

Advocating for Science and STEM Education

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INTRODUCTION

There are elected lawmakers in US Congress, the White House, state capitols, city halls, school boards, and state education offices that are making decisions that affect science and STEM education. This guide gives broad advice on how to contact and talk to these lawmakers.

ADVOCACY

alert!

STEM EDUCATION ADVOCACY

Why Advocate for STEM?

Science, Technology, Engineering, and Mathematics (STEM) occupations are growing at 17% while other occupations are growing at 9.8% according to the U.S. Department of Commerce. Individuals with STEM degrees have a higher income, which tracks across STEM and non-STEM careers. STEM education promotes innovation, critical thinking, and science literacy. The trajectory of future employment opportunities clearly point to the increased need for at least a basic understanding of math and science. Despite this, the United States lags behind other countries in comparative mathematics and science scores among students.



Why STEM?

STEM education is closely linked with our nation's social and economic prosperity, and strong STEM skills are a central element of a well-rounded education. Why?

STEM Education Brings Prosperity, Preparedness and Opportunity. One job in the high-tech sector leads to 4.3 jobs in local goods and services industries —which results in positive ripple effects across the entire economy. Between 2014 and 2024, the number of STEM jobs will grow 17 percent, as compared to 12 percent for non-STEM jobs.

At all levels of educational attainment, STEM job holders earn 11 percent higher wages compared to their same-degree counterparts in other jobs. Almost all of the 30 fastest-growing occupations in the next decade will require at least some background in STEM.

WHAT IS “ADVOCACY”?

Advocacy and Non-Profit Rules

v. lob·bied, lob·by·ing, lob·bies

v. intr.

1. To try to influence the thinking of legislators or other public officials for or against a specific cause: *lobbying for stronger environmental safeguards; lobbied against the proliferation of nuclear arms.*

v. tr.

1. To try to influence public officials on behalf of or against (proposed legislation, for example): *lobbied the bill through Congress; lobbied the bill to a negative vote.*

2. To try to influence (an official) to take a desired action.

n. ad·vo·ca·cy

1. The act of pleading or arguing in favor of something, such as a cause, idea, or policy; active support.

Many organizations shy away from activities they presume to be lobbying but which in fact fall outside of the definition of lobbying, which is narrowly defined by the IRS. Generally speaking, lobbying is the *expression of a view or a call to action on specific legislation*. Lobbying does not include, for instance, nonpartisan analysis of legislation, the expression of a position on issues (as opposed to legislation) of public concern, or action taken in "self-defense" of the organization.

The right of citizens to petition their government is basic to our democratic way of life, and charitable organizations are one of the most effective vehicles for making use of citizen participation in shaping public policy. Fortunately, legislation passed by Congress in 1976 makes it possible for charities to lobby freely for their causes, communities and individuals they serve. The same message came from the IRS in regulations issued in 1990. Together, the law and regulations provide wide latitude for charities to lobby.

Overall, there are three key aspects to remember:

- Advocacy is organized action in support of an idea or cause;
- Advocacy is constituents educating elected officials on important issues; and
- Advocacy is establishing ongoing and trusting relationships.

GOVERNMENT: HOW TO GET IN TOUCH

Federal Government Contact Information

- House of Representatives
 - To learn who your Representative is, visit <http://www.house.gov> and type in your zip code.
- Senate
 - To learn who your Senators are, visit <https://www.senate.gov/> and choose your state.
- Or call the Capitol Switchboard at (202) 224-3121

