Amplify Science

Grades K-8

Equity, diversity, and inclusion in Amplify Science



Overview

We live in a richly diverse world. Yet historically, our educational systems have catered to a narrow range of students, particularly in STEM education. The result has been a lack of equitable opportunities for many—including students of color, English learners, standard English learners, disabled students, girls and young women, foster children and youth, and students experiencing poverty.

Amplify Science was designed to broaden the number of students who are curious, skeptical, evidence-based thinkers capable of making decisions that improve their lives and the communities they live in. We do this by providing all students with access to intellectually stimulating, rigorous, and culturally relevant science and engineering education, and by valuing and building on the rich assets that each student brings to class.

Each Amplify Science unit invites students to take on the role of a scientist or engineering professional to investigate a real-world problem. When students act as scientists or engineers, they get a chance to see themselves in these roles. They are not just "doing science," they are "being scientists." In addition, the real-world contexts for investigations not only increase the relevance of what students are learning but enable students to make connections to their own lives and local communities. This, in turn, this maximizes students' experience of feeling powerful when they successfully use science to solve problems.

Diverse representation

Amplify Science is designed to actively include students who have been marginalized in STEM learning by providing high-quality, supportive materials for teachers that ensure every student-regardless of their background, ZIP Code, home language, or learning characteristics—has access to and benefits from deep and engaging science and engineering learning opportunities. The result is a program that exposes students to a wide variety of careers from the science and engineering sectors as well as to the variety of people who hold those careers. Students are inspired by scientists and engineers from a variety of ethnic and cultural backgrounds who also represent diversity with respect to gender, ability, life situation, and identities. Students meet these numerous and diverse role models in videos, articles, and books that work to "make diversity" visible." By showing that science and engineering are undertaken by humans-some of whom look like and have lived experiences like those of the students themselves—students are better able to see themselves choosing a path to become professional scientists and engineers in the future.

Stephanie is not just an astronaut, she is also an engineer. She puts things together. She fixes things and makes them work.



Stephanie is an engineer as well as an astronaut.

This is a scientist who investigates mosquitoes. She figures out how they fly so fast.



mosquito



This is a scientist who investigates lizards and other animals. He finds out what happens to animals when the weather gets warmer or colder.

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Shane Campbell-Staton is a scientist.



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You could become a scientist, too. What would you like to investigate?



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Equitable pedagogy

Universal Design for Learning

Following the principles of Universal Design for Learning (UDL), Amplify Science units and lessons are designed with a range of students in mind, providing multiple points of entry and modalities of learning (e.g. talking to peers, viewing short explanatory videos, reading, writing, conducting investigations, etc.) so that all students have an opportunity to be successful with lesson and unit goals. Through the UDL framework, the needs of all learners are considered and planned for at the point of first teaching, thereby reducing the need for alternative instruction.

Amplify Science provides students with opportunities to engage with scientific phenomena through doing, talking, reading, writing, and visualizing. This multimodal approach enables students to dive deeply into understanding science ideas, provides variety, and allows for all students to have the benefit of multiple opportunities to access rich science content. Gold-standard studies have shown this multimodal approach to be more effective than standard approaches to teaching science, including for English learners. We refer to this approach as providing students with "multiple at bats," enabling students to construct and deepen their understanding over time.



DO



TALK



READ



WRITE



VISUALIZE

Inclusive classroom community

Culturally and linguistically responsive teaching (CLRT) principles emphasize validating and valuing students' cultural and linguistic heritage. Amplify Science's engaging problems, hands-on and interactive experiences, collaborative learning experiences, and frequent student-tostudent discussions provide opportunities for all voices to be included.

Frequent student-to-student discourse—a key indicator of a productive learning environment—is one of the main ways that students engage in sense-making in Amplify Science. This is more than just partner activities or group work (though there's plenty of that, too). During student-tostudent discussions, teachers are encouraged to allow students to learn with and from their peers by discussing science concepts and their own ideas with each other. It also naturally frames sense-making discussions from the perspective of the personal and cultural backgrounds of students in the class. Through developing this collaborative environment, students feel comfortable asking questions, challenging assumptions, and learning from each other. This and other discourse routines employed in Amplify Science support all students with expressing their thinking, as well as learning to listen carefully and respectfully to their peers.



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INCLUSIVE CLASSROOM COMMUNITY

Embedded teacher support

To support teachers in providing the best possible instruction, every lesson of Amplify Science includes embedded differentiation strategies so teachers can make any necessary intentional and strategic changes to the lessons to meet the needs of their students. Point-of-use differentiation strategies help show teachers what is built into the lessons to support diverse learning needs, highlight potential challenges teachers should be aware of, and provide specific strategies for differentiating instruction. These teacher support notes provide options for customizing instruction to meet the diverse needs and capitalize on the diverse strengths of the wide range of students and classroom contexts that exist in our nation.

In addition to the Differentiation Briefs that include research-based linguistic supports, Amplify Science is available in Spanish, there are multilingual glossaries, and the program provides a full collection of reading supports for each student book and science article. These supports focus students on multiple-meaning words, point-of-use cognate suggestions, and opportunities for students to engage in discourse in their native languages.

Amplify Science provides guidance to teachers on establishing a positive, affirming, flexible, intellectually stimulating, and collaborative learning environment so that all students are included and adequately supported to learn. Respectful and responsive teacher actions are explicitly encouraged in the differentiation strategies for each lesson, which is especially critical for vulnerable populations of students in order to mitigate the potential psychologically, emotionally, and physically stressful circumstances that students in these circumstances may face.

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Amplify's commitment to diversity, equity, and inclusion

Our goal is to make education, and thereby the world, more equitable.

We create education products that celebrate difference in life and thought as well as ideals we may hold in common.

We help teachers craft rigorous learning experiences that reflect the diverse histories, cultures, and identities their students bring to the classroom.

We also help teachers support their students in constructing, questioning, expanding, and strengthening knowledge of where they come from and who they are becoming.

To do this, we hire and develop people with the broadest range of talents, life stories and experiences, and together we build a diverse and inclusive culture.

About Amplify

A pioneer in K–12 education since 2000, Amplify is leading the way in next-generation curriculum and assessment. Our captivating core and supplemental programs in ELA, math, and science engage all students in rigorous learning and inspire them to think deeply, creatively, and for themselves. Our formative assessment products turn data into practical instructional support to help all students build a strong foundation in early reading and math. All of our programs provide teachers with powerful tools that help them understand and respond to the needs of every student. Today, Amplify serves more than five million students in all 50 states.

For more information on Amplify Science, visit **amplify.com/science**.





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