

THE CHANGEMAKERS GUIDE TO COMPUTER SCIENCE ADVOCACY



Table of Contents

- 3** Introduction
- 4** Why Computer Science Matters
- 5** How Advocacy Works
- 6** The Quiz
- 7** The Results
- 8** Mostly A's: Teachers and Administrators
- 20** Mostly B's: Advocacy with Friends
- 29** Mostly C's: Elected Officials
- 48** Glossary + Footnotes
- 49** Additional Resources and Partners
- 50** Microsoft Philanthropies

Check out the glossary for this term and for others that are bolded like **this**.



INTRODUCTION

We're pumped you're interested in **advocating** for **computer science** in your community! This document will give you a breakdown of what you need to do. It'll give you extra information, so you can wow adults and friends with your knowledge of the world of computer science. We've also included a checklist at the end of each section and a glossary of terms at the end of the guide. Deciding to advocate for computer science is impressive! Our job is to make sure you feel fully prepared to show everyone why computer science is awesome.



Why Computer Science Matters



Not everyone understands why getting more people involved in computer science is such a big deal. In case someone asks you why this is so important, here are a few talking points:

- ▶ Women who try AP Computer science in high school are 10x more likely to major in it in college, and Black and Hispanic students are 7x more likely.^[1]
- ▶ By 2018, the U.S. will have 2.4 million open technology jobs (*that's a lot*).^[2] When young people aren't exposed to tech, companies eventually miss out on their creative brains and amazing ideas.
- ▶ Computing jobs are the number one source of new wages in the United States and the field is set to grow at twice the rate of all other jobs. A computer science major can earn 40% more than the college average!^[3]
- ▶ Computer science isn't just for boys! Last year only 23% of students who took AP computer science classes were girls.^[4]
 - That number is a bummer, and it means that girls are missing out on a different way to express themselves and on awesome career opportunities.
- ▶ Computer Science isn't just for those interested in becoming computer scientists.
 - Like singing or painting, computer science can be creative, too. It's really another way for people to express themselves, through technology. Even if you don't want to be directly involved in the tech field, a computer science education empowers you to apply the basics in any context. You learn to think analytically and it allows you to solve problems of any kind in a systematic manner.
 - Computer science is also unique to whoever creates it! Your code won't be like any other's.
- ▶ Looking for a few more tips on how to talk about computer science? [Check out this PDF!](#) You can also access a ready-to-go presentation and information on your state [here!](#)

HOW ADVOCACY WORKS

Advocacy work requires the most perseverance and **grit**, considering you and your friends are working within a pre-established government system, which can sometimes be really hard. While situations might vary based on your goals, here are a few things you can generally expect when getting into advocacy work:

1. FIND YOUR COMPUTER SCIENCE CHAMPION
2. BUILD A RELATIONSHIP
3. PRESENT YOUR RESEARCH AND RECOMMENDATIONS
4. FIND OPPORTUNITIES
5. SHARE INFORMATION
6. BUILD A SUPPORT SYSTEM
7. KEEP GOING, AND DON'T GIVE UP
8. RINSE AND REPEAT

The process of advocacy work can oftentimes feel circular and you might feel like you're not getting anywhere, but remember that you will continue to learn so much along the way. If you stay involved in advocacy work, you will likely go through the steps shown above numerous times. You will need to stay persistent because you're working toward something awesome that's bigger than you (*computer science for all!*).

1. FIND YOUR COMPUTER SCIENCE CHAMPION

They can be a representative, senator or legislator that has the power to influence change within the system. Your champion might also be someone who works in the computer science sector, that can continuously provide you with information on how to make computer science education more accessible in your state.

2. **BUILD A RELATIONSHIP** with your champion so they can help you achieve your long-term goals. You'll want to check in with your champion, and take their suggestions on how to get policy changed in your community. Don't forget to be mindful of your champion's time. While they will likely be the adult that helps you the most, they've got a lot of other things going on too.

3. **PRESENT YOUR RESEARCH AND RECOMMENDATIONS** to your champion, and stay open to working with them on coming up with an implementable solution to the problem.

- Be open to criticism, opportunities and information that comes your way. Explore these avenues and keep your eyes and ears open to help you critically examine the options available to you.

4. **FIND OPPORTUNITIES** to work with other people who are doing similar advocacy work. It might be a local organization, or young people in a different town. A lot of people see the value of having access to computer science, so you don't have to do all of this alone.

5. **SHARE INFORMATION** with others. As you do research, make sure you're posting it online and making yourself a resource for others. This will also be a good way to meet other people doing similar work for computer science education.

6. **BUILD A SUPPORT SYSTEM.** Your champion will be there to give you tips on how to get things done, and your friends and family will cheer you on throughout the process.

7. KEEP GOING, AND DON'T GIVE UP.

Consistently ask for feedback from your champion and from others doing similar work. Stay up-to-date on information being released in the world of computer science education, and around policy changes in your state. When it comes to advocacy work, there will always be more to get done. Accomplishing one goal is amazing, and it might inspire you to create an even bigger goal the second time around!

8. RINSE AND REPEAT.

Once you create a new goal for yourself, you'll want to start this cycle over again so you can get even more done!



The Quiz

You know that computer science is important, and you know that every young person should have access to it. Most importantly, you want to help make that happen, but you're not sure where to get started, and that's OK because we're here to help!

Take this brief quiz to figure out how you can best advocate for computer science in your community, and then jump to that section to get started! Select the answer that best fits your personality for each question and keep track of how many times you get each letter!

Question 1

What do you want to be when you grow up?
These jobs are all very different, but you have to pick just one!

- A) **A TEACHER** - I love learning and teaching my peers new things.
- B) **AN EVENT PLANNER** - I'm always the one getting my friends organized and deciding what to do on weekends.
- C) **A LAWYER** - I'm very determined, and I'm not afraid to argue for something I believe in.

Question 2

What Harry Potter character are you most like?

- A) **HARRY POTTER** - I'm the chosen one, but I still need help to accomplish what I need to do.
- B) **RON WEASLEY** - I know I can do anything, as long as my friends are with me!
- C) **HERMIONE GRANGER** - I'm not intimidated by anything!

Question 3

Which of these classic songs would be your power anthem?

- A) **"DON'T STOP BELIEVIN'"** - by Journey - I know if I believe in myself, I can accomplish anything!
- B) **"WE WILL ROCK YOU/WE ARE THE CHAMPIONS"** - by Queen - It takes teamwork to get things done!
- C) **"EYE OF THE TIGER"** - by Survivor - Obstacles might feel like an uphill battle, but I know I've got what it takes!

Question 4

What's your favorite sport to play?

