writing** - Student Handouts and Slides with enhanced vocabulary

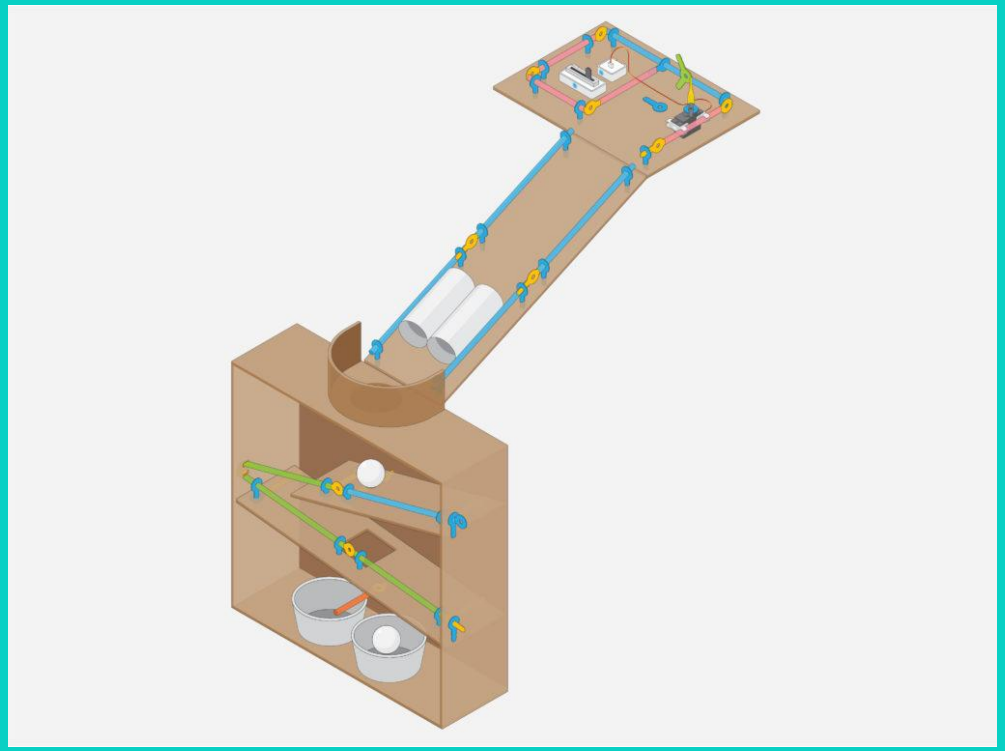
Ready-Made By Teachers, For Teachers and Students! Designed for In-School or At-Home Learning!

- ★ Researched & Content-rich
- ★ Ready made materials:
  - Teacher Lesson Plan,
  - Student Slides
  - Student Handout
  - Step-by-step Coding
- ★ Each lesson includes:
  - Tier 2 and 3 Vocabulary
  - High-Order Thinking
  - Strategies to Integrate Prior Knowledge
  - Check for Understanding
  - Fun, Hands-on STEAM, Coding, and Maker Activities



Lessons will be freely accessible online from SAM Labs website!

Open-Ended Design Example: Arcade-Style Ball Drop



What benefits are there to open-ended design challenges?

- ★ Use of found materials
- ★ Set basic design constraints
- ★ Cultivating creativity and invention literacy
- ★ Opportunities to test and improve designs
- ★ Purposeful integration of SAM Labs and Strawbees

Empowering Students with STEAM!

- ★ How does STEAM learning transform and empower our students?
- ★ What have been your most powerful STEAM moments in or out of the classroom?
- ★ Why is it so important now to keep teaching STEAM, even in hybrid and remote learning?

Where can I purchase these kits?

