BSCS SCIENCE LEARNING

2022

A significant year for science education.

ANNUAL REPORT 2022

Contents

DEAR FRIENDS,

Dear friends,

In the fall of 2022, BSCS Science Learning's 60 staff members, who live and work across the country, convened at our headquarters in Colorado Springs for the first time since February 2020. The opportunity to come together as a community after so much time apart was reason to celebrate. But 2022 was especially worth celebrating because in this year we released two comprehensive science programs that represent our vision for the future of science education.

In February, the nonprofit distributor OpenSciEd released a three-year middle school science program for the Next Generation Science Standards (NGSS) that we developed with partners at three universities. And a few months later, Kendall Hunt Publishing released *BSCS Biology: Understanding for Life*—our brand new high school biology program for the NGSS. Following in the long-standing tradition at BSCS, both programs were produced through collaborations with educators, scientists, and researchers from across the United States, and both benefited from extensive testing in classrooms.

Since their release, both programs have received high praise from teachers and students. And both are among the first to receive the highest ratings given by the independent curriculum reviewer EdReports—across the board.

We took the opportunity to celebrate these accomplishments in 2022, but we also recognize that having high quality instructional materials is only the price of admission to work on the other challenges of educational reform, which include teacher professional learning and leadership development.

Our work with leaders is less well known than our work in instructional materials and teacher professional learning, but leaders are critical partners in our efforts to bring high quality science education to all students. At BSCS, we work with leaders at the state, district, and school level. Our role is to prepare and support them as they lead change in their educational systems. In this report, we highlight two strands of our leadership development work.

Also in this report, we highlight a new leadership role that we have created within BSCS, a role that we call *staff advocate*. I am particularly proud of the innovative work that these leaders are doing to support the growth and development of our own staff.

At BSCS, we are motivated every day by our vision of a world where everyone is inspired and prepared to use science to build a better future. And we are grateful for everyone who supports us personally and professionally! Thank you for being part of our community.

Sincerely,

Daniel C. Edelson

OUR WORK

Instructional Materials

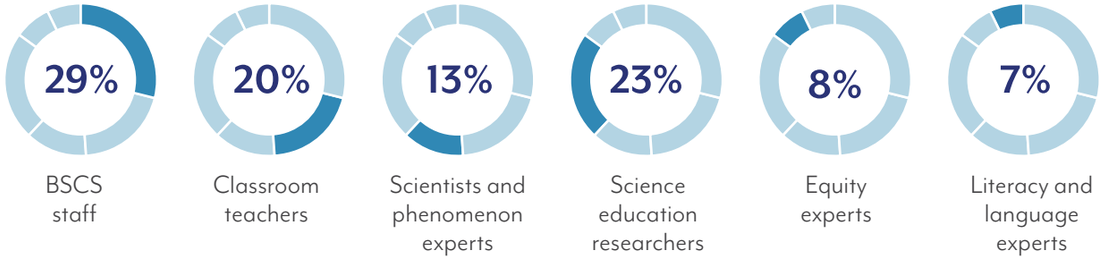
Since our founding, BSCS has recognized the outsized influence that instructional materials can have on science teaching and learning. As we have learned more about science, about teaching, and about learning over the years, we have created increasingly engaging and sophisticated curriculum programs. In 2022, we were excited to release our latest high school biology program, *BSCS Biology: Understanding for Life*.

BSCS Biology: Understanding for Life is a new phenomenon-driven high school biology program. We developed this program to meet the objectives of the Next Generation Science Standards. But it does so much more than prepare students to meet academic standards. We designed this program to prepare students to use science effectively in our complex, interconnected world throughout their lives. So we centered each unit around a pressing societal challenge to make science engaging and relevant to students—especially historically marginalized populations of students, who are disproportionately affected by these challenges. And we introduced a new instructional model, Anchored Inquiry Learning. Learn more about this exciting new program at bscs.org/bscsbio.

