

Say hello in the chat! →

Welcome

We will be recording!

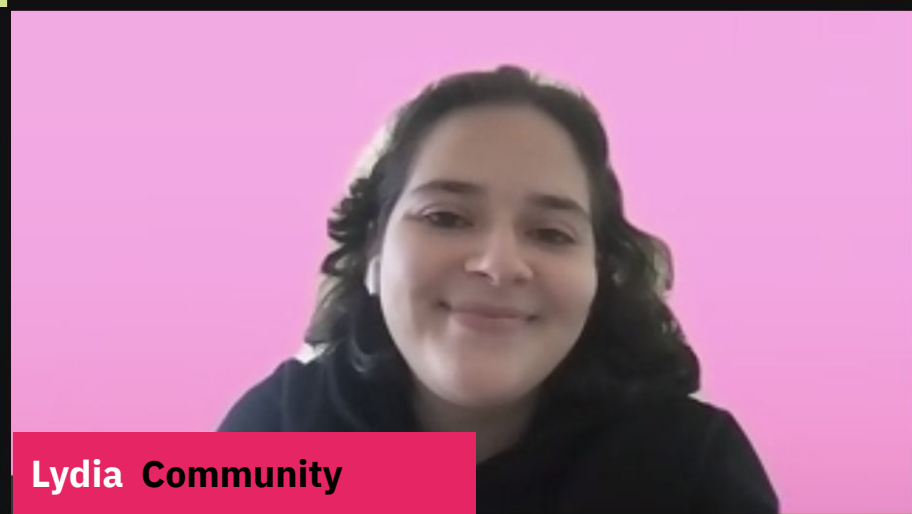
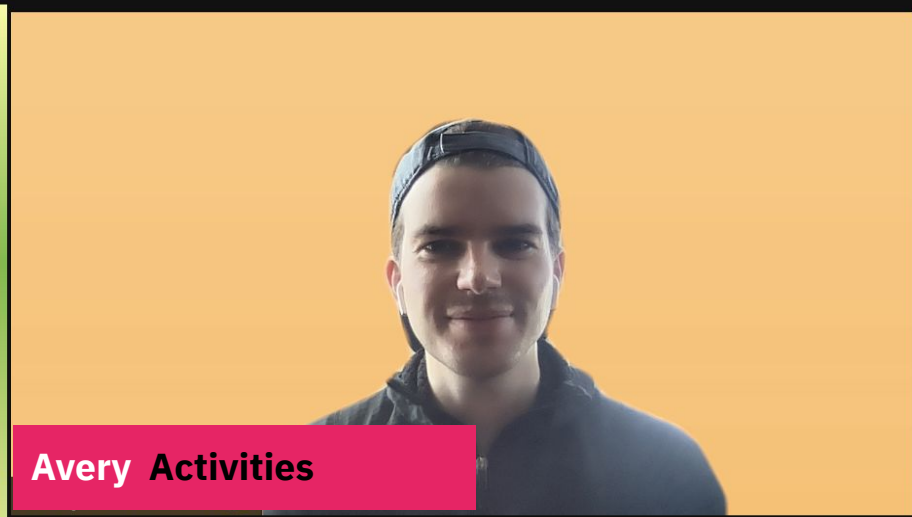
PLIX (Public Library Innovation Exchange) is an education outreach project at the MIT Media Lab. Participation in the project generates data that will allow us to evaluate and improve the project's design. The design comprises activities and experiences training public library staff to facilitate creative learning activities in STEAM.

Note: Participation in chats, notes, + surveys is voluntary: you may skip any or all questions or decline further participation without consequence. We assure all participant's confidentiality and/or anonymity.

Welcome

Community Gathering





What's next?

the rest of today's session

From the Forum

Group Conversation + Q&A

Techniques: Celebrate the Process

Peer Breakouts

Shareouts

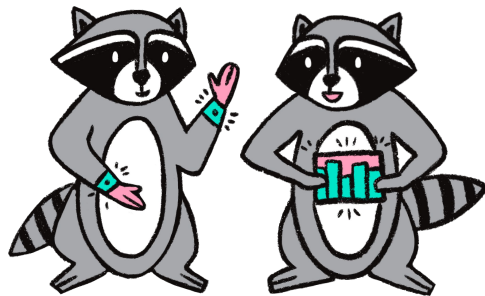
Looking Ahead / Wrap-up

From the Forum

heyplix.media.mit.edu

Lots of discussion about *examples*

*An idea I have been thinking about this week is providing examples and prompts that allow for **multiple access or entry points**.* - Claudia H.



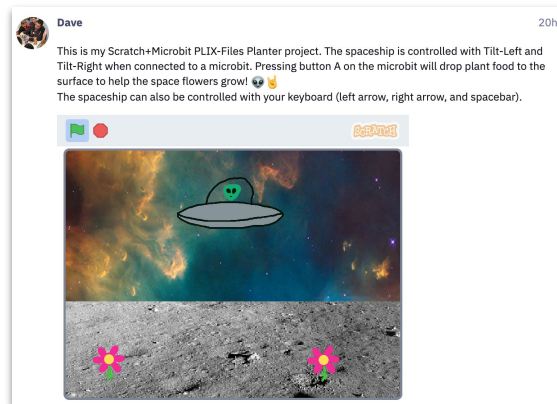
*That idea of the sweet spot in an example was revelatory to me. The idea that **it doesn't need to be and in fact shouldn't be a perfect example** of a fully formed idea so that's it's more inspirational of divergent ideas is something I've been chewing on ever since.* - Michelle

What about having the examples only out for a short amount of time. Maybe five or ten minutes, depending on the age group. Then they would be able to see them, move them around a bit before they got started.
- Susan F.