20% off + free shipping until August 31st - code: backtoschool

https://strawbees.com/shop/

Enjoy a 35% discount on a STEAM Course Alpha Kit! Use code HOMECODING

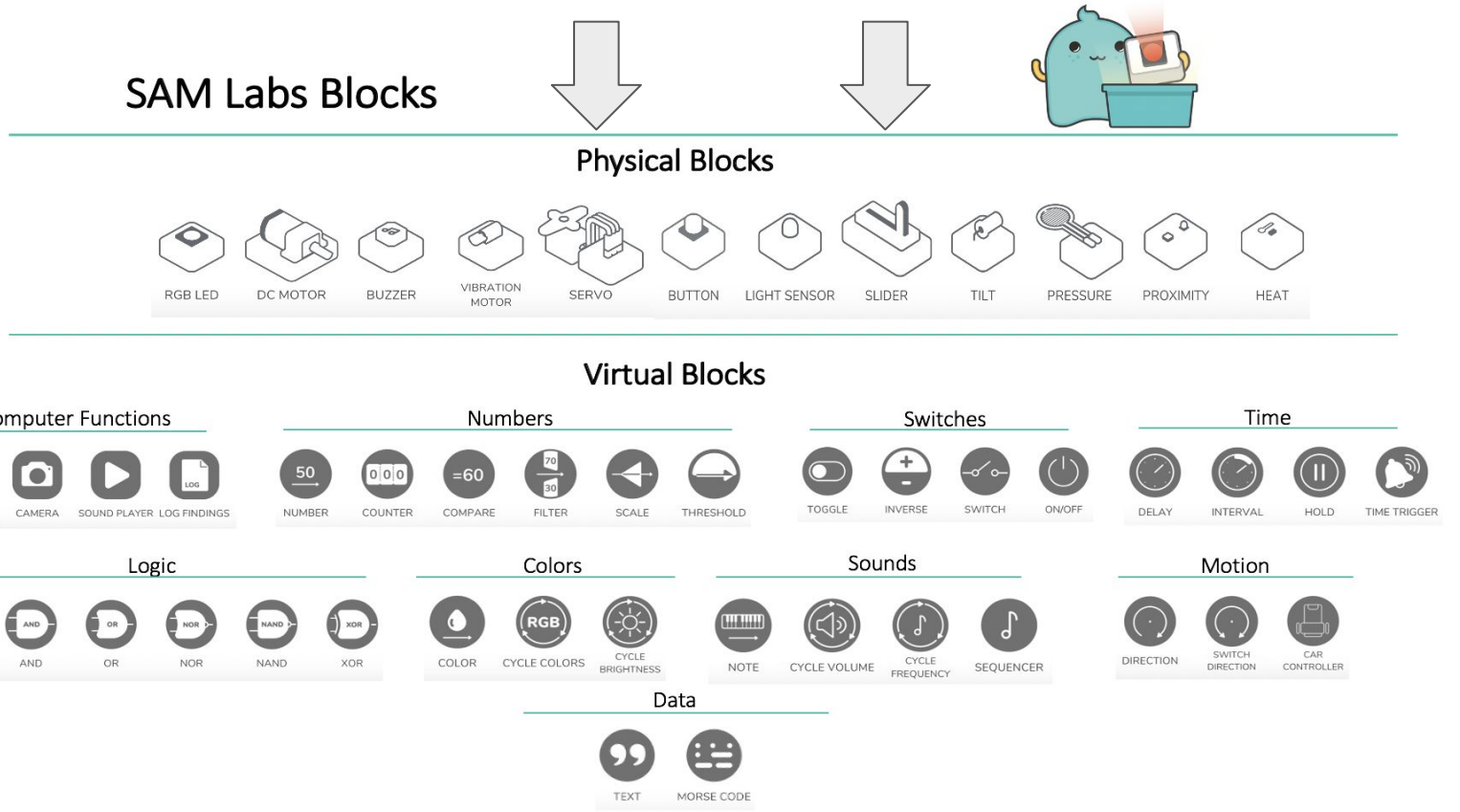
https://store.samlabs.com/

Book a Demo

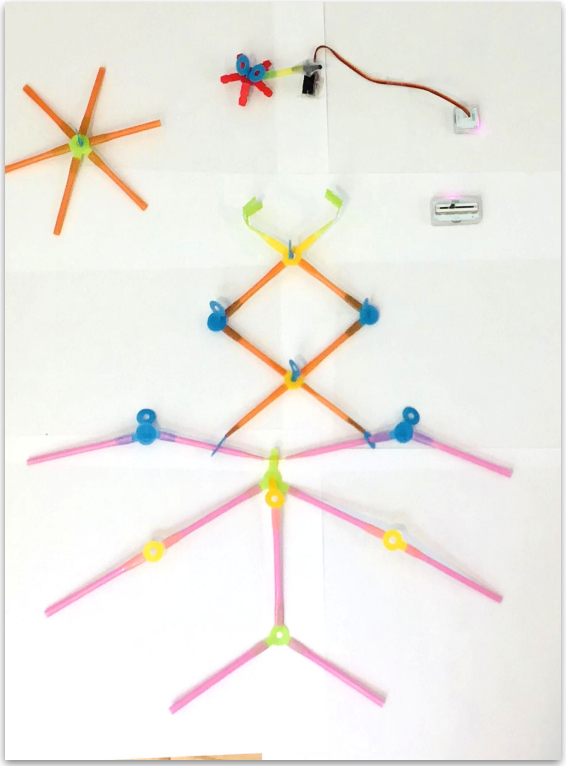
Get a Quote

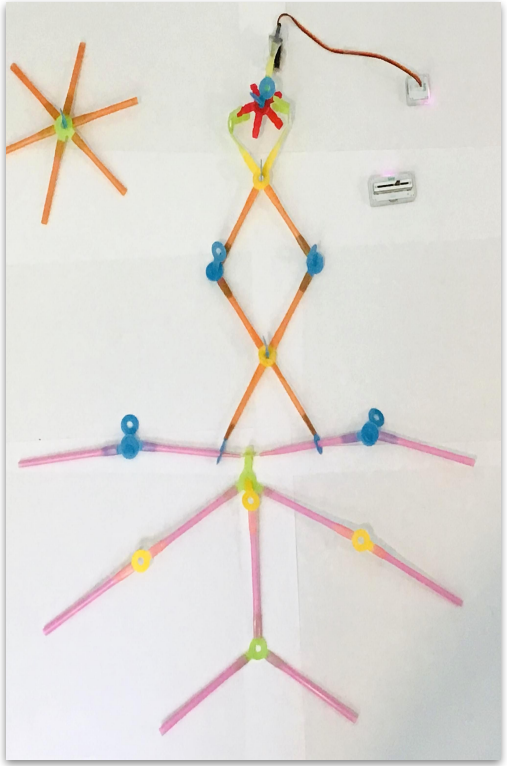
Appendix

Free SAM Space App: Oh the Coding Possibilities!



The Need For Design Constraints





- ★ The entire kit is a creative challenge
- ★ What can you create with 2 physical SAM Labs blocks, virtual SAM blocks, Strawbees components, pipe cleaners, and commonly found materials?
- ★ Constraints mimic real-world scenarios with actual limitations

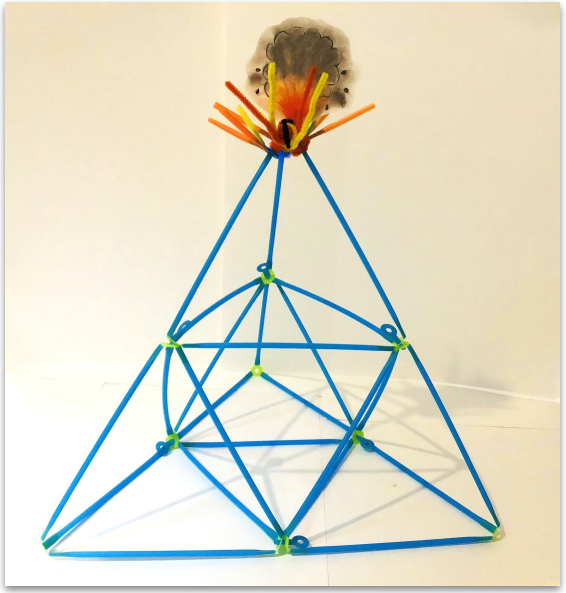
Cultivating Your Own Creativity...Share It With Students!

- ★ Give yourself time! Creativity is inefficient but good!
- ★ Combine common materials in uncommon and original ways
- ★ Follow and learn from other creative people
- ★ Moving beyond first thoughts to the new, the innovative
- ★ Taking breaks, nature, and exercising
- ★ Push through difficult parts of the creative process
- ★ Doodling and visual mapping
- ★ Design a personalized space
