



# BUILDING STAFF CAPACITY THROUGH DISCUSSION OF RACISM IN STEM

Increase program capacity to support students around issues of race and racism that they may encounter in STEM.

**STEM PUSH** seeks to broaden participation of Black, Latina/o/e, and Indigenous students in STEM. Pre-college STEM program leaders in this improvement network test out ideas to move us toward that goal.

These **evidence-based improvement packages** summarize our promising ideas, offering a collection of planning guides and resources so others may try out these changes.

**Are you interested in opening STEM pathways to more Black, Latina/o/e, and Indigenous youth by increasing your ability to support students as they encounter racism in STEM?**

**This improvement package offers ideas, tools, and strategies to support staff to engage in meaningful discussions of racism in STEM. You will find:**

- » A discussion routine that can deepen awareness of the subjectivity of STEM, and how that is linked to racism and systemic oppression.
- » Ways you can help your staff deepen their understanding of racist systems, their position within those systems, and how these systems may affect their students.
- » Ways in which themes and ideas from the discussion can be used to inform your education practices.

## Lift



An approximation of the amount of time it will take you to implement this idea.

## Leverage



An approximation of how much change you might expect to see in your program if you implement this idea.

## 02 The Challenge

- » Increase program capacity to support students around issues of race and racism that they may encounter in STEM.

## 02 The Change

- » Engage staff, volunteers, and/or mentors in a routine (2-4 hours total) that scaffolds reflection on positionality and racism in STEM through discussion of a thematically rich podcast.

## 02 The Improvement

- » Increased staff member understanding of their positionality in STEM, how that may influence their work with students, and how discussion themes can be used to inform education practices and build more supportive relationships with Black, Latino/a/e and Indigenous students.

## 03 Centering Equity

- » Review considerations for implementing this routine in your program

### Share with Us

We would love to hear from you.

Tell us how this improvement package is supporting your work at [www.stempushnetwork.org/contact-us/](http://www.stempushnetwork.org/contact-us/)

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## 04 The Routine

1. Facilitator decides on timing and organization, and customizes the three parts of the routine.
2. Participants reflect on individual positionality in STEM.
3. Participants listen to a podcast episode with guiding questions in mind (you can also use other podcasts or video that centers storytelling about experiences with racism in STEM).
4. Facilitator uses the discussion protocol to engage participants in a discussion about the story's themes through the lens of supporting racially/ethnically minoritized youth in STEM, and to signal next steps for program's efforts in this area.
5. Participants reflect on their experience and implications for their practice as STEM educators.

## 05 Reflection

1. Reflect on what you learned.
2. Plan for next steps.

## References & Connections

Radiolab June 13, 2020: The Liberation of RNA - <https://radiolab.org/episodes/liberation-rna>

Part A: Reflection on Positionality

Part B: Listening to the Podcast

Part C: Discussion Protocol

## The Challenge

» Increase program capacity to support students around issues of race and racism that they may encounter in STEM.

In order to change and disrupt systems, one must first “see” the system and one’s location within it, and then be able to openly discuss how systems operate to benefit some at the expense of others. However, many program staff do not have opportunities to engage explicitly with their STEM identity, in particular as it relates to race and power, and they may not feel comfortable engaging with issues of race and racism with their students.

## The Change

Engage staff/ volunteers/ mentors in a routine (2–4 hours total) that scaffolds reflection on positionality and racism in STEM through discussion of a thematically rich podcast.

Experience-based discussions draw on the power of socially-situated learning and storytelling to offer opportunities for participants to deepen their understanding of racist systems, their position within those systems, and how these systems may affect their students.

By reflecting on how their positionality influences their experiences in STEM, staff will have an increased awareness of the subjectivity of STEM, and how that is linked to racism and systemic oppression. Discussing the themes of the podcast through this lens will help increase participants’ capacity to engage with, and support, students around issues of race and racism they may encounter in their STEM journeys.