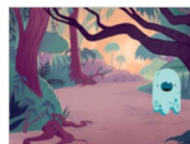
From the Forum

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Make'n'Meet Week 2 Examples



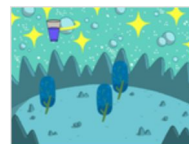
PLIX Files Plants
by bassbookguy



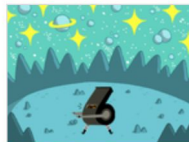
Page Garden Water No...
by Kpage1224



Intergalactic Garden S...
by gvyslp



Intergalactic Garden - ...
by EN42



PLIX FL Superhero
by RobotsInTheLibrary



Jumping Space Trees
by carat18

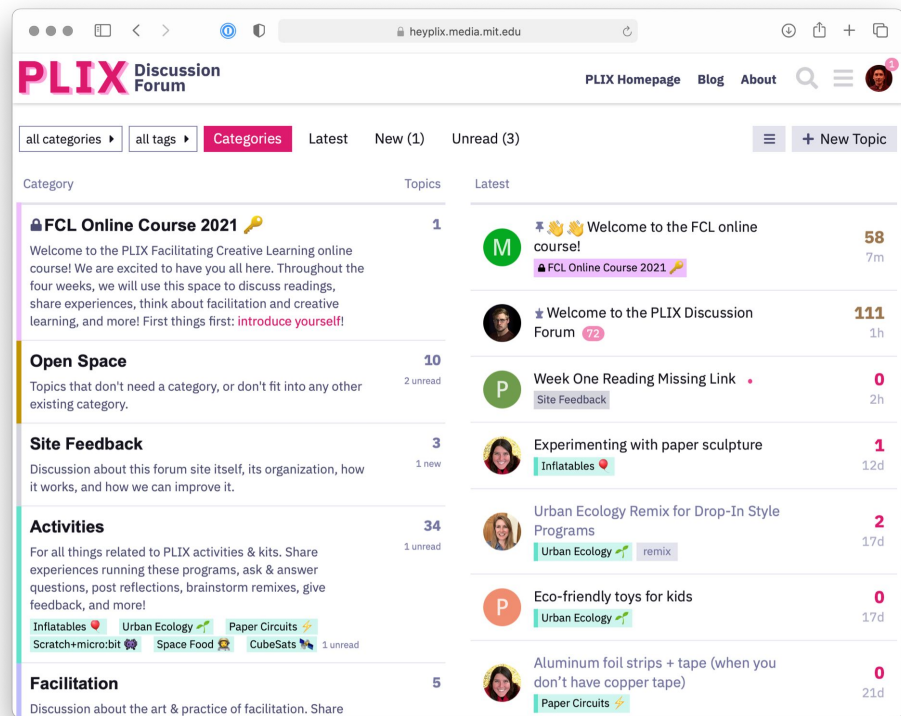


Don't Touch The Plant!
by claudiathelibrarian



PLIX | Intergalactic Gar...
by averymnormandin

PLIX Community of Practice



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PLIX
Conversation Starters

This Week's
Q&A

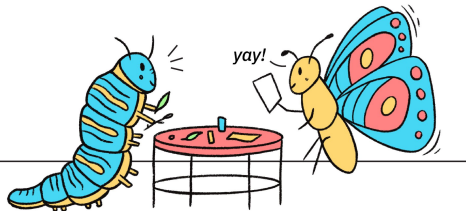


3

Facilitation Techniques

Week 3

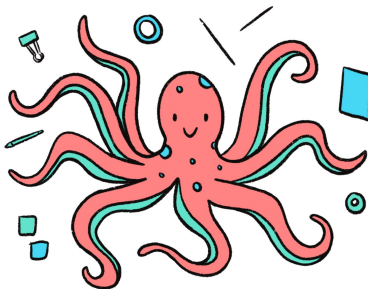
Celebrate the learning process, not just the finished product.



PLIX

FACILITATION TIPS

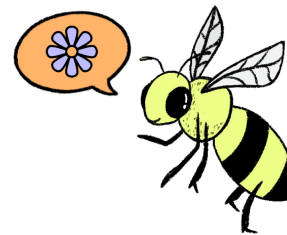
Don't touch the tools!



PLIX

FACILITATION TIPS

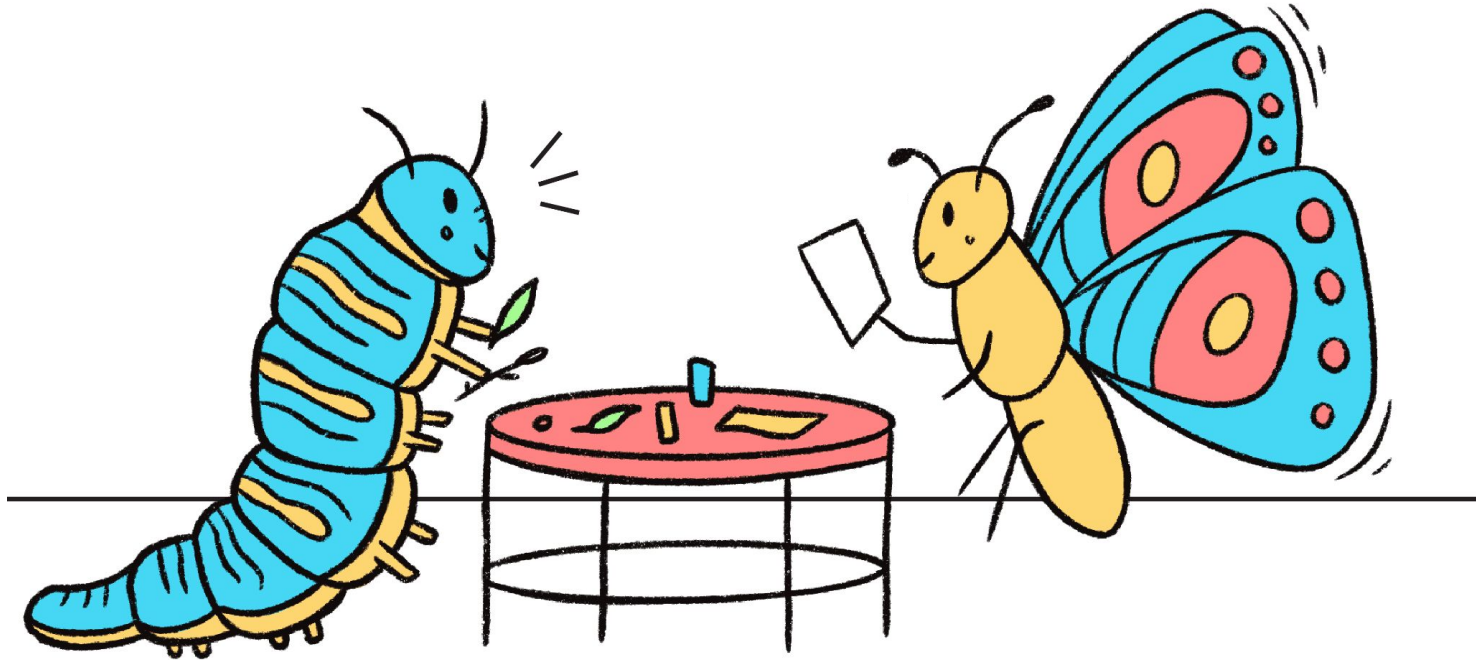
Avoid technical jargon.