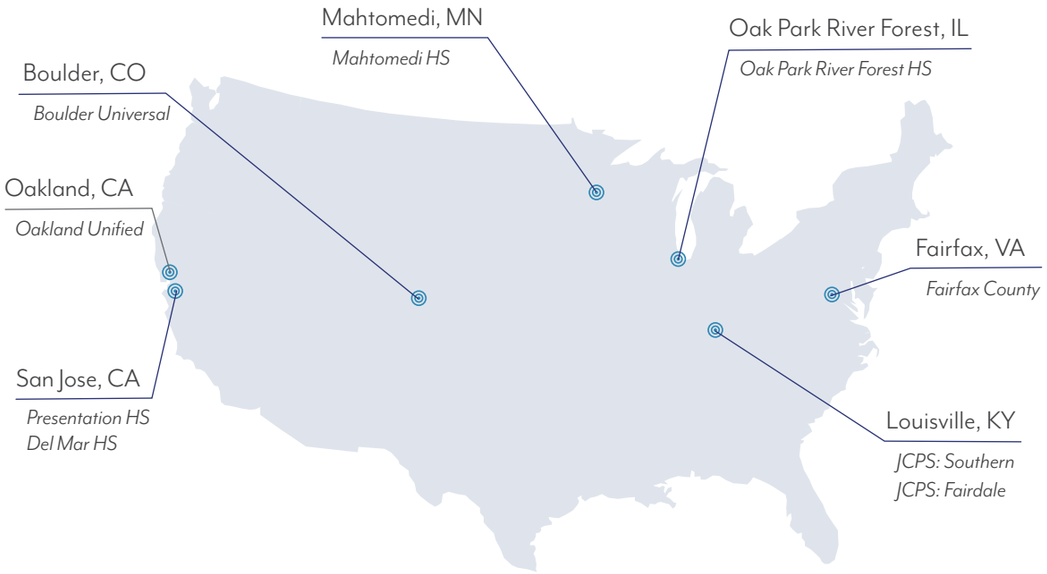
Of course, we know that our work is not done when we complete a curriculum program. We recognize that high quality instructional materials provide a focus for important work with teachers and leaders, like the work that we describe on the next few pages.

CONTRIBUTORS TO *BSCS BIOLOGY*

Breakdown of 60 contributors



FIELD TEST SITES FOR *BSCS BIOLOGY*



FIELD TEST STATS FOR *BSCS BIOLOGY*

2.5 thousand ENGAGED STUDENTS

39 DEDICATED TEACHERS

4 POWERFUL UNITS

Our Work with Leaders

At BSCS, we seek deep and sustained impact on science education. Leaders are essential partners in this work. This year alone, we engaged directly with over 2,500 leaders.

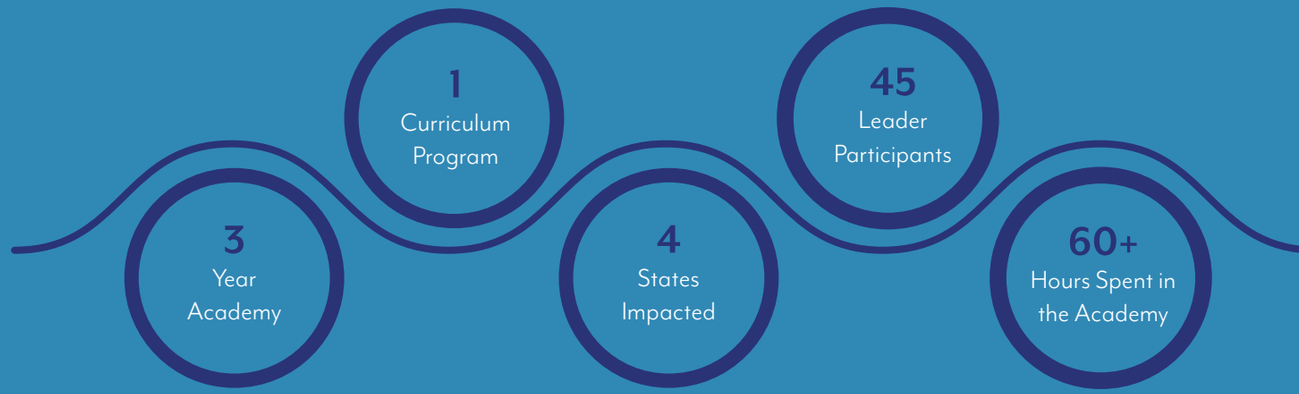
We work with leaders in schools, districts, and state education agencies. These leaders are thought partners and decision makers. They are visionaries and doers. They are partners and friends.