## The Improvement

- ☐ Participants express deeper or increased awareness of the subjectivity of STEM, and how that is linked to racism and systemic oppression.
- ☐ Participants have an increased understanding of their positionality in STEM and how that may influence their work with students.
- ☐ Participants’ make connections between systems of oppression in STEM and students’ STEM experiences.
- ☐ Staff have an increased understanding of the importance of explicit consideration/ discussion of race in building supportive relationships with Black, Latino/a/e, and Indigenous students.
- ☐ Participants identify specific ways in which themes and ideas from the discussion can be used to inform their education practices.

For more ways to understand if this change is an improvement, see the How Will You Know? section.

## Centering Equity

### Is your program ready to engage in this routine?

- What, if any, groundwork has been laid within your program for you to implement this routine? For example, does your program engage in other training, discussions, reflections connected to race and racism in STEM? (e.g., Where does this fit with how your program engages with positionality and racism in STEM?)
- What capacities do you think you need to facilitate this, and how do you know if you have those capacities? For example, do you have data from staff or students to gauge cultural competence, DEI climate, etc.? Do you have colleagues with more experience in facilitating these kinds of conversations who would make sense to partner with as co-facilitators?
- Is there sufficient trust and rapport among staff who would participate (and between facilitator and staff)? How do you know?
- If adopted, where will the responsibility lie for continuing or building on this routine?



**FIELD NOTES:** Jill from Imagine Your STEM Future describes how she thought about this routine fitting into her current program structure and recent changes when running this routine with her undergraduate student mentors and industry mentors: “The industry mentors have long been a part of the program but adding university students has just happened this year. While the university students often share similar identities/ backgrounds as the high school students, this is less often the case with the industry mentors. Therefore, we think that this discussion routine might be a useful way to also bridge divides and build common understandings between university student staff/volunteers and industry volunteers.”

### Ensuring continuity

- What existing efforts is it tied to, if applicable, and what do you plan to connect it to? How will you integrate this activity into your existing routines/structure?
- What is this protocol a catalyst toward/for in terms of future activities, programming, follow up?

### How might you create a sense of safety for staff members of Color during this discussion? How can you avoid tokenization or making individuals a “spokesperson” for their identities?

#### Suggestions include:

- Sharing processes and discussion points in advance so staff of Color can be prepared.
- Offer participants the option to opt out of the discussion if they do not feel willing or able to engage.
- Regardless of racial/ethnic diversity of the group – but especially if there is only one person with a racially minoritized identity in the group – directly acknowledge the potential for personal marginalization. You may want to start with language such as *“Because we don’t all share a common racial identity or experiences – and each of us are unique – we want to avoid tokenizing each other’s experiences. So while we may share personal stories, let’s also note that we take away lessons, but stories stay. That is, we want to avoid ‘using’ experiences to define students, but honor and learn from what those stories can tell us about the systems within which we work.”*



### PLANNING QUESTION

» Why is this discussion routine a good fit for your program?

## Routine & Resources

### Organization

This routine includes three components:

- ☐ Part A: Reflection on Positionality
- ☐ Part B: Listening to the Podcast
- ☐ Part C: Discussion Protocol

The three components should be implemented in order, but could be organized in several ways, for example:

#### One session: Reflection on positionality, listen to podcast, discussion

Session 1: Reflection on positionality

Session 2: Listen to podcast and discussion

Session 1: Reflection on positionality

Listen to podcast – pre-work

Session 2: Discussion

Reflection on positionality – prework

Session 2: Listen to podcast and discussion



**PRO TIP:** Grady from HIT in the CLE held one evening, 2-hour session that included food and a welcoming environment. He noted that “instructors came up with many examples of how going forward we can be more culturally aware and purposeful in our instruction and teaching.” He also noticed that “program staff will need more time to feel comfortable sharing with one another, and especially talking about race. My instructors were not very forthcoming with a lot of examples of racial impact.”