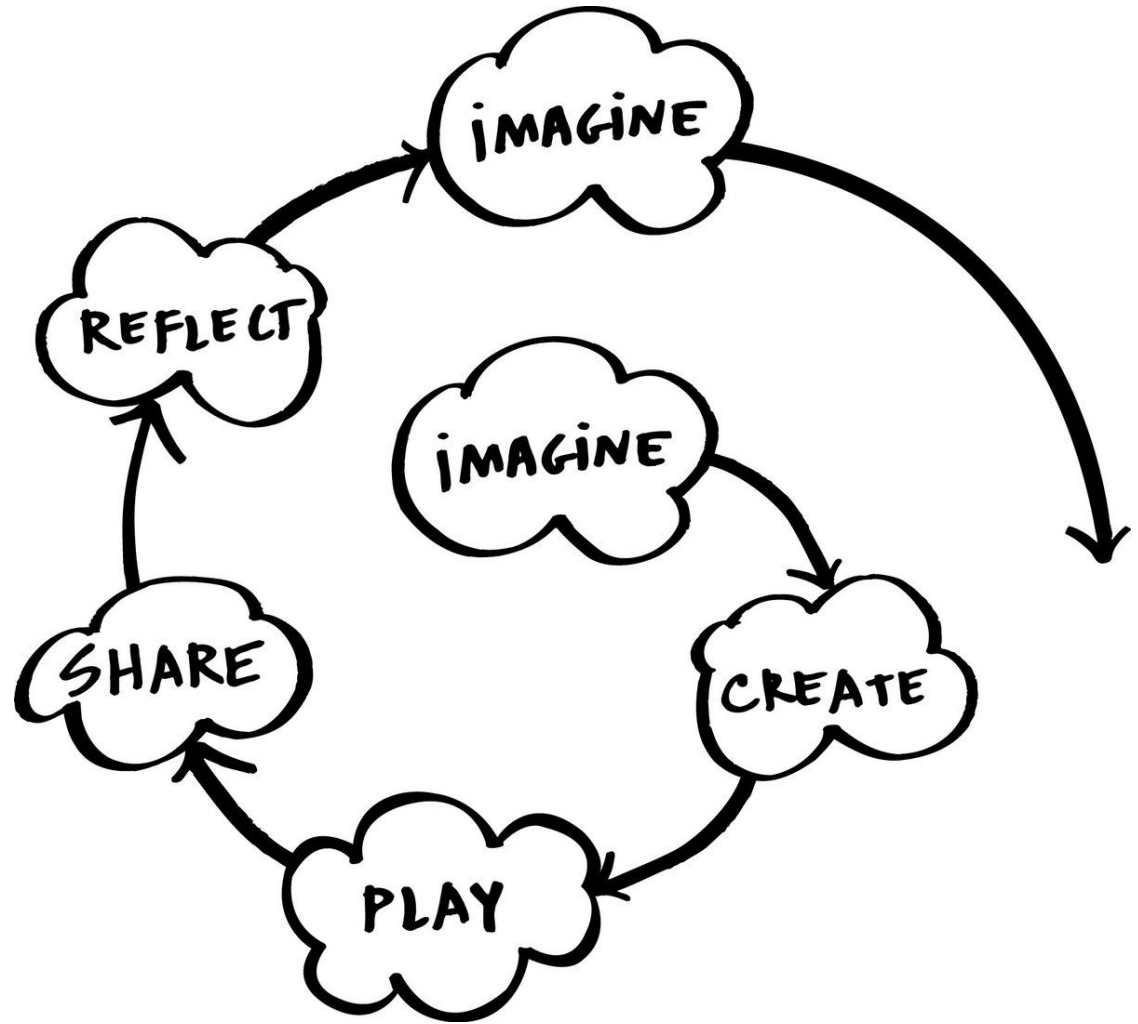
PLIX

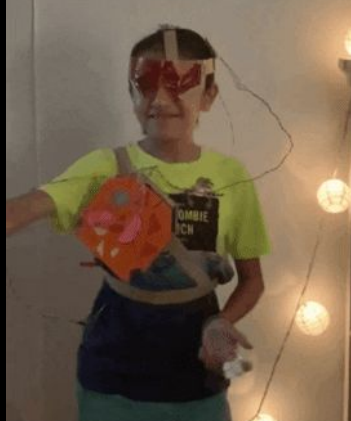
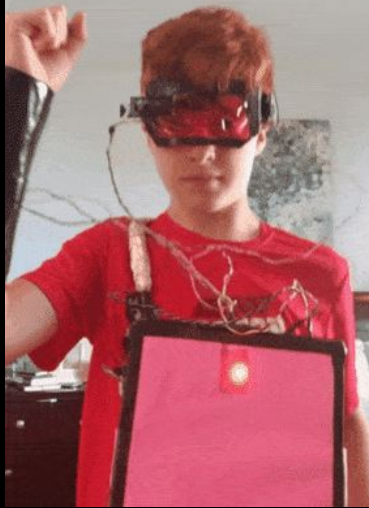
FACILITATION TIPS