Our work with leaders has two primary purposes. We prepare leaders to plan and manage change in teaching and learning. This may include reallocating resources, changing policies, modifying evaluation systems, selecting instructional materials, and implementing professional learning programs. One example of this work is the **NEXUS Academy for Science Curriculum Leadership**.

We also prepare leaders specifically to provide professional learning experiences to educators. One example of this is our **STeLLA Scale-Up and Sustainability Project**.

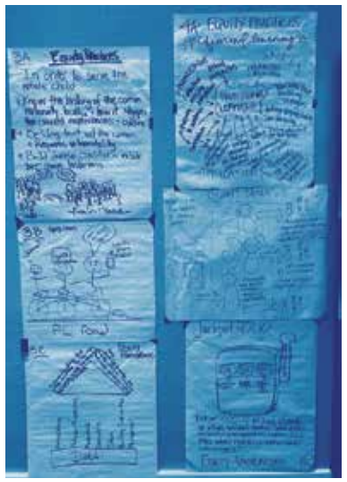
LEADING ORGANIZATIONAL CHANGE THROUGH THE NEXUS ACADEMY

BSCS and WestEd co-designed and are co-leading the NEXUS Academy to prepare teams of state and district leaders to lead a transition to NGSS. The teams learn how to better support teachers in making the shifts needed to successfully implement high quality science materials, specifically the OpenSciEd Middle School Science program.



LEADING TEACHER LEARNING IN THE STeLLA SCALE-UP & SUSTAINABILITY PROJECT (SSUP)

BSCS is partnering with districts and educational service organizations across Tennessee and Kentucky to improve science teaching and student outcomes. As part of this work, BSCS is preparing local leaders to independently facilitate our STeLLA teacher learning program so that more teachers and students can get the benefits of STeLLA than BSCS can reach directly.



The NEXUS Academy

We need to adopt high quality science materials. This became the central message within the New Mexico Public Education Department once the state adopted the Next Generation Science Standards. **Shafiq Chaudhary**, Director of Math and Science at NMPED, was enthusiastic about this priority. *But then what? How can we, as a state system, support use of these materials in classrooms?*

Shafiq, his colleagues, and leaders from local school districts enrolled in the NEXUS Academy to figure that out together. They joined state and district leaders across New Mexico, Massachusetts, Oklahoma, and Washington.

Each of these leaders came from different backgrounds and educational contexts. But they all shared a vision for collaborating closely at the state and district-level to support classroom shifts in science teaching and learning. And they all had a common interest in using the OpenSciEd Middle School Science program to enact these important changes.

Throughout the Academy, BSCS has facilitated participants' exploration of research on organizational change, strategies for implementing transformative curriculum-based professional learning, and tools for enacting and monitoring shifts in local science classrooms.

SHAFIQ CHAUDHARY'S
KEY TAKE-AWAYS

1 SOMETHING VALUABLE

The tools and strategies! They are valuable for our middle school science implementation, and can also be scaled up and used to support other types of curriculum implementation.

2 WHAT'S UNIQUE

The opportunity for state and district teams to come together to enact a common vision. We're having collaborative conversations in a safe environment.

3 HOW IMPACT LOOKS

We're measuring impact and will soon be able to share concrete data. Anecdotally, things are going well with the implementation of OpenSciEd. Teachers are seeing gains in student content knowledge, and it's exciting for all.

STeLLA Scale-Up & Sustainability Project (SSUP)

Amanda Prewitt was delighted to learn she'd been accepted into the STeLLA Scale-Up and Sustainability Program in 2019. As a fourth grade science teacher, she was excited to expand her own science knowledge and improve her teaching practice. And, as one of two representatives from Madison County Schools in Kentucky, she was grateful for the opportunity to help her fellow teachers by sharing what she learned along the way.

She'd heard about the power of STeLLA, BSCS's signature professional learning program. It has a proven track record for significantly improving science teaching and student achievement in science. So Amanda expected to grow as a teacher. She just had no idea how much she'd grow—especially once she was formally selected to participate in the program as a leader.