### PLANNING QUESTION

» How will you organize your discussion routine?



## PART A: Reflection on Positionality Protocol

*While you may tailor any of the framing to align with your program's language and context, particular decision points and areas to customize are called out with an "→" and italics.*

### Prepare your framing script

The purpose of this activity is to support our understanding of how our experiences and racial identities matter for both perceptions of, and experiences in, STEM. This will encourage you to think about positionality – your identities and experiences and the identities and experiences of others – embedded within STEM broadly, but specifically within our program. As part of this activity, you will reflect on your own positionality and how that influences your work in STEM and your work with others, in particular work that supports racially minoritized students in STEM.

This is an opportunity to practice perspective-taking – to consider and acknowledge your personal perspective in relation to the perspectives of others. This means a deep engagement with your position in the world and how that affects access to information, knowledge, and power. Further, this means questioning how this position influences the way your knowledge is perceived by others.

It is important to note that this content and associated activities will affect people differently, and we all need to be aware of and responsive to that. In particular, People of Color will have more personal and sustained experience with the racial discrimination that is communicated in these materials. We acknowledge this and offer space to share and process personal responses, or if necessary, to step away.

*→If you're hoping to engage students with this routine in the future, you may wish to add a variation of this language: "Since we will also be engaging in similar discussions with our students this summer, to the effect that engaging in this activity will further support you in supporting students through similar activities and conversations."*

### Identify community norms

*→A selection of community norms from the STEM PUSH Network below may be applicable to the tone you are trying to set. However, you should curate these based on your own program's needs. If your program already has community or discussion norms, remind participants of them here.*

In order to build community and engage with one another around sensitive and challenging topics, we will strive to hold ourselves accountable to a shared set of norms:

- **Let this work change you.** Enter into this work open to questioning and revising your existing understandings and beliefs.
- **Strive to understand multiple perspectives.** No one knows everything, and together we know a lot.
- **Be willing to be uncomfortable.** Learning and change comes from confusion; that is to have our beliefs, ideas, the ways we've done things, challenged. There is a difference between comfort and safety, however, and this norm does not extend to ideas that question your humanity or the humanity of others.
- **Critique ideas and concepts, not people.** While we might not always agree, if we focus on the ideas, rather than who is sharing them, we should be able to engage constructively and disagree while still building relationships and community within this program.

- **Space for emotion.** We all commit substantial time and effort to our program, and to our work. For many of us, the experiences that we'll be talking about are particularly personal – connected to our own lives, our own families, the young people, families and communities we care deeply about. These discussions may bring up different feelings based on our prior experiences and other work, and we want to recognize and create space for that here. Our reactions may come with emotion, and that is ok.
- **Share the space.** This involves focusing on the dynamics of power and privilege. If you're talking a lot, think about why that might be, and work on passing the mic and supporting others' participation. And if you're not talking, think about why that may be. Do you feel comfortable? And if not, how can we all support your participation?
- **Accept non-closure.** We will not finish this important work today as it is part of an ongoing journey to understand ourselves and the experiences of those around us better.

## Select positionality reading or activity

→Below are readings and activities the STEM PUSH Network has found useful for this purpose. Depending on your program and audience, you may have other readings that explore positionality in general or positionality in STEM that you prefer to use for this activity.

- [University of Michigan's Inclusive Teaching Project Personal and Social Identity Wheel activity.](#)
- [Tekacs \(2003\) How Does Your Positionality Bias Your Epistemology?](#)
- [Milner \(2007\). Race, Culture, and Researcher Positionality: Working Through Dangers Seen, Unseen, and Unforeseen](#)
- [Silberzahn et al \(2018\) Many Analysts, One Data Set: Making Transparent How Variations in Analytic Choices Affect Results](#)

## Choose reflection questions

Consider the following questions related to this reading/activity. You may want to write/type your responses or basic notes to remember your ideas.