Celebrate the learning process,
not just the finished product



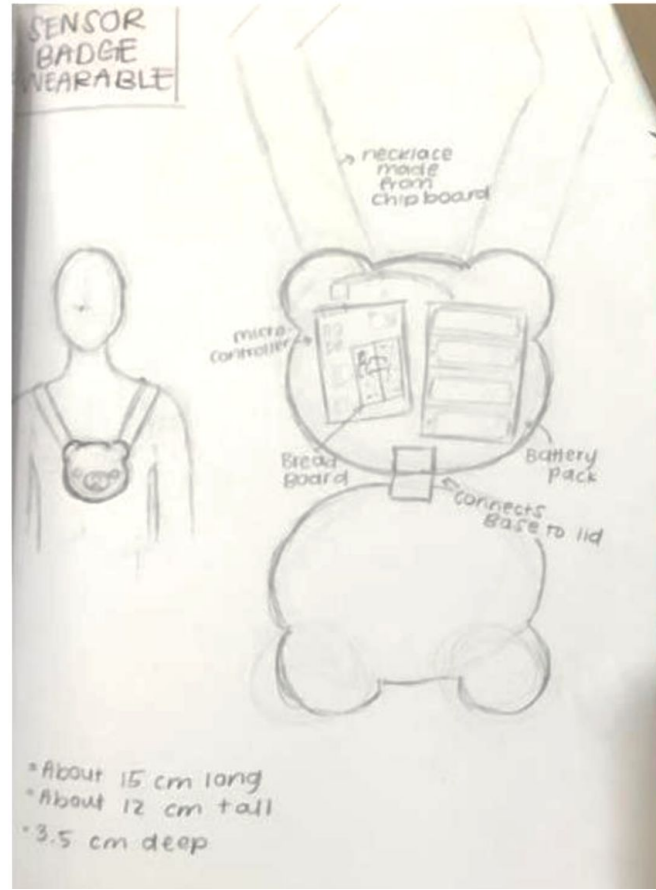
Creative Learning Spiral





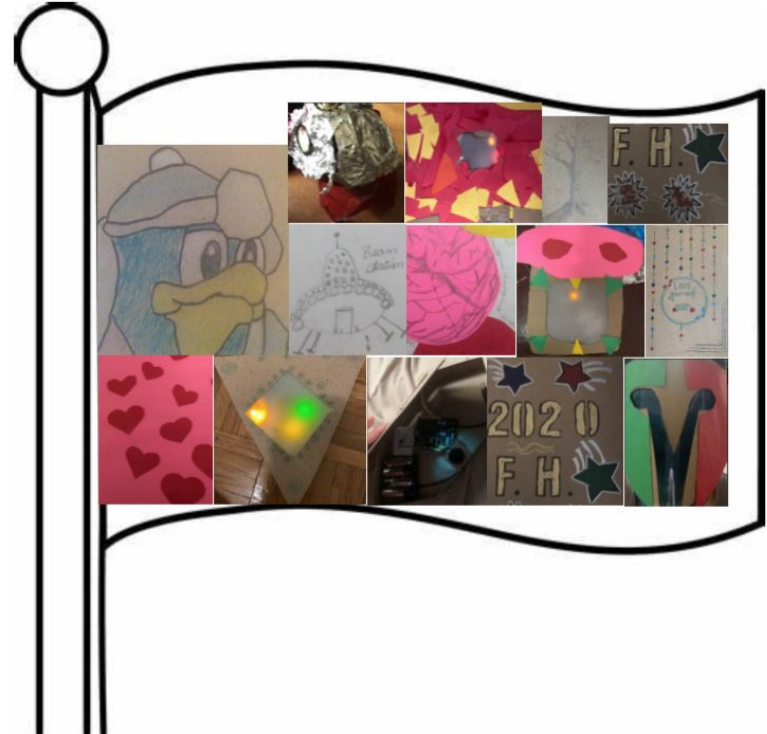
Process Slides

Future Humans project
at Queens Public Library
on Rocket.chat



Process Slides

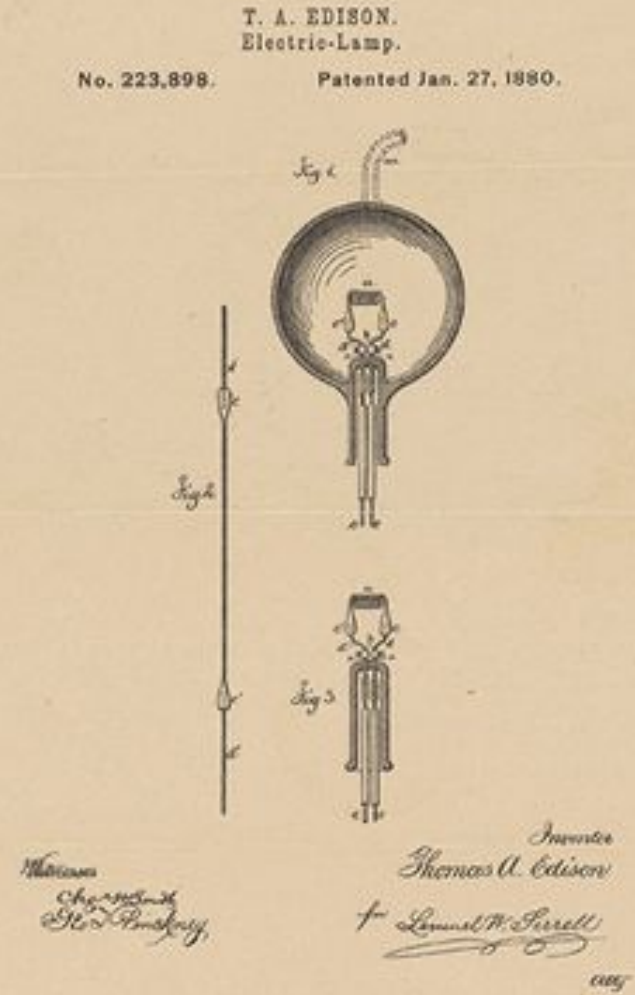
Future Humans project
at Queens Public Library
on Rocket.chat



Genius is
**1% inspiration,
99% perspiration.**

Thomas Alva Edison

GIFs courtesy of US National Archives





Troubleshooting Tips for Paper Circuits



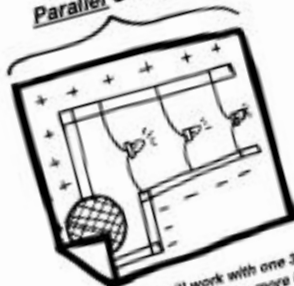
Testing an LED or Battery

An easy way to test if an LED (or battery) is still working is to touch the LED directly to a battery! Make sure the longer LED leg is touching the (+) side and the shorter LED leg is touching the (-) side.