- A) **TRACK AND FIELD** - I like that I always know how long the race will be.
- B) **SOCCER** - I like being on a team.
- C) **SWIMMING** - It's a solitary activity where I can really shine.

Question 5

What's your favorite color?

- A) **GREEN** - It makes me think of growth.
- B) **BLUE** - It's friendly, cool, and collected, just like me.
- C) **RED** - It's a powerful color that keeps me motivated.

Results... *drumroll please...*

You've made it through the quiz! Your results correspond to whatever letter you chose the most, so read on to figure out how to best advocate for computer science in your community!



Mostly A's:

Congrats, you got mostly A's on your quiz! This means you're ready to talk to someone at your school. **Jump to section A** for a detailed guide to help get you started.



Mostly B's:

Woohoo, you got mostly B's! You know there's strength in numbers, so you're all about working with your friends. **Jump to section B** in this guide so you and your friends can get pumped about computer science.



Mostly C's:

Woah, you are totally unstoppable and are ready to talk to an **elected official!** **Jump to section C** of this guide to get face-time with a government rep.

Now, here's how you'll read this section:

THE SCENARIO: This will lay out what problem or obstacle we're trying to solve.

WHAT YOU CAN DO: This will explain how to solve the problem or overcome the obstacle.

GETTING STARTED: Here are tangible things you (that's right, *you!*) can do to solve the problem.

At the very end of the toolkit, we've put together a handy glossary that will walk you through some of the **advocacy** language we'll be introducing throughout the kit.



MOSTLY A'S: TEACHERS & ADMINISTRATORS

You're ready to talk to your teachers about having access to a computer science education! Teachers and administrators are there to help you, and they can only do that when they know and understand what students want. Make a case for them to include a computer science curriculum at school—this should include some awesome facts about how it will benefit you and the entire student body in the future. This section will give you a rundown on how to get your voice heard at school!



The library!
It does exist.

START RESEARCH

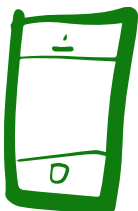
THE SCENARIO:

You want to know everything there is to know about the current state of computer science education in schools and the barriers to schools including it in their curricula.

WHAT YOU CAN DO:

Get your research started! Use available resources to help guide you in your quest for knowledge—that means consulting the internet and the library (yes really!) and talking to any adults you know who might be in the field. Undertaking this massive amount of research can be a daunting task, but luckily there’s already a ton of resources out there for you! With the right amount of guidance and focus, you can do it! Follow the steps to get started.

Here are some websites that can get you started in your quest to affect change!



- [For barriers to implementation](#)
- [For job prospects](#)
- [For job statistics](#)
- [For talking points and research](#)
- [Overall information](#)

GETTING STARTED:

- ▶ Break up your task into smaller, more manageable buckets so that you can check items off your list more frequently and feel like a boss! You can divide your research into the following buckets:
 - What’s the current state of computer science education?
 - What are the barriers to implementing a curriculum in schools?
 - How can you overcome these barriers?
 - Why should you overcome them?
 - What are the benefits of having access to a computer science education, both in the short and long term?
- ▶ Distribute these tasks evenly over a period of time so that you’re not overwhelmed by trying to check off boxes from your to-do list, and leave adequate time for school, work, and extracurricular activities.
- ▶ Make sure that the sources from which you pull facts are credible sources—you want to try to avoid fake news! A good way to make sure you have a good source is if the website has a .gov address, is a news outlet you have heard of, or has been cited a large number of times if it is a research paper.

Get Inspired

2015: When Samantha White read that 86% of engineers and 74% of computer scientists are men (Change the Equation analysis of US Census Bureau report on STEM college graduates 2014) – she couldn’t believe it. She talked about it with her friends, Katie Knox and Sophie Steiner, who, like Sam, loved STEM and wanted to take computer science courses in their school, but they weren’t offered. Together they spoke with professional women working in STEM and computer science, and learned that often girls aren’t encouraged at young ages to pursue these subjects, teachers struggle to teach the courses in interesting ways, and there just isn’t a lot of money in schools to get more girls loving STEM. They decided they were going to do something about the problem and invited other students to gather in their school biology room to see if other students were concerned about the lack of women in STEM and CS. When 30 girls showed up to the meeting they knew they were onto something exciting! Together the group decided to form a new club called “Students for Females in STEM” or SFS.

They went on to create the “Cookies and Coding” program during National Computer Science Education week and invited families to attend. Katie designed the club logo, Sophie ordered club t-shirts, and Sam invited elected officials. One hundred people participated in “Cookies and Coding,” and the event served as a fun rallying point for the club.



Sophie stuffing cookies into goodie bags for Mid-Michigan’s first “Coding and Cookies” Hour of Code program. December 2015.



SET A GOAL

THE SCENARIO:

You're armed with all this research by now, but don't know what concrete steps you can ask your teachers and administrators to take.

WHAT YOU CAN DO:

Distill your research into actionable items that you can ask for and the school can implement. You know your school best: what do you think will be most effective in getting the message out there? You can gather your friends and do a quick rapid-fire of ideas and then pare them down to things that you can actually advocate for. This is an amazing step because you have the power to decide what you want your education to look like!

GETTING STARTED:

Make a list of all possible options that can be implemented to make your dream of a computer science education a reality. Should it look like an after school activity like [Hour of Code](#)? Is it making computer science a required component of the curriculum? Here are some [cool things that people have been doing](#) across the country to make this happen! List the pros and cons for each of these options. Keep in mind the objectives you want to achieve and what you think will be most effective with the student population at your school. Make sure you're being intentional about the interventions you are recommending so that they are attainable and make sense in the context of your school. Implementing an Hour of Code makes sense to generate interest in coding, but if people are already interested and need a formal way to learn, proposing a class on Computer Science is likely the way to go.

The good news is that you don't need to make these decisions alone. Pick a direction by comparing pros and cons or discussing options with your parents and friends. When you pitch your idea to your teachers, you can also work with them in coming up with something that is feasible to implement and serves the outcome you're hoping for. Teachers understand the administrative side of school and will be able to advise you on which methods are feasible and which ones aren't. Two brains are better than one, so make sure you collaborate with your teacher or administrator in picking and refining a direction before proceeding.



GET A MEETING

THE SCENARIO:

You're ready to go with a direction and a pitch to convince your teachers and administrators that a computer science education is the way to go, but don't know what to do. Next step—getting an actual meeting.

WHAT YOU CAN DO:

Figure out who you need to talk to (your homeroom teacher, or the Principal or Vice Principal at your school), and find the best way to get in touch with them. Do they have an assistant who you can ask for an appointment? Do you know their email? The best way to go about this is in writing, so that they have something tangible to look at and know why you want to meet with them.