- How have your identities (race/ethnicity, class, gender, sexuality, and any other important identity categories) and experiences informed you about the world around you?
- What has brought you to your work? Can you trace when you first became interested in this work? Why is it important to you?
- How do your identities (race/ethnicity, class, gender, sexuality and any other important identity categories) affect your perspective of your work?
- What power and privileges do you bring to your work? What might you take for granted in terms of access and "insider"/"outsider" status?



## PLANNING QUESTIONS

- » Which community norms will you use or introduce?
- » When will participants complete the reflection on positionality?
- » Which reading or activity will you use to stimulate reflection on positionality?
- » What guiding questions will you use to ask participants to reflect on or write about as part of the reading or activity above?

## PART B: Listening to the Podcast

*Note: Participants should have their positionality reflections handy.*

Listen to The Liberation of RNA podcast [here](#). As you listen, consider the following prompts. You may want to write/type your responses or basic notes to remember your ideas.

- What resonates with you? What have you experienced that is similar or different?
- Did you learn something new?
- Go back to your positionality reflections. How do they connect to this story? Did [listening to the podcast] change any of your thoughts, or cause you to consider something different?



### PLANNING QUESTIONS

- » When and how will participants listen to the podcast? (e.g. individually, as a group, in the first session, etc.)
- » What guiding prompts or questions will you ask participants to think about as they listen?

## PART C: Discussion Protocol

*While you may tailor any of the framing to align with your program's language and context, particular decision points and areas to customize are called out with an "→" and italics.*

### Facilitator Framing

The purpose of this activity is to support our understanding of how our experiences and racial identities matter for both perceptions of, and experiences in, STEM. We will be using this discussion for both personal reflection and thinking about how racism in STEM could affect our students. By doing this, we aim to further increase our capacity to engage in conversations around race and racism so that we can better support students.

→ *Why does this matter for your program in particular? Can you think of any examples or scenarios that are specific to the program, the students you serve, and/or the disciplines in which you and your staff work?*

- a. Review community norms (see reflection on positionality protocol)
- b. Position self as learner
- c. Acknowledge challenges and support space to check-out/opt-out.



## Reactions

→ Decide ahead of time how people will share their responses and create a corresponding template (e.g., Jamboard, Googledocs, post-its on butcher paper, etc.)

- Share 1-3 words or phrases that come to mind from listening to the podcast.
- Share 1-2 of your reflections for each prompt:
  - a. What resonates with you? What have you experienced that is similar or different?
  - b. Did you learn something new?
  - c. How did the podcast connect to the reflections you had from the [positionality reading/activity]? Did listening to the podcast change any of your thoughts, or cause you to consider something different?

## Transition

- d. Give participants a quiet minute to reflect on what they heard and connections to STEM.
- e. Depending on facilitator capacity/dynamics of discussion, connect sharings to higher level themes OR ask if anyone wants to share what they're thinking or connections they're making.
- f. Signal transition here from personal reflections to the "why we're here", namely how this connects to the program and students with whom you work.

## Discussion Questions

- What does this podcast suggest about power dynamics in the scientific enterprise? Who has power? What is that power used for?
- What does this podcast suggest about how racism operates within science and academia?
- Did you make any connections between the podcast and your work with Black and Brown students?
- What thoughts do you have about how you might engage with your students around this podcast?
- What concerns or questions would you have about discussing this podcast with your students?

→ You may have other ideas you want to introduce as part of this discussion. See here for alternate/additional ideas other programs have drawn from podcast quotes and content.

## Closing

→ Facilitator reiterates connections between this discussion, the program, and students, and indicates what next steps or experiences will tie into and continue this learning as a community.



## PLANNING QUESTIONS

- » When will participants discuss the podcast?
- » What guiding prompts or questions will you use to solicit participants' reactions to the podcast?
- » What format will you use for participants to share their reactions (e.g., Jamboard, post-its on butcher paper, etc.)?
- » What will your discussion questions be?
- » What ideas do you have for maintaining a focus on race and racism in STEM in this discussion?
- » How will you end the discussion in a way that signals continued learning and improvement as a community? (e.g., next steps, connections to other program components or experiences, etc.)