Lighting up more than 1 LED

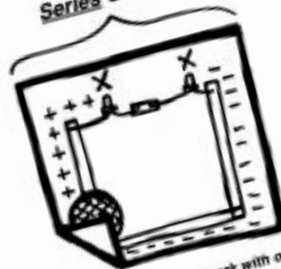
There are two ways to light up more than 1 LED. If you want to use just 1 battery, you'll need to make a **parallel circuit**, which means that all the LEDs' longer legs are connected to the battery's (+) side and all the LEDs' shorter legs are connected to the battery's (-) side. You could also chain LEDs together to make a **series circuit**, but this will require extra batteries! Learn more about parallel and series circuits at: chibitronics.com/parallel-and-series-circuits

Parallel Circuit



This configuration will work with one 3V battery. The battery will drain faster the more LEDs you add in parallel.

Series Circuit

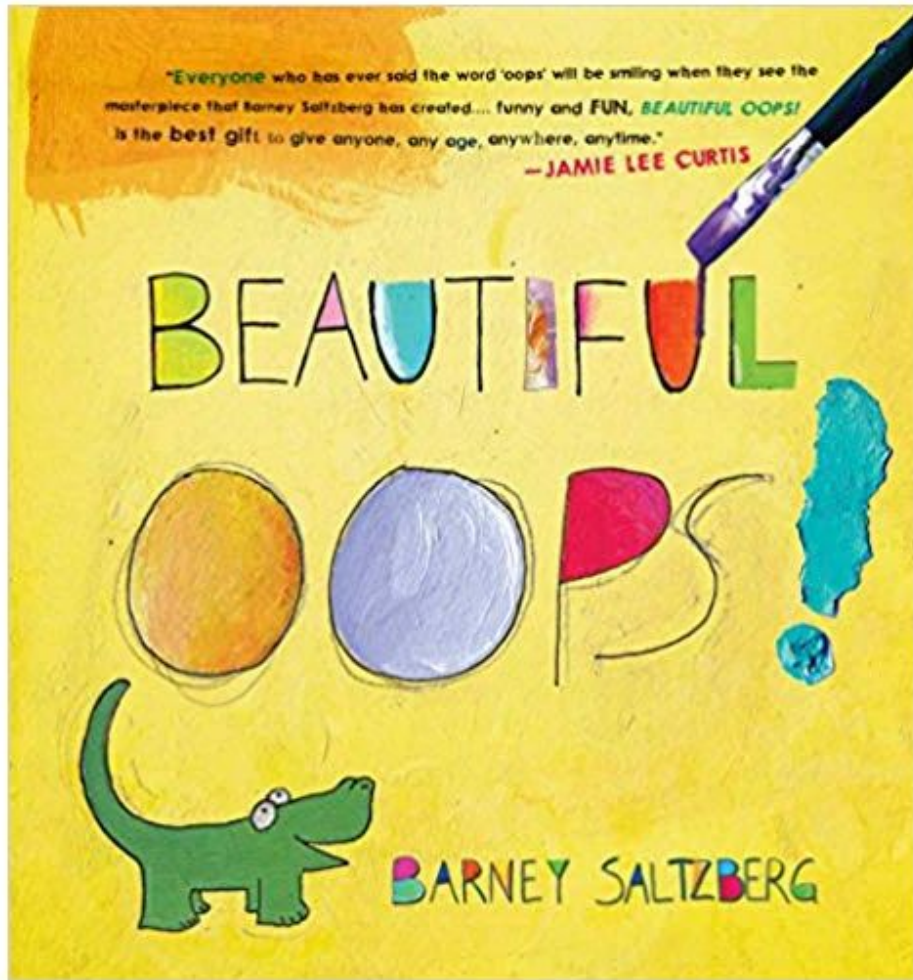


This configuration will not work with one 3V battery. The circuit requires more voltage to complete the loop.

Using Different LED Colors Together

Using different color LEDs in your circuit, make sure they require the same voltage! They might not light up very well. Many standard LEDs are split up like so:

more copper
top

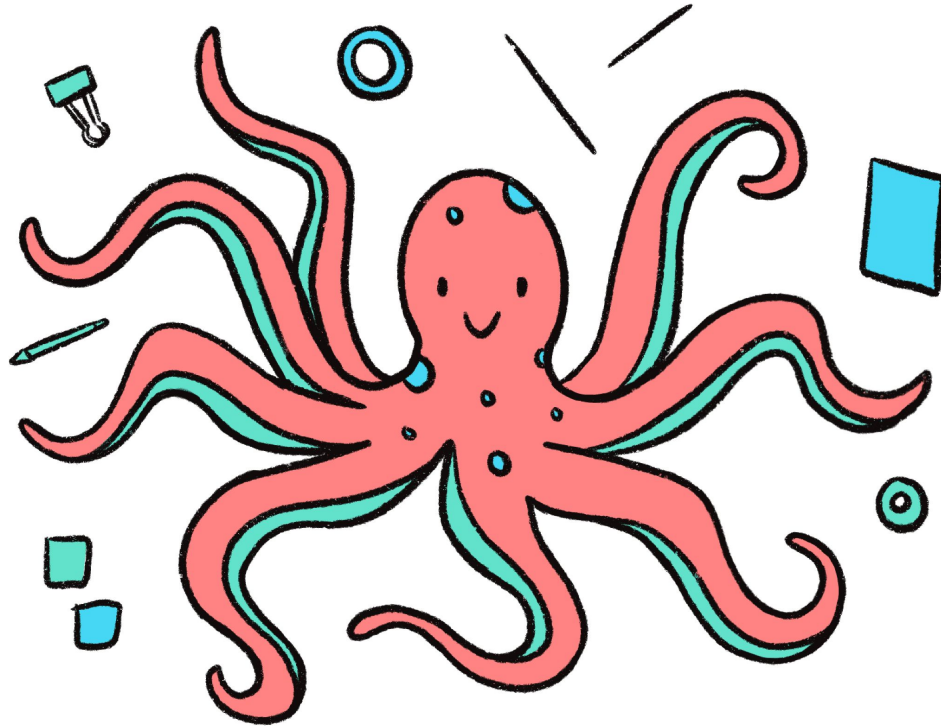


flickr / Steve Berry / TV Cream Toys

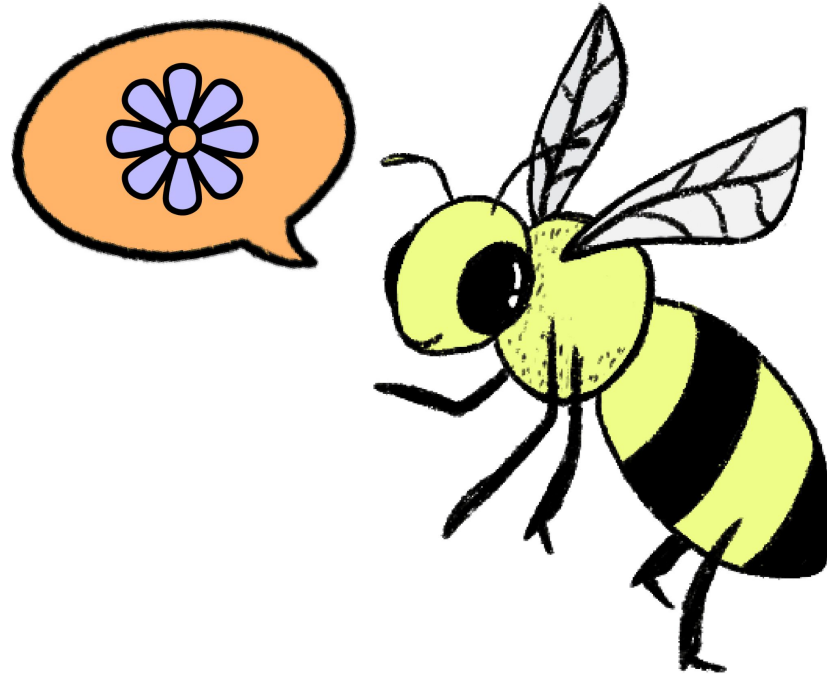


unsplash @designhorf

Don't touch the tools!



Avoid technical jargon



Guides for Facilitating Creative Learning

7

Facilitation Techniques

Week 1

Encourage peer learning.



PLIX

FACILITATION TIPS

Frame activities to encourage creative possibilities.



PLIX

FACILITATION TIPS

Curate a set of diverse example projects to inspire patrons.



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FACILITATION TIPS

Week 3

Celebrate the learning process, not just the finished product.



PLIX

FACILITATION TIPS

Don't touch the tools!



PLIX

FACILITATION TIPS

Avoid technical jargon.



PLIX

FACILITATION TIPS

Week 3

Remember: Facilitation is a practice.



PLIX

FACILITATION TIPS

Week 4

Others from this week's reading

Facilitating Fundamentals

Ask questions rather than giving answers

It may be tempting to give the answer to questions right away, but it's possible, with questions instead of that, learners can achieve all their own answers! Even something as simple as "Can you explain what your program does?" what do you want it to do?"

Use technical words cautiously

Be aware of the words you use. Avoid technical jargon. If you have to use it, use it as a learning opportunity to explain the jargon.

Put yourself in their (unique) shoes

Hold the tools as a last resort. At times you will need to hold the tools, but try to avoid doing it for learners. If you have to hold the tools, let them try it again for themselves after you show them and guide their doing.

Build trust and relationships

Learning is a social process. Can't know someone and then get to know you. Learning new things requires learners to be open and vulnerable. Being unsure of people that they know and trust can hinder the learning process. (See sidebar: A Safe Learning Environment)

Encourage exploration, experimentation, and risk-taking

Connect learners with similar interests to each other and to relevant resources in the workshop.

Be a connector

Connect learners with similar interests to each other and to relevant resources in the workshop.

Mistakes and failures are welcome!

Rather than avoiding mistakes, encourage learners to be open to them. As you support them through it, help them see what they are learning in the process.

Authentic enthusiasm goes a long way

Sometimes learners' excitement, enthusiasm, and passion can be contagious. Encourage learners to share their own enthusiasm and passion with others.

Surface their interests

It can sometimes take time for people to show what they want to do. Create an environment that is open to many interests. Don't be afraid to say "What do you like to do?"

Facilitation Goals

Spark initial interest

Sustain participation by following the learner's ideas

Deepen understanding through making connections

Practices

- Welcome people and invite them to the space
- Introduce the activity and set the mood for the interaction
- Value tentative ideas, "mistakes," and wrong directions
- Support their process in moments of failure and frustration
- Guide people to go a little bit further than they could on their own
- Surface connections between projects and links to outside learning experiences
- Smile and introduce yourself
- Orient learners to the available tools and materials
- Meet them at eye level when explaining or modeling
- Show examples that demonstrate a variety of thinking
- Suggest a prompt that generates possibilities
- Observe learners for a bit before jumping in
- Ask questions about their process
- Listen to their ideas
- Re-state statements or questions
- Offer new materials or tools
- If you don't know the answer, work together
- Give learners suggestions instead of directions
- Show enthusiasm about their ideas
- Encourage people to look around the space for inspiration
- Point out shared goals around the room
- Offer technical terms only when relevant
- Let participants explain their thoughts and define the next steps
- Encourage risk-taking and experimentation
- Offer challenges that allow learners to go further than their own path
- Discuss how the experience might relate to outside interests
- Celebrate moments of wonder, surprise, and joy

Techniques

Working with Kids

Many of our affiliate sites could teach us a thing or two about working with kids.

