



Our shared purpose is to...

- Fundamentally transform life sciences & democratize biotechnology
- to inspire creativity and improve lives
- by organizing life science change-makers and bio enthusiasts to [build an inclusive global network](#)
- [cultivate an accessible commons of knowledge and resources](#)
- [launch community labs and projects](#)
- **and enable local educators**

Prompt 4: Enable Local Educators

Use Minglr to discuss each question with a partner:

<https://lqwfq2.herokuapp.com/group/5f7fe568662b9f0017d8c912>

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What content / practical training is needed to welcome teachers into community bio?

What sort of citizen should a STEM education endeavor to produce?

MECHANISMS: What are meaningful STEM learning experiences and how do we design them?

OUTCOMES: Who should decide which STEM learning outcomes count?

Create your own prompt!

How can we move towards STEAM learning experiences and towards a narrative of nurturing citizens rather than producing them?

- *How should we encourage educators?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
By attributing their efforts (Jane Doe; jane@gmail.com)	+1 (David Kong) +1 (Jane Doe) +1 (Corinne) +1 Sabita Tamang +1 Salman Promon +1 Jainaba Conteh
Collaborating on shared interests resources (Corrine corinne@okadadesign.com, Abhay: abhaykoushik01@gmail.com)	+1 Sabita Tamang
Connecting the interested peers (Students and educators)(Corrine corinne@okadadesign.com, Abhay: abhaykoushik01@gmail.com , Data: Data@0x2A.science)	+1 Salman Promon +1 (Data Ng)
Funds to support their time (stipends)	
Teacher Residencies @ community labs - Provide funding and time for educators to develop their own curriculums or network with likeminded educators	
Community Lab Scientist Partners (school visits, field trips, etc.)	

Science communication - Biohacker after school clubs	
Awards (e.g. NABT Outstanding Bio Teacher)	
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• *How should we provide resources to educators?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Resources: Materials, Finance (funding), Training, Community, - "accessible commons of knowledge and resources" (Corrine corinne@okadadesign.com, Abhay: abhaykoushik01@gmail.com)	+1 (David Kong) +1 (Jane Doe) +1 Sabita Tamang +1 Salman Promon +1 (Data Ng) +1 ...
Provide a place where educators can say what kinds of resources they need	+1 (Tom Malone) +1 (Data Ng)
Centralized hub of knowledge (e.g., Khan Academy) - Aggregate YT channels, marketplaces for equipment, etc	
Workshops @ Bio teacher meetings (local and national - NABT, NSTA)	+1 Nathalia Florez
Teacher Open Houses @ Community Labs	
Provide multilingual accessible protocols with kits	
Biocommunity members with resources providing workshops at schools	
(right-click here → “Insert Row Above” to Add More Rows)	

- How can we find educators who would like to have resources we would like to contribute? (e.g., material on biomimicry)

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
- Matching platform (like Match.com)	+1 (Tom Malone) +1 Kai Costantini
- How to facilitate articulation of needs from teachers - through a curated network of “bio community members who are themselves teachers” - inform - what type of process or tool would enable teachers to formulate their resource needs	+1 Kai Costantini +1 (Tom Malone) +1 Sabita Tamang
- Github	+1 (Data Ng)
- Posting it on social media and sending leaflets to schools and youth clubs	
(right-click here → “Insert Row Above” to Add More Rows)	

- How should we provide training for educators?

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Workshops (jane doe; jane@gmail.com)	+1 (David Kong) +1 (Jane Doe) +1 Sabita Tamang +1 Salman Promon +1 Jainaba Conteh
Regular resourceful sessions (zoom)	+1 (Data Ng)
Guide	
(right-click here → “Insert Row Above” to Add More Rows)	

- *How should we provide support groups for educators?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Open community to listen to their experiences and problems	+1 (David Kong) +1 (Jane Doe) +1 Sabita Tamang ...
Pre curate - needs “asks” - and or “gives” - to prevent energy loss	
Mentorship or helpdesk network	
(right-click here → “Insert Row Above” to Add More Rows)	

- *How can we make bio education more interdisciplinary?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Be inclusive of experts from other disciplines (Jane Doe; jane@gmail.com)	+1 (David Kong) +1 (Jane Doe) +1 Sabita Tamang ...
Create programming that explicitly engages diverse people. Example is Prakash Lab Frugal Science open class for Stanford students and global community	
Get students more involved in bio earlier in their education, so that they take it with them as they diversify	+1 (Ronit Langer)
Lower the barrier in knowledge and hardware	
Let students in biology understand mathematics better and how it's related.	+1 (Shrestha Rath) +1(Aiswarya Raj)
Introduce arts education into biology curriculum with a functional purpose rather than just aesthetics - Emphasis on art as form of critique, activism	+1(Aiswarya Raj) + (Shrestha Rath)
Popularize or create a system for educating students across a spectrum of topics / create a culture where holistic education is highly	

valued (art, math, science, making, etc)	
Make computer education mandatory for biologists	
Build curriculum/projects with ties into standards (NGSS, CCSS for ELA, Math, etc)	
Building collaborative partnerships for curriculum development (having scientists, artists, designers, sociologists all on the team)	
Community biospaces that hold educational workshops and provide networking opportunities for professionals from other industries	
Community/global challenges and platforms to provide multidisciplinary professionals a focus for collaboration / to act as a starter	
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- *How can we make bio education more inclusive/representative of diverse funds of knowledge?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Outreach diverse participants	+1 (David Kong) +1 Sabita Tamang
More mini projects	
Partnerships with organizations with strong roots in their communities	
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- *What content / practical training is needed to welcome teachers into community bio?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you
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	like this contribution
Bioethics and all the accessible commons of training resources from the biosummit	+1 (David Kong) +1 Sabita Tamang +1 (Data Ng)
A guide to build synbio club / DIYBio Lab at school	
Ask the teachers what they want/need	
(right-click here → “Insert Row Above” to Add More Rows)	

• *What sort of citizen should a STEM education endeavor to produce?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
A democratic one, but who's democracy? (Justice: jtwalker@utep.edu)	+1 (David Kong)
Accountable one	+1 (Ronit Langer)
Creative, interdisciplinary, caring	
Critical	
Empathetic	
(right-click here → “Insert Row Above” to Add More Rows)	

• *MECHANISMS: What are meaningful STEM learning experiences and how do we design them?*

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
Open using critical pedagogies (Justice: jtwalker@utep.edu)	+1 (David Kong)

	+1 Sabita Tamang
iGEM (Chaz Childers chaz@opentrons.com)	+1 (Ronit Langer) +1 (Data Ng)
Student empowerment and ownership- feeling like they were part of the design process (Ronit Langer ronit@igem.org)	+1 (Chaz Childers)
Hands-on and related to life	
(right-click here → “Insert Row Above” to Add More Rows)	

- **OUTCOMES: Who should decide which STEM learning outcomes count?**

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
The individual, the family, society, the state, but in which proportions? (Justice: jtwalker@utep.edu)	+1 (David Kong) +1 Sabita Tamang
https://www.pearinc.org/common-instrument-suite	
(right-click here → “Insert Row Above” to Add More Rows)	

- **Create your own prompt!**

Contribution (optional: leave your name and email address)	Vote (+1 and name) if you like this contribution
	+1 (David Kong)

How do we help educators in the shift to virtual and what things are not going back to in person (Ronit ronit@igem.org)	+1 (Chaz Childers)
(right-click here → “Insert Row Above” to Add More Rows)	