Her journey to becoming a STeLLA leader began as a STeLLA learner. During her first summer institute, she and several other teachers from Kentucky and Tennessee learned a set of highly effective STeLLA teaching strategies through a video-based lesson analysis process. Over the next school year, she and other participating teachers were filmed teaching units designed to encourage the use of STeLLA strategies. The teachers then analyzed each other's videos and the work of their students in study groups, with the guidance of BSCS facilitators. This video-based lesson analysis enables teachers to take their use of the STeLLA strategies to the next level.

Amanda literally watched herself improve as a science teacher. And she was invigorated by the effect on her students. They were all engaging more with their own ideas, and they no longer worried about saying the wrong thing—they were too interested in their investigations and discoveries. They were actually learning to do science. Even better, all the teachers in Amanda's study group were experiencing something similar.

The next year, as part of her preparation to be a STeLLA leader, Amanda was already co-facilitating these study groups alongside BSCS leaders. And soon after, she was preparing to lead her own summer institute and study groups as a STeLLA leader. Just like that, her goal of helping other teachers came to fruition. As a leader, she's able to bring STeLLA to a broad range of teachers each year—which will impact hundreds of science students across Kentucky.

AMANDA PREWITT'S
KEY TAKE-AWAYS

1 SOMETHING VALUABLE

STeLLA meets learners where they're at and supports their growth. It's changed my day-to-day thinking and science teaching practice. And as I've grown from a teacher to a district leader and now a state leader, I can honestly say it's changed my life.

2 WHAT'S UNIQUE

I've experienced plenty of professional development over the years, but nothing compares to STeLLA. STeLLA grabs your heart from the start and creates space for transformative learning and vulnerability in a safe environment.

3 HOW IMPACT LOOKS

Everyone is involved. All learners of all ages from all backgrounds have an opportunity to learn and grow. For me, making an impact means being equitable.

PEOPLE & CULTURE

Advocates and the Advocate Council

BSCS is made up of amazing people—people who dedicate each day to improving science teaching and learning. In 2021 we began considering whether we are doing enough to improve ourselves, and in 2022 we launched a new initiative to support staff growth and development. We introduced a new role that we call a *staff advocate*, and we recruited seven individuals to become advocates. Advocates work on a one-on-one basis with staff members to coach and support them toward the learning and development goals that staff members select for themselves. Advocates also help the staff they work with to navigate interpersonal and organizational dynamics. Because advocates are not part of supervision or evaluation, staff are able to see them as safe allies to work with on growth and development.

The advocates also work together in a leadership team called the Advocate Council. Because every staff member works with an advocate, the Advocate Council is positioned to identify common issues faced by multiple staff and the organizational dynamics behind them. In response to problematic dynamics, the Council may initiate staff learning and development programs or recommend changes in organizational policies and practices. In addition, the Advocate Council works to identify and advance best practices for their work as individual advocates.

> **"When we launched the Advocate Council, we weren't quite sure how our vision for supporting people would come to life. It's been so exciting to see each advocate embrace their new role in their own way. Over a year later, I'm thrilled to report that I see the impact of the advocates' work across our organization daily."**
>
> | MOLLY STUHLSATZ, ASSOCIATE DIRECTOR FOR PEOPLE AND CULTURE

> **"I can't tell you how many times a staff member has told me that they worked with their advocate to prepare for a difficult conversation with a colleague, and it made a big difference."**
>
> | DANNY EDELSON, EXECUTIVE DIRECTOR

Meet the ADVOCATES

ASHLEY WHITAKER
Project Manager

"I am people oriented and this plays a big part in my advocate philosophy. I have a huge appreciation for the individual, recognizing that there are so many parts to a person and work is just one."

BECCA GREER
Project Coordinator

"My advocate philosophy is centered around honesty, being in your corner, genuinely listening every step of the way, and exploring the deeper motivations that allow for growth."

CARI HERRMANN ABELL
Senior Research Scientist

"I am excited to use the advocate position to help my colleagues grow as individuals, make progress towards their goals, and find their place within BSCS."

CINDY GAY
Senior Science Educator

"As an Advocate, I hope to create opportunities for meaningful connection by staying curious, practicing compassion, and respecting boundaries."