GETTING STARTED:

You can use this letter or email to help get you an appointment with a teacher or administrator! Feel free to tweak this wording to whatever works best for your particular scenario; just remember to keep it concise and professional.

Dear Mr. or Mrs. <insert last name here>,

My name is <your name>, and I am a student in the <your grade+any additional details you want to provide about yourself>. I am extremely passionate about computer science and wanted to schedule some time to talk to you about bringing a computer science curriculum into our classrooms.

I have compiled some research about its benefits and have come up with actionable items for our school that I would love to discuss with you. I would be grateful if we could schedule a time to meet within the next month. The meeting shouldn't take more than <estimated time you need to make your case, but keep it under an hour>.

Thank you for your time and consideration. I look forward to meeting with you.

Yours sincerely,
<your name>

If you think you have a piece of research that absolutely needs to be seen by the teacher or administrator to grant you an appointment, you can include it with the letter or attach it with the email. Be mindful about the amount of time you ask for; they likely have busy schedules.



DEVELOP YOUR STRATEGY

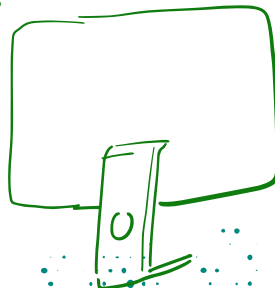
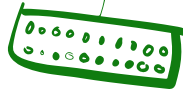
THE SCENARIO:

Look at you go! You have your appointment with a teacher or principal and you now need to work on your pitch and what you're going to say to them.

WHAT YOU CAN DO:

Build a cohesive narrative/story to showcase all the work you have done. Find the most effective way of getting this **narrative** across. This could be a PowerPoint presentation, a poster, or even a video! Make sure they have a tangible record of what you just presented, so compiling your research and recommendations into a binder or a little booklet will go a long way in showing that you are prepared and have thought this through.

Build a story.



GETTING STARTED:

- ▶ Go over the tremendous amount of work you've already done and highlight the points you think are most important and relevant to the case you're making. Remember, you're walking a tight rope between trying to get as much information across and not talking their ear off to a point where they become **disengaged**. Just talk about the main takeaways instead of regurgitating the entire binder.
- ▶ Try to build a story or a narrative around the information and research you have. You could structure your pitch as a before, now, and after, taking them through a journey of computer science education. Alternatively, you could start by talking about the state of computer science education in your school or community, transition to why having this curriculum matters, and outline what steps you suggest to integrate computer science into the curriculum. Let them know why you think this is the best way to go and that you're open to discussing other possible ways of integration.
- ▶ Support any claims you make with facts and figures. It makes your research and proposals legitimate and based in data and facts instead of opinions and anecdotes. It also shows that you're awesome and care about this issue deeply enough to do the hard work to make things happen.
- ▶ Think about how you want to structure your time with them. If you have half an hour, take five minutes for introductions and greetings, fifteen minutes for you to present, and ten minutes at the end for questions and conversations. Practice your presentation to know how much time you'll need to adjust the allocation of time. Include an agenda so you come across as organized, and your audience knows what to expect.



KEEP CALM AND CARRY ON

THE SCENARIO:

You don't know how to deal with all this information at once, while managing your AP classes, soccer practice, and auditioning for the school play. You're now wondering if this was too much to take on.

WHAT YOU CAN DO:

Though things might feel overwhelming in the moment, you've definitely got this and can get everything done! Take a few moments to take a high-level view of your extracurriculars, and work to make a plan for yourself so nothing falls through the cracks.

GETTING STARTED:

- ❑ Take a deep breath. Compartmentalize your life! Do a quick scan of all your commitments and how demanding they are of your time. Based on that, allocate a certain amount of time to work on this computer science pet project.
- ❑ Set goals to figure out a rough timeline of your project and put benchmarks in place for things you want to accomplish by a certain time. Make these goals substantial but attainable and set yourself up for success!
- ❑ Once you allocate time to work on your pitch, convert that time into "sprints" where you work really hard on something for the allocated time without being distracted by any other commitments. Put on your headphones, put away your phone, and get to work!
- ❑ Stay motivated by thinking of the end goal of getting a computer science education and how passionate you are about this. Think of the fact that you will be a part of the fastest-growing industry in the economy and will one day be able to work on things from rocket science to developing apps to help people.



ASK FOR HELP

THE SCENARIO:

You're really unsure about where to begin and how to go about all this, or you're feeling super confident about what you have come up with, but aren't sure if your message is coming across the way you want it to.

WHAT YOU CAN DO:

Ask people around you for help! You have people around you that support you and want to see you succeed. Find the people that have your back and ask them for a helping hand.

HELP!



GETTING STARTED:



Phone a Friend: Do you ever get stuck on a math question and don't know how to go about it until you start explaining the problem to someone and suddenly it all clicks? If you're feeling unsure about what you're doing or are stuck on something and can't figure out how to proceed, call a friend or a mentor to talk about it. Articulating things will help you process it better and might help you overcome the mental block you had. Talking to other people also helps with understanding different perspectives and ideas.



Ask the Audience: Gather a few people from your elite inner circle and present your pitch to them. Ask them for feedback on the way you speak, the information you presented and the way you presented it. This will help you get a wide variety of perspectives and set you up for success.



50/50: If you're unsure about how to present something and have a bunch of ways to do it, ask your friends to narrow your options down to what you all think will be the most effective. Debating benefits and drawbacks will help unearth pitfalls and strengths that you wouldn't have thought of on your own. Teamwork makes the dream work!

TIPS & TRICKS

- ▶ Get enough sleep before your big day! Aim for 7-8 hours so that you've given your brain some rest and you're raring to go!
- ▶ Eat something in the morning so that your stomach grumbling isn't the only takeaway from the meeting.
- ▶ Keep a half-hour buffer when you set times for when to leave home etc. for unforeseen circumstances. You don't want to be late!
- ▶ Try deep breathing when you're waiting for your appointment to help you calm your nerves. Remind yourself that you're prepared and that you're going to do incredibly well.
- ▶ Try some power poses. Put your hands on your waist, push your shoulders back, expand your chest and lift your chin up. This will give you a boost of confidence right before your meeting!
- ▶ Smile, don't forget to have fun when you're sharing your passion!



BEFORE THE MEETING

THE SCENARIO:

You're all prepped and ready for the meeting, which is in two days. You now start thinking of everything that could go wrong and want to be as prepared as you can possibly be.

WHAT YOU CAN DO:

Be yourself, but be prepared. Practice your pitch and simulate the meeting with your friends so that you're comfortable in that environment and have command over your material. Make a checklist of things you need to do, but stop adding to it by the time the last day rolls around.

