

FACILITATOR BRIEF: ENABLING YOUTH-LED STEM-BASED COMMUNITY ACTION





About

YSA is on a mission to make working together for the common good the common expectation and common experience of every young person. Since 1986, YSA has activated young people, ages 5-25, and their adult champions to find their voice, take action, and acquire powerful civic and 21st Century skills as they solve problems facing their communities.



About

The Collective for Youth Empowerment in STEM & Society (CYESS) is an initiative of the Afterschool Alliance that brings together organizations who believe in the power of youth to improve their communities using STEM. We are a network of people and organizations working to integrate teen leadership, civic engagement, and STEM in afterschool and out-of-school time programs. Our group of educators, researchers, and leaders, is dedicated to both improving our own practice in service of a more civically engaged and STEM-literate society AND supporting other programs and practitioners to enable youth to improve their communities using STEM.



What is this guide?

This guide is a how-to resource for young people who want to make a change in their communities using STEM. It supports youth in choosing an issue they care about, using STEM skills to understand the problem, and taking action. The guide centers youth leadership and shows how STEM can be a tool for real-world impact.

Who is this guide for?

This guide is made for young people in afterschool and out-of-school time programs, including clubs, youth councils, and advisory groups; it can also be used in schools. Adults who support youth-led efforts—such as educators, mentors, and program leaders—may also find this useful to understand the process and offer guidance or resources when needed, without taking over youth leadership.

What will this guide help young people do?

The guide helps young people identify an issue they care about and investigate it using their STEM knowledge and practices such as collecting data, finding patterns, and exploring root causes. Youth then plan and take action—through service, awareness, advocacy, or philanthropy—and share what they learn and accomplish with others.

What is the adult's role?

Adults support youth by creating space for leadership, asking thoughtful questions, and helping youth access tools, partners, and safe ways to take action. They assist with logistics and safety, help youth find credible information and local experts, and encourage reflection throughout the process. Adults help the youth document and share their impact while protecting the youth's ownership of the work.



CONNECT YOUTH-LED ACTION TO CIVIC RECOGNITION!

Many states and districts recognize civic learning through civic seals, capstones, service-learning requirements, or student leadership pathways. The Youth-Led STEM Action Guide supports these goals by helping young people investigate real community issues, collaborate with partners, take informed action, and communicate impact using evidence and STEM practices.

This guide is especially well aligned with civic recognition frameworks that emphasize inquiry, problem-solving, youth voice, real-world impact, and reflection.

What Students Can Produce as Evidence

Through their projects, students may generate research notes using credible sources, collect and analyze local data through surveys, counts, observations, or maps, and develop an action plan with clear roles and responsibilities. Youth may also complete written or verbal reflections and create a final showcase product such as a presentation, brief, video, poster, or op-ed that demonstrates learning, civic engagement, and impact.

For Educators and Program Leaders

Review your local civic recognition or graduation requirements and use the Youth-Led STEM Action Guide as the student-facing planning tool. Youth can adapt their research, documentation, and final products to meet local criteria while maintaining authentic, youth-led action and meaningful civic learning.