We've learned a lot from our collaborators with the Little Computer Clubhouse network, a computer education program that developed a great list of tips for people working on creative projects with young people. We adapted this page from the Member Handbook of the Computer Clubhouse. It's a useful reminder to those who are new to working with kids as well as folks who may need a refresher on how to be kids and their own interests and passions show a project.

Be yourself.

Work with kids in a way that is comfortable for you.

Be reliable.

Kids should know when to count on you coming. Your absence will be noticed.

Be consistent.

Be consistent for only in your own interest but making sure that you keep all commitments and usually arrive on time.

Be approachable.

A lot of people come to know you as a person, not just as a facilitator. If you have a chance to work on your own projects, make sure that you are open to the community around you. If you are not, let them know that you are. If you are, let them know that you are. If you are, let them know that you are.

Be patient.

Everyone learns in different ways, and everyone learns at different rates. Be patient with the learning process. Don't rush them. Let them learn at their own pace. If you are not, let them know that you are. If you are, let them know that you are. If you are, let them know that you are.

Be a connector.

Connect learners with similar interests to each other and to relevant resources in the workshop.

Be a connector.

Connect learners with similar interests to each other and to relevant resources in the workshop.

Be a connector.

Connect learners with similar interests to each other and to relevant resources in the workshop.

Go to know kids, and let them get to know you.

Engage in a conversation. Ask questions. Offer to share something you know. However, understand that it will take time for the kids to begin to feel comfortable with you.

Make sure everyone—young and old—feels welcome, important, and a part of the program. Learn names and assign each other by name. Show your interest in their projects and in their progress. Respect the fact that who they are and when they are are different. Learn from their different learning and communication styles.

Discover and innovate together.

Don't be afraid to share your ideas, give advice, and be a resource for creative ideas and new knowledge, opportunities, and possibilities. Show a camper a finished. Challenge them to try something new or take on something new. Try being "How did you do that?"

Figure out your interests.

Experiment with your resources, work on your own project, and then share your ideas and excitement with campers.

Give of your energy.

Show your excitement about what campers are doing, and your interest in learning from their work. Share your own excitement and engagement in your ideas, and your own work as a learner.

Listen.

As adults we often don't take the time to really listen to the ideas and thoughts of young people. Take the time you might try to learn something from them. Show your interest and excitement, observe, and ask questions.

Photo credit: [Image of a child working on a project]

Family Creative Learning

The Tinkering Studio (Exploratorium)

The Clubhouse Network

Breakouts

Share your name & library

Discuss examples how you might use creative learning facilitation techniques in your context



This Week's Content

Things to Think With (Reading, Listening)

We've identified some readings that relate to the themes of the week. Read as much as you have time to read and head over to the [PLIX Forum](#) to share your thoughts.

Recommended Core Doing / Reading / Listening



Patron Participant Persona Simulation
We developed this training activity so you get a chance to practice facilitating an activity while not feeling like expert and (2) to build empathy among facilitators and learners who may approach an activity differently. (Read more about the original, live and in version [here](#).)

Choose your own facilitation adventure using [Google form](#).



Facilitating Fundamentals by Ricarose Roque and Saskia Leggett / Family Creative Learning Initiative (2017, 1 page)

[Facilitating Fundamentals.pdf](#) 27.2KB

These were developed through reflection and discussion with facilitation teams across Ricarose Roque's Family Creative Learning workshops, page 19 of the [Family Creative Learning Facilitator Guide](#)



"Working with Kids" adapted from the original Clubhouse Network [pages 36-37](#) in the [Mass Affiliates Site Playbook](#) (2015, 2 pages)
The Clubhouse is a more youth-focused incubator. MIT Media Lab's thinking about creative learning lab itself.



Facilitation Field Guide by The Tinkering Studio of the Exploratorium (2020, 1 page)

Our guest in last week's Conversation Starter, Luigi Anzivino, was one of the researchers who contributed to

simulate!
facilitate!

read!

plix.media.mit.edu/events/fcl-2021/week-3



"Getting Stuck", [pages 80-83](#) in *Best of Both Worlds: Issues of Structure and Agency in Computational Creation, In and Out of School* by Karen Brennan (2012, 4 pages)
This includes a rarely seen passage from a letter Seymour Papert and her observations describing and reflecting on fun.

PLIX Activity Repository Spotlight



[Flickering Fashion](#)

Paper Circuits by the PLIX Team in collaboration with the Exploratorium (2019, 6 pages)

As you read through the activity, think about how you can apply this week's facilitation techniques. How do the patrons do the work and not touch the tools? How might you keep the language newbie-friendly and jargon-free? How would you navigate your patrons getting stuck, and celebrate their process, not just the finished project?

create!

Deeper Dive Reading (Optional)

- "Hard Fun": a section in this [essay](#) by Mitchel Resnick (2017, 2 pages)
We recommend just the section on "Hard Fun" if we hope you'll get a chance to read the whole book.
- "The Having of Wonderful Ideas and Other Essays on Teaching and the Creative Mind" by Jerome Bruner (1987/2006, 14 pages)
While grounded in formal education, Bruner's observations of a thoughtful child are relevant to generations of creative learning facilitators!
- "Ten Tips for Cultivating Creativity" by Mitchel Resnick (2019, 5 pages)
Some of these tips overlap with the seven facilitation techniques we've emphasized throughout this course, or with the Exploratorium's [Facilitation Field Guide](#) linked above. What's additionally interesting here is how Resnick aligns his tips with the creative learning spiral.

(optional)

listen!