GETTING STARTED:

Here's a [TED talk](#) on how to effectively engage your audience as you present. Here are some things you want to make sure you're ready for:

▶ PERSONAL

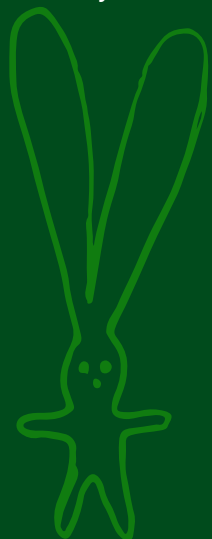
- Smart casual clothing—you want to make a good impression but also be comfortable!
- Pro tip: Iron your clothes

▶ PACK YOUR BAG

- Have your handout or booklet with all your incredible research and propositions
- An extra copy of the handout
- Your laptop, tablet, or anything you need to make your presentation
- A notebook
- A pen
- A bottle of water
- Snacks! Fruits and nuts are a great option to have right before the meeting in case you're feeling a bit famished!

▶ LOGISTICS

- Figure out how you're getting there
- Allocate enough time to get there
- Practice your pitch once the night before. If you know you only have an hour with your teacher or administrator, your pitch should be about 20-25 minutes so you can then save room for conversation.





DURING THE MEETING

THE SCENARIO:

You're in the meeting! What can you do to make them connect with you and like your idea?

WHAT YOU CAN DO:

Be ready for your pitch! Be confident, concise, and respectful to your audience while you present.

GETTING STARTED:

Here are some things to keep in mind while you're in the meeting.

- ▶ Breathe evenly to help you stay calm.
- ▶ Make eye contact with the person/people in the room but try to avoid staring into their eyes. Look away for a brief second or two.
- ▶ Listen to people and reference what they say in conversation so that they know you were paying attention. Say things like, "when you were talking about <what you paid attention to>, did you mean..." or "like you were saying before about <what you paid attention to>, here's how I think we can adapt it to my plan."
- ▶ Take notes to help you keep your thoughts on track.
- ▶ Be prepared for questions and also prepared to ask questions.
- ▶ If they ask you something you don't know the answer to, don't panic. Tell them you're unsure but will look it up and get back to them with an answer.

AFTER THE MEETING

THE SCENARIO:

The meeting is done and dusted. Now what?

WHAT YOU CAN DO:

Follow up with the people in the meeting and let them know you're excited about this and are eager for next steps.

GETTING STARTED:

- ▶ Send thank you notes to the people you talked to. These can be via email, a phone call, or even a written letter. Make sure you send it soon after your meeting so they know you're on top of things.
- ▶ Ask for a timeline of the next steps in the process and how you can contribute.
- ▶ Follow up with things you said you'd do after the meeting like the answers to questions you couldn't answer.



CHECKLIST

Here is a quick checklist of things you need to do during your journey to bring a computer science curriculum to your school. This charts an overall map for you to get to your destination. Feel free to edit this as you go, based on your needs and progress.

- Organize your time and allocate a certain amount of time a day to work on this project
- Make a timeline and set goals for yourself
- Organize the research you think you'll need to do
- Start your research and compiling of ideas
- Brainstorm proposals on how to bring computer science education to your school
- Work on getting a meeting with a teacher or administrator
- Work on organizing how you want to present your ideas
- Enlist your inner circle to help you work the kinks out of your presentation
- Practice a mock meeting to be better prepared
- Consult your last minute checklist to make sure you have everything you need to shine
- Follow up after the meeting and keep tabs on the progress of your proposal

PEP TALK

You're shakin' and movin' things around! You know your teachers and administrators are here to help you, and you also know the benefits of computer science. You're guided by your passion for the field and want to make a change locally, and you also want to make sure your school implements real change around access to computer science. Let this passion guide you and make sure you never lose sight of the end goal. You're organized, you know what you need to do, and you know how to make things happen, so go get 'em!





You did it! You now have the tools to talk to your teachers and school administrators about computer science! Want more? [Jump to the end of the toolkit](#) for additional resources including a timeline, the glossary, and info on our partners. Good luck!



Now, here's how you'll read this section:

THE SCENARIO: This will lay out what problem or obstacle we're trying to solve.

WHAT YOU CAN DO: This will explain how to solve the problem or overcome the obstacle.

GETTING STARTED: Here are tangible things you (that's right, *you!*) can do to solve the problem.

At the very end of the toolkit, we've put together a handy glossary that will walk you through some of the **advocacy** language we'll be introducing throughout the kit.



MOSTLY B'S: ADVOCACY WITH FRIENDS

You're here because you realize that there is strength in numbers and you want to work with your friends to make real change happen in your community. One of the most popular ways to start work in advocacy is by getting your friends involved in a **grassroots** movement! You want to build trust, commitment and, especially, leadership from the ground up in order to make sure your actions have a long-lasting impact. This section will give you some ideas and tips on how to integrate advocacy into your day-to-day organizing, while also helping you achieve your objective of creating awareness and interest in a computer science education.

START RESEARCH

THE SCENARIO:

You want to know everything there is to know about the current state of computer science education in schools and the barriers to access in your community.

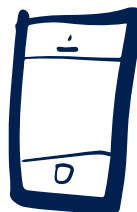
WHAT YOU CAN DO:

Get your research started! Use available resources to help guide you in your quest for knowledge about a computer science education—that means the internet, the library (*yes, really!*), and talking to any adults you know that might be in the field. Undertaking this massive amount of research can be a daunting task, so follow the steps below to make it more manageable.

GETTING STARTED:

➤ Break up your task into smaller, more manageable buckets so that you can check items off your list more frequently and feel like a boss! You can divide your research into the following buckets:

- What's the current state of computer science education in your community?
- Think about what local organizations and community centers are doing to promote computer science, and how you can help!
- How can you harness the power of your community to increase literacy in computer science?
- How can you overcome barriers in the community?
- Why should you overcome them? What are the benefits of having access to a computer science education, both in the short and long term?



- Distribute these tasks evenly amongst you and your friends so that you're not overwhelmed by trying to check off boxes from your to-do list. Leave adequate time for school, work, and extracurricular activities.
- Make sure the sources you pull facts from are credible sources—you want to try to avoid fake news! A good way to make sure you have a good source is if the website has a .gov address, is a news outlet you have heard of, or has been cited a large number of times if it is a research paper.

Here are some websites that can get you started in your quest to affect change!