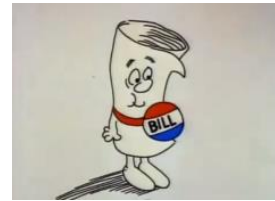
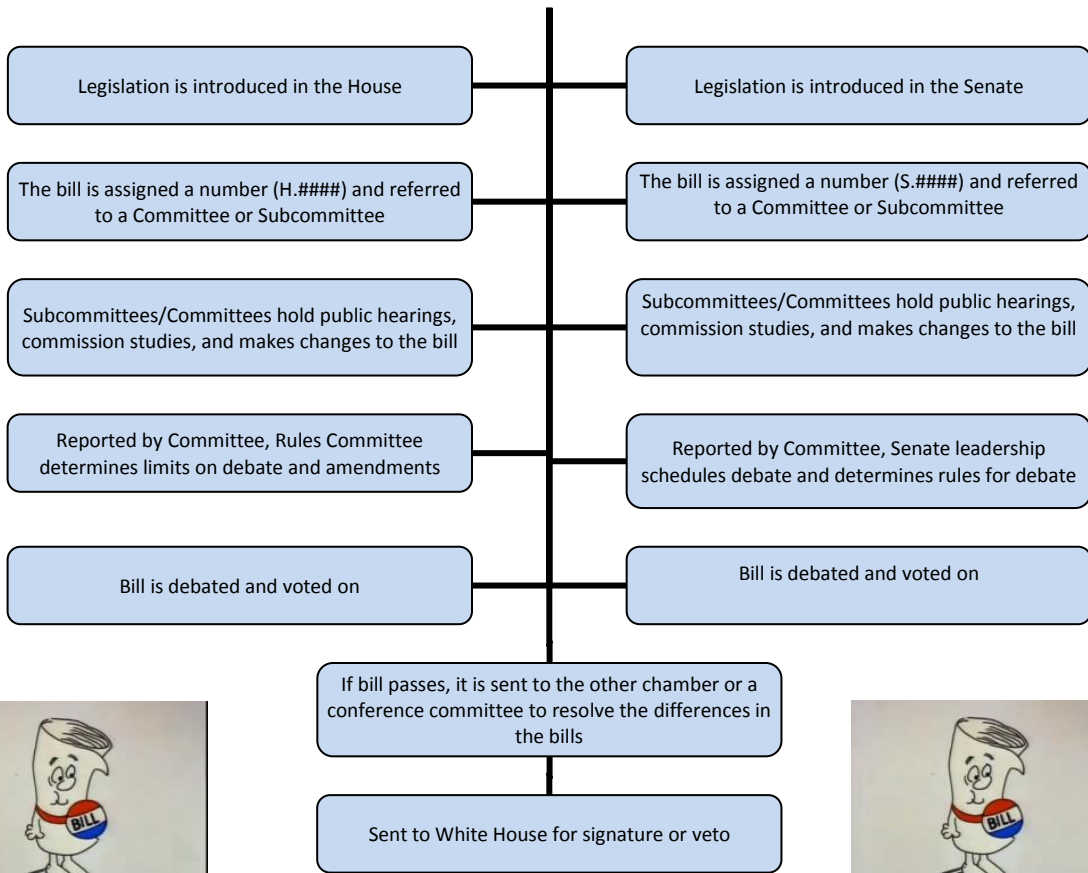
State Government Contact Information

- State Governor
 - To learn who your Governor is, visit <https://www.usa.gov/state-governor/> and choose your state.
- State Legislature
 - To learn more about your State Legislature, visit <https://www.congress.gov/state-legislature-websites> and choose your state.

Local Government Contact Information

- Mayor
 - Visit <https://www.usmayors.org/mayors/> to learn more about your mayor by name, city, or population size.
- County Executive
 - To learn more about the head of the executive branch of government in your county, visit <http://explorer.naco.org/> and enter city/zip code, county, or state.
- Other Local Government Officials
 - To learn more about other local government officials, visit <https://www.usa.gov/local-governments> and choose your state.