DENNIS LEE
Research Scientist

"As an advocate, I hope to show colleagues the many trails that can lead them to those goals. But at the end of the day, they are the ones that must choose the path they take."

SHERRY HSI
Principal Scientist

"I would like people to think of me as a sounding board, connector to resources and tools, and a partner in problem solving, so I will approach this role with these in mind."

SUSAN GOMEZ ZWIEP
Senior Science Educator

"I see the role of an advocate as a partnership, a collaboration between two people. Productive partnerships require trust, built through shared stories and honest conversation."

SUPPORT

As an independent nonprofit, we pursue funding through grants, contracts, and donations to tackle the toughest challenges in science education.

DONATIONS

» *See donors on pages 15–16.*

EDUCATIONAL INSTITUTIONS

- Jefferson County Board of Education (Louisville, Kentucky)
- Hartnell Community College District
- Norwalk-La Mirada Unified School District
- Saint Paul Public Schools
- State of Washington, Superintendent of Public Instruction

FEDERAL GRANTS

- National Institutes of Health
- National Oceanic and Atmospheric Administration
- National Science Foundation
- US Department of Agriculture
- US Department of Education

FOUNDATION AND CORPORATE FUNDING

- Carnegie Corporation
- Gordon and Betty Moore Foundation
- Kendall Hunt Publishing Company
- National Center for Civic Innovation

Additional funding from royalties/sales/participant fees

2022 Funding Snapshot

DONATIONS SUPPORT STUDENTS AND TEACHERS NATIONWIDE

$333,666

EDUCATIONAL INSTITUTIONS HELP FUND ACTIVITIES

$1,381,388

FEDERAL GRANTS ALLOW US TO RESEARCH AND INNOVATE

$6,524,402

FOUNDATION AND CORPORATE FUNDING EXPAND OUR IMPACT

$2,606,837

Thank you to our GENEROUS DONORS

HEROES
15+ years

Jeff and Jody Bintz
Richard and Amy Cardullo
Janet Carlson
Maxine and M. L. Denniston
April L. Gardner
Timothy and Mary Helen Goldsmith
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Steven and Margaret Krings
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Carlo and Ellen Parravano
Betty Stennett
Molly and Jarrod Stuhlsatz
David and Renée Touchette
Pam Van Scotter and Bruce Hurd
Anne Westbrook
Christopher D. Wilson

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*John and Carmen Edelson
Alexandra Fuentes
Cindy and Ken Gay
Frank and Karen Girolami
Louis and Kim Gomez
Jeffrey and Judy Gough
Connie Hvidsten
Mary Kiely and Kurt Bausback
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Marti Torres
Stephen Traphagen and Julie Minbiole

SUPPORTERS
1–4 years

Anonymous
Janet Ash
Philip Bell
Boettcher Foundation
in honor of Boettcher Scholar Alumnus, Cindy Gay
Karina and Craig Buck
Dan Castro
Robert Cooper
*Linda and David Cornfield
Rodolfo Dirzo
Ellen and Robert Ebert
Geoffrey Edelson
Erin Furtak
Gideon Hausner Jewish Day School 7th Grade Avodah L'Olam Philanthropy Program
Holly Glover
Emily Harris
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Darlene Slusher
Bill Warren
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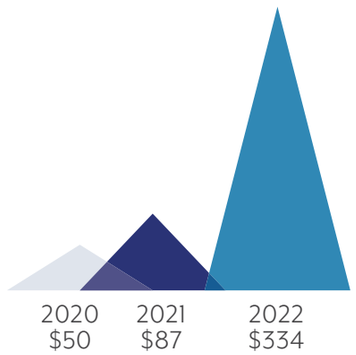
** = major donor (gifts of $5,000+)*

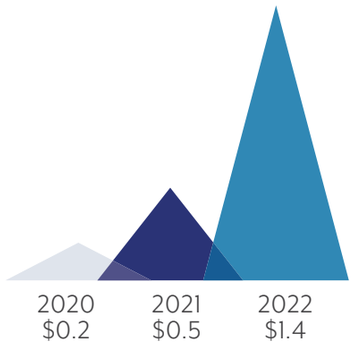
FINANCIALS

2020-2022 Funding Trends

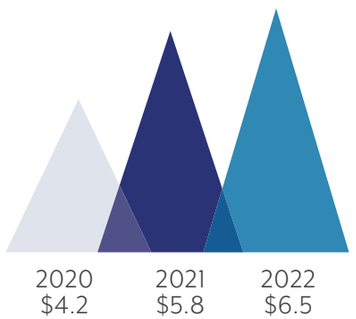
Donations
(thousands)