- [For job prospects](#)
- [For job statistics](#)
- [For talking points and research](#)
- [To engage your community](#)
- [Overall information](#)



Get Inspired

Why it's fun to organize and advocate for STEM/CS with your friends:

Sam: Talking with adults on a more professional level can be intimidating and it's more fun if you can do it with your friends. Whether it was talking with our school principal about organizing the first Hour of Code, talking with elementary teachers about creating fun science experiments, presenting education issues to elected officials, or going to a CyberSecurity conference for the first time – having Katie, Sophie, and Taylor with me made it much more fun. These kinds of experiences were very concrete, real-world and just unique for me so it was fun to create memories with my friends.

Katie: Talking with officials taught me to be concise in my wording, and to know the core message of our club by heart. If I had our main goals in mind while I spoke, it was easier to maneuver the rest of the conversation. Supportive data was essential to our cause. I didn't realize how much of policy making is simply researching. Working with friends helped me realize that making change isn't always serious business, and it's much easier to work with people you genuinely want to spend time with.



Sam and Taylor having fun. Katie designed the SFS logo on their t-shirts!



RECRUIT

THE SCENARIO:

After all that research you have a rough idea of what needs to be done to spread the message in your community. All you need now are actual people to talk to. Even if you aren't 100% sure of what you want to accomplish, recruiting people to help you with computer science advocacy means you can continue your research together to come up with a plan.

WHAT YOU CAN DO:

Start by building a group of people who share the same interests or are willing to help the cause you stand for. Start small and look to people you know to get the word out, then you can concentrate on expanding your influence. Introduce new people to computer science by suggesting they try out an [Hour of Code Minecraft tutorial](#)!

GETTING STARTED:

- Send out feelers in your immediate community and ask them to spread the word about what you're trying to do. Use your social media, friends, family, and teachers to get the word out. Let people know how to contact you if they share the same passion, are interested in helping out, or are mildly curious. Here's an example of what you could post on social media:
- Think strategically and send notes out to groups you know are likely to be interested. Is there a coding club at school or in your community? A community center that offers some computer science classes? The yearbook editorial team that is in front of their computer screens all day trying to figure out a better way of doing things?
- Once you see some interest being generated, you can ask people to reach out through their social media and connections to continue growing interest and put you on the radar of people that might be interested.
- The key is getting the word out early so that more and more people feel connected to the cause and have a hand in building it from the start, inspiring a feeling of ownership.
- Organize a meeting or create a video to personally tell people about your mission so that they can see your passion and engagement with the idea and be inclined to help you.



HOST AN INFORMATIONAL EVENT

THE SCENARIO:

Once you have a group of people on board who want to get together regularly (whether it's three people or 30) you want to build upon your individual strengths and create excitement around access to computer science among the group. This is also your opportunity to share your research with your group, and get everyone up-to-speed on what you hope to accomplish within your community.

WHAT YOU CAN DO:

- ▶ Reserve a location where you can all meet; you don't want to be kicked out of a space in the thick of your event! This can be a classroom, a community center, or even at home! Make sure you get the requisite permissions before you tell everyone.
- ▶ If you decide to have a presentation, keep it fun, upbeat, and interactive. You don't want people to feel like they are in a boring class at school. Focus on the parts of computer science that are most relevant to you and your friends—like how it's fun, social, and allows you to express yourself creatively.
- ▶ If you know any adults who work in tech, invite them to your event. They can share their own experiences with you and your friends.
- ▶ Tell your friends about how you first got interested in computer science, and why you're so into it.
- ▶ Encourage your event attendees to bring their laptops so you can all do [Hour of Code](#), or another tutorial, together!
- ▶ Relax and have fun!
- ▶ At the end of the event, thank your friends and new community for coming!



GETTING STARTED:

- ▶ A space to host your event. This could be your living room, a classroom at school, or a place at your local library or community center.
- ▶ A computer, so you can show your attendees your presentation if you have one, and so you can potentially do an [Hour of Code](#) with them.
- ▶ People to attend your event. The number of people you invite is totally up to you. The more the merrier!
- ▶ Snacks! Everything's more fun with food.

BRAINSTORM

THE SCENARIO:

Your group is pumped and ready to go, but you don't really know where to begin. You know you want to bounce ideas off of each other, that's why you brought a group together, so you decide to hold a brainstorming session. You can have your brainstorming session during your informational event, or a few days later, depending on what you think your group is ready for.

WHAT YOU CAN DO:

Create an organized brainstorming session with the objective of creating awareness about computer science. Allocate a specific amount of time and set a timer so you don't go over.

- ▶ Be ready with materials you'll need for the brainstorm: large pads of white paper or a whiteboard, sticky notes, pens, markers, and anything else you might need for the group!
- ▶ Allocate the first 15 minutes of your time and allow everyone in your group to pitch ideas around how to generate greater access to computer science in your community. There are no bad ideas at this stage, so keep 'em coming.
- ▶ For the next quarter, discuss the ideas you have and vote to distill them down to the top three or four that everyone likes.
 - **Pro tip:** Give everyone 2-3 fun stickers to cast their votes on their favorite ideas.
- ▶ The next quarter can be used to discuss the pros and cons of each of these ideas. Make sure everyone is getting an opportunity to voice their opinions. Vote on your favorite idea at the end of this.



- ▶ In the last quarter, you can develop this idea into a plan you can implement to create greater access to computer science in your community. Pro tip: If you're excited about the campaign and the idea, it will show in the execution. People respond well to passion and it will help you further your interests and ideas.

GETTING STARTED:

Here are a few ways to get involved that you can suggest to your group to get their creative ideas flowing! In addition to these, you should think of a few more that are especially relevant to your community:

- [Participate in School Board Tweeter](#)
- **Start a petition:** You know there's strength in numbers! **Canvass** around your campus and other community centers to get people to sign a petition that you can then send to your elected official.
- [Volunteer in a Classroom](#)
- [Host an Hour of Code](#)
- **Host a letter-writing party:** Write handwritten letters to your elected officials. You can give everyone sample letter copy (like what we've provided to the right) and encourage them to give it their own spin! You can then decorate the letters and envelopes, and mail them out for everyone.

Here's the sample letter you can use to get started:

*Dear Governor, Member of State Legislature, or
Member of School Board,*

My name is <your name> and I am part of <your group's name>. Our objective is to make our community literate in computer science in order to equip them with a sophisticated skill set and empower them for better job opportunities in the future.

I am writing to you because we currently don't have access to facilities that can help us enforce our objectives such as teaching people programming and holding events that promote curiosity for the subject. I am writing to ask you to allocate a certain budget to providing the community with space and infrastructure to encourage an interest in computer science and support from teachers and professionals.

<Start with a statistic or data point on computer science in your community to emphasize its importance> Adopting measures to introduce computer learning in our community will put citizens and students in a better position to learn and make decisions regarding their futures by equipping them with the skills to do so.

I hope you will view our request favorably.

