



Attending to Race and Identity in Science Instruction

What Is The Issue?

Race is a socio-political construct that can be an important part of how people self-identify or are identified by others. Western science as a field has not always been welcoming to scientists and learners from Black, Brown, and Indigenous communities—and in some cases, continues to be actively exclusionary. Maintaining a critical lens and discussing race as a socio-political construct (instead of perpetuating the false idea that it is biological) can support students from marginalized groups to envision themselves in science and understand racialized scientific concepts and histories.

WHY IT MATTERS TO YOU

- ➔ **Teachers** should reflect on how their own racial identity impacts learning environments. They should consider how to recognize, value, and support students' racial identities in science instruction.
- ➔ **District staff** should refine structures and policies for curriculum and assessments to support talking about race in science. **PD Providers** should help teachers feel confident and courageous in this work.
- ➔ **School leaders** play an essential role in supporting and protecting teachers who engage students in thinking about how race, identity, and science are interrelated.

Things To Consider

- Race is a central feature of many people's identities—both avowed (how they see themselves) and ascribed (how other people see them). Taking the time to address identity and providing space for students to share important parts of themselves with others [can help strengthen science classrooms in multiple ways](#).
- The [NRC Framework](#) highlights the need for students to engage in science and engineering practices while learning and applying disciplinary core ideas and making connections to cross-cutting concepts ("3D learning"). However, it also [emphasizes identity and interest](#) as fundamental to learning ("5D learning"). [Building on identity and prior interest](#) in instruction is as important as building on prior knowledge.
- Identities are also [intersectional](#). Identities should be considered holistically; there are many factors that can combine to impact identity in addition to race—including [gender identity](#). Intersectionality examines how systems of power might impact individuals who are marginalized because of their socio-political identities, and how different types of discrimination combine to influence the experience of oppression (for example, those who identify as female and also as people of color).

Recommended Actions You Can Take

- To be conscious is to have an expanded awareness of self and others. A [conscious practitioner](#) is an expert who goes beyond their expertise to intentionally and continually impact their daily practice. [Explore this resource to build critical consciousness](#).
- Build trusting, caring relationships with students. Have conversations with them about their communities, histories, and beliefs. Explore the ideas in the resource [How to Create Identity Affirming Opportunities in Science Lessons](#) and this [Teacher Learning and Reflection Module on creating a learning environment for supporting discussions of race, racism, and genetics](#).
- Examine classroom practices, including [productive talk and varied participation structures](#). Identify how you are leveraging the gifts that young people bring to the learning environment and connecting a range of relatable examples of representation, especially for your students from marginalized backgrounds.
- Identify what classroom practices and structures may be damaging to students' racial identities. Set goals and make plans for needed changes.
- [Evaluate instructional materials and units](#). Find opportunities for students to [meaningfully talk about race in critical and relevant ways](#). Continue emphasizing the socio-political construction of the idea of race and debunking false narratives of race in science by using [instructional materials that explore the intersections of Race, Racism, and Genetics](#).

REFLECTION QUESTIONS

- How does your racial identity impact your practice? How could elements of your identity intersect with identities of your students? How can you hold a critical lens and be accountable for expanding beyond limited views of race and science?
- How can surfacing and celebrating young peoples' racial and cultural identities strengthen science learning? How can classroom systems continuously support student identity and learning?
- How can we disavow the idea that race is an inherently genetically meaningful category while recognizing its reality as a socio-political construct with deep implications for health and personal identity?

Attending to Equity

- Everyone should hold a critical lens in all aspects of their work (like language and daily practices) and take steps for continued accountability, in order to avoid perpetuating harmful, one-sided, deficit-laden narratives of race in all contexts.
- Science and science education are not neutral. The historic and continued centering of white people and whiteness actively erases and marginalizes the histories and contributions of scientists and communities of color. [Leveraging student identity](#) and critically talking about race in science can create space for more expansive representation.

ALSO SEE STEM TEACHING TOOLS:

#6	Productive Talk	#71	Science Ed Equity Framework
#31	Self-Documentation	#79	Systemic Racism and Science Ed
#48	Guiding Classroom Conversations	#86	Race and Racism in Early Grades
#58	Building on Student Interest		

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