PLIX
Conversation
Starters



Personas



Patron Participant Persona Simulation

CHOOSE YOUR OWN FACILITATION TECHNIQUE: Exercise your facilitation skills with this simulated workshop. There are no right or wrong answers to this exercise, and we may use aggregated and anonymized results from all those who give it a try!

Part 1: See the Room

Here's a chance to exercise your facilitation techniques. Imagine that you are facilitating your first creative learning workshop. You have prepared examples and set up the room ideally. You've introduced the PLIX Paper Circuits activity to a roomful of patrons, framing your activity with a very evocative prompt. Everyone is busily working on their projects. Let's get this party started!



Part 2: Take a Seat

Now you have a chance to be the participant instead of the facilitator. You can write a scenario, too...Take a seat and choose a patron participant persona. Pick one of the following to match your mood or the mood of a patron you find especially challenging. Or chose "Patron π" if you want to make up your own persona!



☐ Collaborative W: You are excited to collaborate with your peers. You find working in pairs or in groups more fun than working alone.



☐ Patron π: I'll make up my own persona!



☐ Passionate K: You're very passionate about a specific interest—maybe it's basketball, or Beyoncé, or Pokémon, or the color purple.

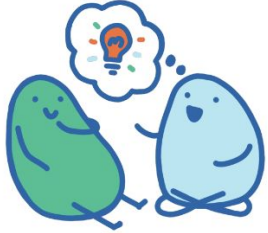


☐ Grooving Z: You are engaged and inspired by the project. You feel very connected to the activity.



☐ Unsure Q: You are unsure of expectations. You are expecting (and waiting on) clear instructions from a teacher on exactly what to do.

Example Persona



You have a clear goal in mind but you struggle to create what you envision. When you encounter a roadblock, you are easily frustrated.

- You don't realize that there is a lot of support (examples, guides, peers, etc.) around.
- You may ask multiple questions about the same problem you are having.
- You may need something explained to you in a few different ways.
- When something doesn't work as expected, you may blame it on the material being broken, rather than trying to troubleshoot.
- You may need someone to show you the variety of support materials and resources available before you try to use them.

Make'n'Meet

**Every Thursday
3pm Eastern on Zoom!**

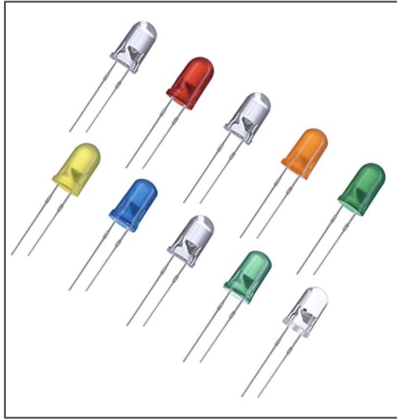
This Week: Flickering Fashion!

Light up your lunar wardrobe with paper circuits!

What will you wear to the cosmic picnic in the intergalactic garden?



What to bring this week. . .



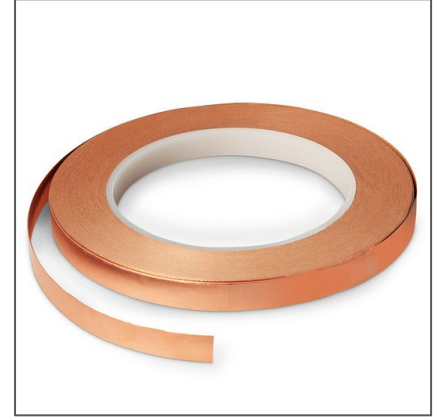
LEDs
critical



coin cell battery
critical

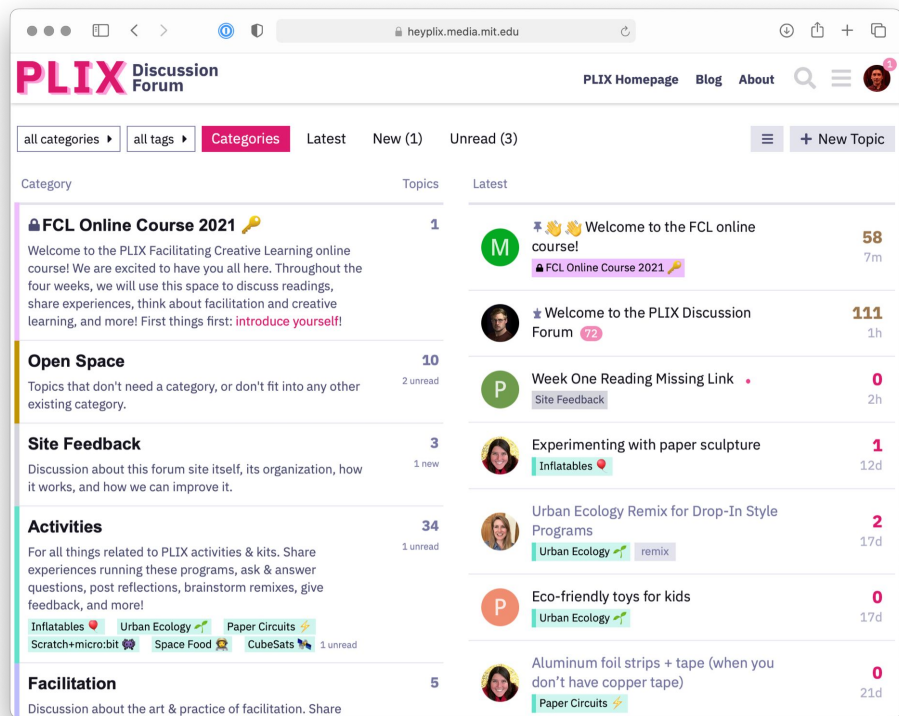


metal clips
suggested



copper tape
recommended
(can use aluminum foil)

PLIX Community of Practice



heyplix.media.mit.edu



next library 

**Tuesday, June 1
12–2pm ET**

Thank You!

See you on the PLIX Forum, at the Make'n'Meet, and/or next Tuesday!

Facilitating Creative Learning Course

April 26–May 21, 2021

Mingling

Stick around if you'd like to chat informally!

plix.media.mit.edu/events/fcl-2021