*Thank you.
Yours sincerely,
<Your name>*



KEEP CALM AND CARRY ON

THE SCENARIO:

You start running into problems with your group, like people didn't know they had a meeting or get the time and place of events wrong. You start feeling like you're doing everything and you don't have the time or expertise to do all that needs to be done. You realize you need to have a better communication system if you're going to make this work.

WHAT YOU CAN DO:

Start delegating tasks and figure out the best way for your group to communicate with each other. Remember that how you choose to communicate needs to work for everyone in the group. You might even try adopting the brainstorming approach to figuring this out.

Delegate like a boss!



GETTING STARTED:

Delegating:

- ▶ You're going to have to split responsibilities among your group. Take a day or two to jot down all the things that need to be done and split them into buckets, like Creative, Editorial, Research, Communications, Events etc.
- ▶ Create position titles for these buckets, like "Editorial Director," and fill those posts. You can do this in any way you like, it could be a vote among everyone, you could shortlist a few people you think will be good in a position and hold a vote, or just fill the positions as people respond with their interest in specific positions.

Communicating:

- ▶ Some group messaging apps that integrate a variety of platforms might be helpful as your group grows and incorporates more people.
- ▶ Look for apps that suit your needs. Do you want to be able to have multiple group discussions? Do you want it to be casual or formal? Do you think you'll be sharing a lot of heavy files like PDFs and pictures? It's a good idea to make a list of your anticipated needs and then look for a tool instead of the other way around.
- ▶ You can also just stick to good old email and text, but then the challenge becomes making sure that people check these regularly. You could make a collective group calendar for events that alerts everyone at once and ensures you don't miss a thing.



BUILD A MOVEMENT

THE SCENARIO:

You're not entirely sure how to process the mountain of information you've gathered around access to computer science, and you're worried your opinion is the only one reflected in the work. You might also feel like it'll be impossible to actually move the needle and have real impact. Don't panic, because it's definitely possible!

WHAT YOU CAN DO:

Remember that you are advocating for a large number of people and need to keep in mind the collective good. This comes with outreach and incorporating multiple opinions into your stance or recommendation. Don't view dissenting opinions as a slight to your hard work. Instead, use them to strengthen your position, to broaden its scope and serve its purpose. Take advantage of the fact that other amazing people are out there doing work like you.

GETTING STARTED:

- ▶ Actively look for partnerships and opportunities to speak to as many people as you can to integrate a diverse array of opinions. This can be through your social media, newspaper articles you read, lectures you attend, or even in your classroom.
- ▶ Legislators want to do what their constituents want them to do. Seize opportunities to speak about your project as many times as you can. You will need awareness to help with your case and turn it into a collective movement that you're taking charge of.
- ▶ Find others that are doing advocacy work that's similar to your own. Talk to them in order to share tips, resources, and experiences.
- ▶ If you read about a group of young people who started a STEM club in their school, reach out to them and see what you can learn.



CHECKLIST

Here is a quick checklist of things you need to do during your journey to making computer science more accessible in your community. This charts an overall map for you to get to your destination. Feel free to edit this as you go based on your needs and progress.

- Organize your time and allocate a certain amount of time a day to work on this project
- Make a timeline and set goals for you and your friends
- Start your research and compiling ideas
- Recruit friends and peers to help start a grassroots movement in your community
- Host an event and invite everyone interested in your grassroots movement
- Brainstorm activation ideas about how you and your friends want to bring computer science education to your community
- Choose an easy way for you to consistently communicate with those involved in your movement
- Consult your last minute checklist to make sure you have everything you need to shine
- Continue to create opportunities for people to get involved and help you
- Have a letter writing party

PEP TALK

You're a magnetic presence in your community and want to create a space where computer science is fun! You're on your way to creating a community that shares your passions. Change is created through these micro-communities that make things happen and you're in the thick of things. Keep at it and remember you're building valuable experience creating and running a group of (hopefully) awesome people!





You did it! You now have the tools to organize your friends and work toward more access to computer science! Want more? [Jump to the end of the toolkit](#) for additional resources including a timeline, the glossary, and info on our partners. Good luck!



Now, here's how you'll read this section:

THE SCENARIO: This will lay out what problem or obstacle we're trying to solve.

WHAT YOU CAN DO: This will explain how to solve the problem or overcome the obstacle.

GETTING STARTED: Here are tangible things you (that's right, *you!*) can do to solve the problem.

At the very end of the toolkit, we've put together a handy glossary that will walk you through some of the **advocacy** language we'll be introducing throughout the kit.



MOSTLY C'S: ELECTED OFFICIALS

Are you ready to do this? We know you're ready to do this, and we've got your back! This is the biggest (and most powerful) way of initiating change for the largest amount of people in the most most effective way—but with great power comes great responsibility. It is an uphill battle and requires you to jump through a lot of hoops. You just need to be persistent and not give up.

You're specifically working within the external framework of the government and lawmakers, and you need to be aware of how things work. The role of **lobbying** in government is a very important one. It is spearheaded by citizens who are concerned with specific issues that they hold dear to their hearts. People actively petition and call their elected officials to vote certain ways on bills that represent their views and get their voices heard. It can be most effective when you call or meet with your elected officials and explain why your stance matters. In order to convince your representative, you need to present your view, and back it with valid data to legitimize your claims. This will also help others understand your position and work to prop it up in the world of lawmaking.

What an Elected Official Does

Elected officials work as a part of the legislative arm of the government. This means that they introduce bills that are voted on to be enacted into the law. They also oversee the programs that are put into place at local and national levels and create the state or federal budgets. Yet, their most important job is to know the issues their **constituents** are facing. They meet with them and listen to their concerns about a variety of issues like healthcare, education, sustainability etc. They are engaged in social issues, make themselves available for questions and are looking for a way to make their district or state succeed. Since their scope is a lot wider and can encompass an entire state (or country), and while they might not focus on changing a curriculum, they can definitely listen to your request for a computer science education and potentially enact an overarching policy for your state. There are already a few representatives moving computer science initiatives forward in their states, like these [two Ohio representatives](#) that hope to get computer science into the school system!

- 1 Create a state plan for K-12 computer science.
- 2 Define computer science and establish rigorous K-12 computer science standards
- 3 Allocate funding for rigorous computer science teacher professional learning and course support.
- 4 Implement clear certification pathways for computer science teachers
- 5 Create programs at institutions of higher education to offer computer science to preservice teachers
- 6 Establish dedicated computer science positions in state and local Education Agencies
- 7 Require that all secondary schools offer computer science with appropriate implementation timelines
- 8 Allow computer science to satisfy a core graduation requirement
- 9 Allow computer science to satisfy an admission requirement at institutions of higher education

Source: code.org



MAYOR



SENATOR



GOVERNOR



PRESIDENT



START RESEARCH

THE SCENARIO:

You want to know everything there is to know about the current landscape of computer science education in your state including what barriers exist to providing everyone with access to computer science.