HOW A BILL BECOMES A LAW IN U.S. CONGRESS



THE ANNUAL FEDERAL BUDGET PROCESS

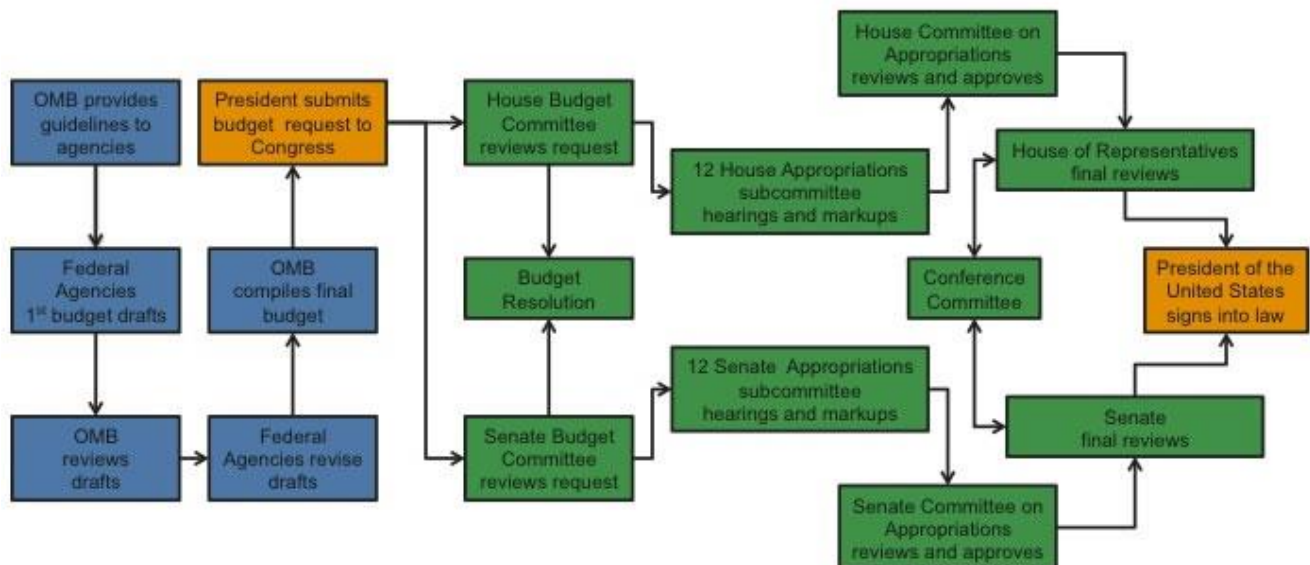


Image via The Bridge (<https://thebridge.agu.org/2017/07/10/ov@rview-federal-budget-process-congressional-recess-visits/>)

10 TIPS FOR CONDUCTING A SUCCESSFUL MEETING

1) Always schedule an appointment in advance.

Time is valuable in legislative offices. Contact the office in at least one week in advance to arrange a meeting. It is best to email your meeting request and to follow-up with a phone call, if there is no response. Due to the busy schedule of legislators, meetings are often assigned to staff.

2) Prepare thoroughly for your meeting.

Do your homework before meeting with your legislator's office. Visit their website to find out about their policy interests and voting records. Particularly, find out how they have voted in the past on your issues, be aware of their party leadership's stance on the issues, and know committee assignments, if applicable.

3) Have a "message" and stick to it.

Successful legislative meetings are always narrow in scope. Stick to a few main points of support for your issue and make a specific request for action.

4) Bring it home.

Always connect your issue to your school or community. Legislators value your thoughts as a constituent. They rely on local stories and sources for the work they do.

5) Make a specific request.

The purpose of your meeting is to gain support. Legislators expect you to make requests. It is important to make the request specific and direct.

6) Build a relationship with staff.

Staff can be very influential in getting your requests honored by your elected officials. You should make every effort to establish strong relationships with staff and encourage them to use you as a resource in your area of expertise.

7) Follow-up.

Send thank you letters after your meeting to express your appreciation and to reinforce any commitments made during the meeting. Remember to honor any commitments you made in the meeting, such as providing more information. You want to be a reliable source.

8) Stick to the facts.

Keep the discussion on policy, not politics. Remember you want legislators, regardless of their political affiliation, to support your position.

9) Be on time.

Enough said.

10) Remain kind, but not overly comfortable.

Do not let the informal nature of the meeting stop you from making your request.

TIPS FOR WRITING YOUR LEGISLATOR

Sometimes writing a legislator or office is the fastest way to convey your perspective – particularly when policy is moving quickly.

IDENTIFY YOURSELF AS A CONSTITUENT

The most important thing to do is establish yourself as a constituent. Put your name or email and complete address on the letter. Legislators will only feel obligated to respond to constituent correspondence, so it's important to establish a district connection. You can use the subject line in an email to clearly indicate this e.g. "Constituent Meeting Request."