- ★ Traveling, even if it is in a book
- ★ Continual practice of creativity

https://www.huffpost.com/entry/yes-you-can-train-yoursel_b_10686810

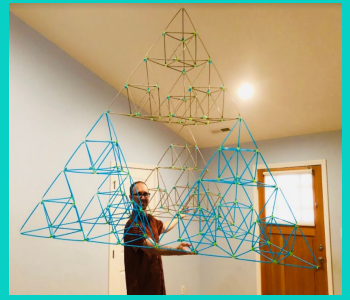
https://web.media.mit.edu/~mres/papers/kindergarten-learning-approach.pdf

https://www.classroom.strawbees.com/



Strawbees: Investing in Sustainability

REUSE



“Our multi-use straws are designed to be used over and over again. The benefit of using high-quality plastic in the shape of a straw means we can use much less plastic and our structures become very lightweight. This way we optimize material usage by students per year and we can even make things that fly!”

REDUCE!

“Strawbees connectors and straws are easy to modify and durable. They can get bent, get wet and even put in the dishwasher. Strawbees can also be used with a wide range of upcycled materials like cardboard, plastic containers, and regular straws, adding value to material that otherwise would end up in the bin. In the end, you take your project apart and can start over again.”

RECYCLE!

“Our own Strawbees building straws are sturdier, more durable and, like our connectors, made with 100% recyclable plastic.”