WHAT YOU CAN DO:

Get your research started! Use resources available to you to help guide you in your quest for knowledge about a computer science education—that means the internet, the library (*yes, really!*), and talking to any adults you know who might be in the field. Undertaking this massive amount of research can be a daunting task, so follow the steps below to make it more manageable.

GETTING STARTED:

- ▶ Attend a town hall meeting to get an idea of what the political process looks like in your area. Pay attention to the way issues are brought up and presented, and how your representatives respond to it. If you're up for it, you can ask a question or two to get your foot in the door so that your representative recognizes you and your passion for change.

Here are some websites that can get you started in your quest to affect change!



- [For job prospects](#)
- [For job statistics](#)
- [For talking points and research](#)
- [For barriers to implementation](#)
- [Overall information](#)

- ▶ Break up your task into smaller, more manageable buckets so that you can check items off your list more frequently. You can divide your research into the following buckets:

- What's the current state of computer science education?
- What are the barriers to implementing a curriculum in schools?
- How can you overcome these barriers?
- Why should you overcome them?
- What are the benefits of having access to a computer science education, both in the short and long term?

- ▶ Distribute these tasks evenly over a period of time so that you're not overwhelmed by trying to check off boxes from your to-do list and leave adequate time for school, work, and extracurricular activities.
- ▶ Make sure the sources you pull facts from are credible sources—you want to try to avoid fake news! A good way to make sure you have a good source is if the website has a .gov address, is a news outlet you have heard of, or the number of times it has been cited if it is a research paper.
- ▶ Find stats specific to your state and find out where computer science education stands in your state by checking out this [interactive map](#) from Code.org and viewing your state fact sheet.
- ▶ Organize your research into talking points, or overarching buckets you'll be able to speak to in your meeting.

Get Inspired

On August 31, 2016 Sam, Katie, Sophie and Taylor spoke to Michigan Governor Snyder about Students for Females in STEM and STEM/computer science education issues. During the discussion they outlined tough computer science Michigan facts found on Code.org's website. Sam, Katie, Sophie, and Taylor requested three policy changes:

1. Require that all secondary schools offer computer science.
2. Define K-12 computer science standards
3. Allocate funding for rigorous computer science teacher professional learning and course support.

Within a month, Governor Snyder sent his senior policy strategist to talk more with them at East Lansing High School. Governor Snyder also set up meetings with Democratic Vice Chair of the House Education Committee, Representative Adam Zemke, invited SFS to attend Governor Snyder's 2016 North American 5th International Cyber Summit in Detroit, and asked them to give a thirty-minute presentation to the Michigan State Board of Education meeting on December 13. During all of these meetings their CS policy requests remained the same.

In January 2017, Michigan Governor Rick Snyder credited the four leaders of the East Lansing High School SFS club with bringing him the idea to promote K12 computer science education in Michigan schools. Because of their work, one computer science education course will be offered at their high school through Microsoft TEALS. Preparing for and showing up at all of these meetings helped make a difference.

Taylor: Change is extremely slow, and to effectively create a shift in policy, you need to be flexible in trying different avenues and going through different people. A lot of times, higher up people may say they are going to do something but if you really want to make sure they do, you have to go in there with a strong plan and a no nonsense attitude. If they still don't listen, do not become disillusioned. Let it instill in you a fire to make them listen! Meeting the governor was quite fun because we caught him off guard with our preparation and intensity. I wasn't really surprised by anything except for the fact that he did sort of listen and try to at least get the word out that computer science in Michigan would improve.

SFS team talking with Governor Snyder about Michigan STEM/CS needs on August 31, 2016.





SET A GOAL

THE SCENARIO:

You're armed with all this research by now, but don't know what concrete steps you can ask your elected official to take.

WHAT YOU CAN DO:

Distill your research into a list of actionable items that you can ask your representative for. You know your state best—what computer science resources do you think people need the most? It's also important to manage your expectations and consider what your elected official can accomplish. This is an amazing step because you have the power to decide how you want your education to look! [Here are some ideas](#) to get you started in figuring out what is right for your community.

GETTING STARTED:

Make a list of all possible options that can be implemented to make your dream of a computer science education a reality. Should it look like implementing an activity like [Hour of Code](#) within all recreation centers throughout the state? Is it making Computer Science a required component of school curriculum like Math or Biology? Here are some [cool things that people have been doing](#) across the country to make this happen. List the pros and cons for each of these options keeping in mind the objectives you want to achieve and what you think will be most effective with your local representative.

Make sure you're being intentional about the interventions you are recommending so that they are attainable and make sense in the context of your state. Check out the [Code.org state fact sheets](#) to see where your state currently stands on computer science. Based on what's happening in your state, ask yourself if working towards state funding for computer science classes is the way to go. Another option would be to advocate for allowing computer science courses to satisfy existing core graduation requirements. While you should have an ideal end goal of what you want to accomplish with your representative, you should be ready to collaborate with them to come up with a plan that will be feasible.



BUILD A MOVEMENT

THE SCENARIO:

- You're not entirely sure how to process the mountain of information you've gathered around access to computer science, and you're worried your opinion is the only one reflected in the work. You might also feel like it'll be impossible to move the needle and have real impact in your state. Don't panic, because it's definitely possible!

WHAT YOU CAN DO:

Remember that you are advocating for many people and need to keep in mind the collective good. This comes with outreach and incorporating multiple opinions into your stance or recommendation. Don't view dissenting opinions as a slight to your hard work. Instead, use them to strengthen your position, to broaden its scope and serve its purpose. Take advantage of the fact that other amazing people are out there doing work like you.

GETTING STARTED:

- ▶ Actively look for partnerships and opportunities to speak to as many people as you can to integrate a diverse array of opinions. This can be through your social media, newspaper articles you read, lectures you attend, or even in your classroom.
- ▶ Legislators want to do what their constituents want them to. Seize opportunities to speak about your project as many times as you can. You will need awareness to help with your case and turn it into a collective movement that you're taking charge of.
- ▶ Find others that are doing advocacy work that's like your own. Talk to them to share tips, resources, and experiences.
- ▶ If you read about a group of young people who started a STEM club in their school, reach out to them and see what you can learn.



GET A MEETING

THE SCENARIO:

You're ready to go with a direction and a **pitch** to convince your elected official that a computer science education is the way to go, but don't know what to do next to actually get a meeting with your elected official.

WHAT YOU CAN DO:

Here's a **tool** to help you find your local representative. The best way to go about this is in writing, so that they have something tangible to look at and know why you want to meet with them.