## REFLECTION QUESTIONS

- » What have you learned about your program staff from this experience? About your program?
- » What surprised you?
- » Did enacting this routine make a difference for your staff? How do you know?
- » Did implementing this routine make a difference for your students? If it's too early to tell, what might you look for as evidence of positive change?
- » What's next? Consider how you can continue to adapt and sustain this conversation to meet the needs of your program and community. How might you extend this impact and/or discussion routine itself to your students?

# HOW WILL YOU KNOW?

If you try out this routine, how will you know if you are seeing improvement?

Here are some ways that members of the STEM PUSH network measured the effectiveness of this change.

## Observation Tool

→To be completed by a co-facilitator(s) or designated notetaker(s)

COMPLETE <b>DURING</b> DISCUSSION				COMPLETE ASAP <b>AFTER</b> DISCUSSION
Participant (name and/or role description, e.g. program staff, faculty member, grad student TA)	Racial/ethnic identity (if known)	Other identities of interest (if known)	Participation (Mark a tally each time this person contributes to the discussion)	Word or phrase that reflects the nature of participant's contributions

→To be completed by facilitator(s) and designated notetaker(s) **SOON AFTER** the discussion

How many people were invited to participate in the discussion activity?	
How many people attended the discussion?	
What percentage of participants contributed at least once to the discussion?	
What percentage of participants contributed 3 or more times to the discussion?	
Did you notice any patterns of participation in terms of roles, racial/ethnic identities, and/or other identities?	
How many participants engaged in discussion specifically about race and racism in STEM?	<i>none did some did almost all did</i>
How many participants engaged in discussion specifically about how positionality influences their work with students?	<i>none did some did almost all did</i>
How many participants connected the discussion to ways in which they might support Black, Latino/a/e, or Indigenous students in the program?	<i>none did some did almost all did</i>

## Post-Discussion Survey



**PRO TIP:** To increase your response rate, program leaders who implemented this routine in the past recommend planning for time at the end of the discussion for participants to complete the survey. It may also be easier to analyze responses if the survey is set up and completed as a Google Form.

### Post-Discussion Survey

Please indicate how you think this experience affected you on each of the dimensions below.

Compared to before this experience, how has each of the following changed for you:	Less than before	About the same now as before	Greater than before
My awareness of how my own identities influence/have influenced my experiences in STEM.			
My awareness of how my students' identities may influence their experiences in STEM.			
My knowledge about racism in STEM.			
My <b>willingness</b> to talk about race and racism in STEM with my program colleagues.			
My <b>preparedness</b> to talk about race and racism in STEM with my program colleagues.			
My <b>willingness</b> to talk about race and racism in STEM with my students.			
My <b>preparedness</b> to talk about race and racism in STEM with my students.			
My ability to support my students around race and racism they may encounter in STEM.			

## Open-Ended Questions

The purpose of this discussion was to center racial/ethnic equity as one dimension of our work with students. As such, we want to learn how this experience may benefit- or not benefit - participants in different ways. We ask that you indicate groups with which you identify so that we may better understand these potential differential effects. We understand that in certain cases this may compromise anonymity; we rely on your honesty to assess the efficacy of this kind of routine for our program, and your responses here will not be used in any evaluation of performance or otherwise negatively affect your participation. However, you may still choose not to answer this question if desired!

1. With which racial/ethnic group(s) do you identify? Are there other groups with which you identify that you feel are salient to this conversation?
2. What are the two most significant insights you had from this experience?
3. Before this discussion, what opportunities (if any) have you had to talk about racism in STEM in a professional setting?
4. Did engaging in this discussion change the way you think about your positionality in STEM? If so, how?
5. Is there anything from this experience that you think you can apply to your work with students? If so, please describe.
6. What questions or additional thoughts do you have?



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