EMAIL LETTERS

Due to the security measures in place for mail going to the U.S. Congress, letters should never be sent via snail mail. Instead, email the letter. If you don't have an individual's email address, an email address or comment portal can usually be found on your lawmaker's website.

USE PROPER FORMS OF ADDRESS

Remember to address your lawmaker as "The Honorable." Be sure to get their title correct such as Senator, Representative, Mayor, or Chairman, etc.

BE BRIEF AND SIMPLE

Your letter should be one page. Make your request in the first paragraph. Do not feel the need to explain the issue or legislation in your letter.

STATE AND REPEAT YOUR POSITION

Make your position or request clear in the opening and closing of your letter. Be specific, such as asking for support or opposition to a bill or issue.

PERSONALIZE YOUR MESSAGE

A personal letter is much more effective than a form letter. Your message will have an impact. Connecting your issue to your personal situation will set your email above the rest in the inbox. If a sample letter is provided, incorporate your own words and personal perspective into the text.

ALWAYS PROOFREAD BEFORE SENDING

This is essential to making a credible argument, particularly for education.

MAKE YOUR MESSAGE TIMELY

Do not procrastinate. Be aware of the legislative process and time your letter accordingly.

Did you notice... "email" and "letter" are used interchangeably. Use the format most comfortable to you!

ACE YOUR MEETING: BEFORE, DURING, AND AFTER

Before Meeting with a Legislator or Staff

- Prepare effectively for your meeting.
- Study up! Identify your ask and why it's important.
- Identify and practice your story and your policy ask with family, friends, or a colleague. Make sure to explain why the legislator should care about your issue.
- Learn your legislator's position on education i.e. review their website, search Google, etc.
- Print out leave-behind materials (i.e. external factsheets, a letter, information about your school) to bring with you (1-2 days before).

During Meeting with a Legislator or Staff

- Remember you only have 10-30 minutes to meet with each legislator. Be polite, professional, and focused on your issue.
- Explain the impact of teaching science and STEM through a personal story.
- Talk about the impact STEM has in your state, district, or city. Give concrete examples and stories of how making science and STEM a greater priority would help students, educators, and employers.
- State the specific ask for science and STEM education to be a priority and wait patiently for a concrete response.
- Leave behind printed materials (i.e. factsheets, specific info about your school) and your contact information.

After Meeting with a Legislator or Staff

- Stay actively engaged after your meeting.
- Record an internal meeting summary in the appropriate manner (same day)
- Write and send a personal note thanking the legislator and their staff for their time (1-5 days after).

WHEN DEVELOPING TALKING POINTS . . .

1. Spell out STEM!

Even though STEM is a familiar concept in education policy circles, see if your audience is familiar. The public is largely unfamiliar with the STEM acronym, so take time to list the interconnected subjects, especially during your first mention or at the beginning of communications.

- As our nation/state/community sets out to improve learning, an important focus must be updating the ways we teach science, technology, engineering and mathematics—the subjects called “STEM.”

2. Say why STEM learning matters to society (early in your communication)

How you begin any piece of communication shapes how everything that follows will be interpreted. This is why you always want to begin your communications with an explicit statement about why science and STEM learning matters. Focusing on either “shared prosperity” or “future preparation” can work well. You can even use them both!

- Shared prosperity. The interconnected content areas of science, technology, engineering and math—the subjects called “STEM”—give us the building blocks for understanding and improving the systems that power our economy and advance our society.
- Future preparation. Given our complex and changing world, we will need citizens who are critical thinkers and problem-solvers to meet our modern challenges. Learning in science, technology, engineering, and math—the subjects called “STEM”—builds the knowledge and skills needed to reason through tough problems and come up with creative solutions.

3. Make sure to explain what STEM teaching entails (throughout your communication)

The public and most lawmakers often don’t have a clear understanding of the crucial role teachers play in developing/sustaining high-quality science and STEM programs. Use explanatory metaphors to help communicate why educators matter to those who are not involved in the educational process firsthand.

4. Devote attention to communicating solutions

Draw attention to investing in practices that can have tangible benefits for STEM education, like investing in professional development for STEM teachers, researching the teaching and learning of STEM subjects, integrating science education into afterschool and informal education programs, and promoting apprenticeships and technical internships.