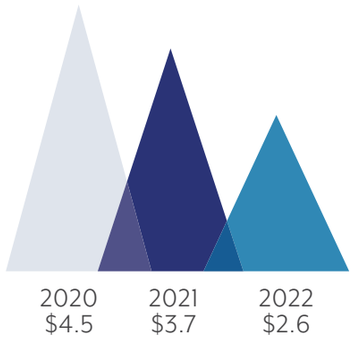
Educational Institutions
(millions)



Federal Grants
(millions)



Foundation and Corporate Funding
(millions)



Financial Activity and Assets for Fiscal Year 2022 (FY '22)

January 2022–December 2022

OPERATING REVENUES	*Unrestricted*	*Donor Restricted*	*FY '22*
Contributions			
Federal and State	6,524,402		6,524,402
Foundation	1,817,013	789,860	2,606,873
Other Grants and Contributions	279,746	553,920	833,666
Total Released from Restrictions	1,688,499	(1,688,499)	–
Revenues From Contracts			
Contract Services	1,381,388	–	1,381,388
Other Income	51,507	–	51,507
Royalty/Sales/Participant Fees	27,179	–	27,179
Total	**$11,769,734**	**($344,719)**	**$11,425,015**

OPERATING EXPENSES	*Unrestricted*	*Donor Restricted*	*FY '22*
Program Services	8,162,554	–	8,162,554
General and Administrative	2,924,792	–	2,924,792
Fundraising and Development	17,174	–	17,174
Total	**$11,104,520**	**–**	**$11,104,520**
Operating Revenue Less Expenses	**$665,213**	**($344719)**	**$320,495**

NON-OPERATIONAL INCOME	*Unrestricted*	*Donor Restricted*	*FY '22*
Realized Gain (loss) on Investments	299,770	–	299,770
Interest Income	32,340	–	32,340
Interest Expense	(9,062)	–	(9,062)
Unrealized (loss) Gain on Investments	(751,594)	–	(751,594)
Total	**($428,546)**	**–**	**($428,546)**

NET ASSETS	*Unrestricted*	*Donor Restricted*	*FY '22*
Change in Net Assets	236,667	(344,719)	(108,052)
Net Assets - Beginning of Year	1,645,367	1,375,839	3,021,206
Net Assets - End of Year	**$1,882,034**	**$1,031,120**	**$2,913,154**

LEADERSHIP

Management

Daniel Edelson
Executive Director

Jody Bintz
Associate Director for Strategic Partnerships & Professional Learning

Nancy Hopkins-Evans
Associate Director for Program Impact

Lindsey Mohan
Associate Director for Program Innovation

Molly Stuhlsatz
Associate Director for People and Culture

Janet Ash
Director of Finance and Operations

Lauren Novo
Director of Communications and Advancement

Program Area Directors

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Design for Justice Outcomes

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Resources for Science Teaching and Learning

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Chris Wilson
Research and Innovation

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Stephen Traphagen, MEd (Vice Chair)
Science Teacher, Oak Park & River Forest High School

William Warren
Associate Vice President for Institutional Partnerships, the Catholic University of America

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Jody Bintz | Vice President

Lindsey Mohan | Vice President

Nancy Hopkins-Evans | Vice President

Molly Stuhlsatz | Vice President

Lauren Novo | Secretary

Janet Ash | Treasurer

> **"Then something clicked for Jake, a student who typically struggles with participation. He said, "I've got it." And suddenly, he's at the front of the room leading a rich classroom discussion. The kids were building understanding through productive struggle. And this discourse, inside a student-centered classroom, felt exactly like what BSCS is trying to inspire with *BSCS Biology*."**
>
> | ROWAN DRISCOLL, HIGH SCHOOL BIOLOGY TEACHER AT OAKLAND UNIFIED SCHOOL DISTRICT

bscs.org (719) 531-5550 info@bscs.org