5. Know what is going locally

Highlight what is going on in STEM education in your state, district, or school. Review the STEM elements of your state’s ESSA plan- <https://www2.ed.gov/admins/lead/account/stateplan17/statesubmission.html>. Share the results of a STEM program in curriculum in a school district. Discuss the benefits of high-quality standards in local classroom instruction. Focus on partnerships between schools and corporations. These stories provide depth and meaningful context for lawmakers.

10 REASONS WHY STEM EDUCATION IS IMPORTANT

10 Reasons STEM Education is Important

- 20 percent of all jobs require a high level of knowledge in any one STEM field and STEM workers earn 11 percent higher wages compared with their same-degree counterparts in other jobs.^[i]
- Half of all STEM jobs are available to workers without a four-year college degree, and these jobs pay \$53,000 on average—a wage 10 percent higher than jobs with similar educational requirements.^[ii]
- 60 percent of U.S. employers are having difficulties finding qualified workers to fill vacancies at their companies.^[iii]
- While the U.S. economy grapples with economic recovery, job postings in the STEM occupations outnumber unemployed workers by nearly two to one.^[iv]
- The top 10 bachelor-degree majors with the highest median earnings are all in STEM fields.^[v]
- Although most parents of K–12 students (93 percent) believe that STEM education should be a priority in the U.S., only half (49 percent) agreed that it actually is a top priority for this country.^[vi]
- Only one in five STEM college students felt that their K–12 education prepared them extremely well for their college courses in STEM.^[vi]
- Only 45 percent of U.S. high school graduates are ready for college work in math and 30 percent are ready in science.^[vii]
- Only one out of five households has access to and takes advantage of STEM-related after-school programming.^[vii]
- Fewer than 40 percent of students who enter college intending to major in a STEM field complete a STEM degree.^[viii]

^[i] Thomasian, John. (2011, December 1). Building a Science, Technology, Engineering, and Math Education Agenda: An Update of State Actions. *The National Governors Association Center for Best Practices*. Retrieved from <http://www.nga.org/cms/home/nga-center-for-best-practices/center-publications/page-edu-publications/col2-content/main-content-list/building-a-science-technology-en.html>

^[ii] Rothwell, Jonathan. (2008, June 10). The Hidden STEM Economy. *Brookings Institution*. Retrieved from <http://www.brookings.edu/research/reports/2013/06/10-stem-economy-rothwell>

^[iii] Council on Foreign Relations Independent Task Force. (2012). U.S. Education Reform and National Security. *Council on Foreign Relations*. Retrieved from <http://www.cfr.org/united-states/us-education-reform-national-security/p27618>

^[iv] Change the Equation. STEM Help Wanted. Retrieved from <http://changetheequation.org/stemdemand>

^[v] <http://www.nga.org/cms/home/nga-center-for-best-practices/center-publications/page-edu-publications/col2-content/main-content-list/building-a-science-technology-en-1.html>

^[vi] <http://www.microsoft.com/presspass/press/2011/sep11/09-07MSSTEMSurveyPR.msp>

^[vii] http://www.changetheequation.org/sites/default/files/CTEq_VitalSigns2011_National_0.pdf

^[viii] <http://www.whitehouse.gov/blog/2012/12/18/one-decade-one-million-more-stem-graduates>

USING THE MEDIA LETTERS TO THE EDITOR/OP-ED SAMPLE

An Op-Ed is typically short, between 750 and 800 words. It has a clearly defined point of view and it contains the strong, unique voice of the writer. Placement can take time.

A Letter to the Editor is an expression of opinion on a topical subject, usually responses to articles recently published from a particular publication. It should be submitted within 1-2 days of the original article appearing. The text should be short and persuasive, about 200 words in length. It should be written in the first person.

Examples:

[The U.S. Doesn't Have Enough STEM Teachers to Prepare Students for Our High-Tech Economy. 4 Steps Toward Addressing That Shortage](#)

[Ky. Can't Push STEM Jobs While Cutting Education, Raising Tuition](#)

[I Was a Bad Student Who Became an Astronaut. Let's Stop Telling People They Can't Be Good at Science](#)

[A Decade is Way Too Long to Wait](#)