Dear Senator,

GETTING STARTED:

- Write this letter or email that will get you an appointment with an elected official:

My name is <your name>, and I am a <your age> year-old young person from <your town>. I am extremely passionate about computer science and wanted to schedule some time to talk to you about <the goal you've decided upon>.

Access to computer science is incredibly important for all young people, but it's especially important for me because <add 1-2 sentences about yourself and why you want to advocate on behalf of computer science>.

I have compiled some research about its benefits and have come up with actionable items for our community that I would love to discuss with you. I would be grateful if we could schedule a time to meet in the near future. The meeting shouldn't take more than <estimated time you need to make your case but try to keep it under an hour>.

Thank you for your time and consideration. I look forward to meeting with you.

*Yours sincerely,
<your name>*

- You can customize this letter to your needs and be sure to emphasize why this is important for you. Pick a key piece of research and showcase it in your letter. Make sure the data is valid and cite its source. You should also make sure to keep your data points local to your own community. A representative won't respond to national data, so it's up to you to show them why they should care. Remember, you can get local data from this [Code.org resource](#). If you think there are additional snippets of research that absolutely need to be seen by the elected official to grant you an appointment, you can enclose it with the letter or attach it with the email.

- Be mindful about the amount of time you ask for in your letter as your elected official likely has a very busy schedule.



BE PERSISTENT

THE SCENARIO:

Representatives are busy people, and they might not be getting back to you as quickly as you'd like.

WHAT YOU CAN DO:

Don't give up! Keep finding ways to contact them so they know how important access to computer science is to you. People value persistence and consistency so keep at it and your efforts will see a positive outcome.



GETTING STARTED:

Here are some ways to get in touch with your representative. Alternate between these methods to establish contact and squeeze yourself into their calendar.

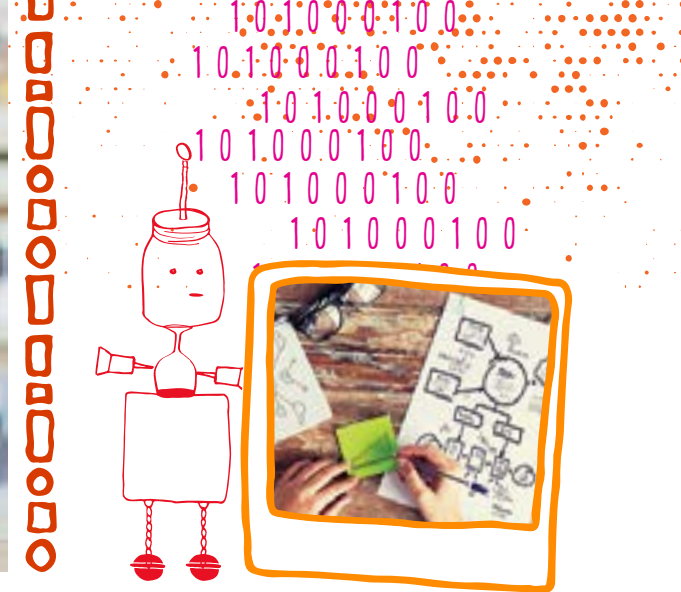
- ▶ **Call them on the phone:** Here's a sample of what you can say:

Hello! My name is (your name), and I am a <your age>-year-old young person from <your town> . I am extremely passionate about computer science and wanted to schedule some time to talk to you about <the goal you've decided upon>.

I have compiled some research about its benefits and have come up with actionable items for our community that I would love to discuss with you. I would be grateful if we could schedule a time to meet soon. The meeting shouldn't take more than <estimated time you need to make your case but try to keep it under an hour>. Could you let me know when we might be able to have this meeting within the next month?

- ▶ **Email them:** Adopt a formal tone with an email. Watch out for typos and abbreviations—older people don't appreciate them. Be sure to punctuate properly and sign off with your full name. Keep it concise and to the point.
- ▶ **Send them a fax.** (Not sure what a fax is? Check out the glossary.): It might take you a few tries to get a hang of the process, so practice sending a fax a few times before you get to the real deal. There are plenty of websites that will send a fax out for you even if you don't have access to a fax machine.
- ▶ **Send them a voicemail via the Stance app,** which is free and automatically sends a recorded message to your representative at night when their phone lines aren't as busy.





DEVELOP YOUR STRATEGY

THE SCENARIO:

You have your appointment with your representative and you now need to work on your pitch and what you're going to say to them.

WHAT YOU CAN DO:

Build a cohesive narrative/story to showcase all the work you have done. Find the most effective way of getting this narrative across. This could be a PowerPoint presentation, a poster, or even a video! Make sure they have a tangible record of what you just presented, so compiling your research and recommendations into a binder or a little booklet will go a long way in showing your representative that you are prepared and have thought this through.

GETTING STARTED:

- Go over the tremendous amount of work you have already done and highlight the points you think are most important and relevant to the case you're making. Remember, you're walking a tight rope between trying to get as much information across and not talking their ear off to a point where they become disengaged. Just talk about the main takeaways instead of regurgitating the entire binder.
- Try to build a story or a narrative around the information and research you have done. You could structure your pitch as a before, now, and after and take them through a journey of computer science education. Or you could start by talking about the current state of computer science education system in your state, transition to why having computer science matters to local citizens and students, and what steps you suggest the legislature take to integrate computer science into its schools and communities.
- Let your local representative know why you think this is the best way to go and that you're open to discussing other possible ways of integration.

- Use the power of data in your presentation. (And don't forget to cite your sources!) You run the risk of sounding like a robot rattling off numbers, so use it to create a story. For example, you can use data that says 21.2% of people working in computer science fields are women and turn it into *"The National Science Foundation says that only 21.2% of people in computer science are women. That means that only one in five people in the field are women, and that needs to change because a diverse workplace makes for a wider range of perspectives and greater creativity. This is why I ..."* This way you're giving due credit for the information but are adapting it to why that's relevant to you and your case.

Remember that your elected official is most interested in how to better the lives of residents in your specific state, so use statistics from your state!

- In addition to using tons of data, make sure to include why computer science matters to you, specifically.
- Think through how you intend to structure your time in the room with them. If you have half an hour, take five minutes for introductions and greetings, fifteen minutes for you to present, and ten at the end for questions and conversations. Look at your presentation and gauge how much time you'll need to adjust the allocation of time. You can also state this at the meeting so you come across as organized and your audience knows what to expect.



KEEP CALM AND CARRY ON

THE SCENARIO:

You don't know how to deal with all this information at once, while managing your AP classes, soccer practice, and auditioning for the school play. You're now wondering if this was too much to take on.

WHAT YOU CAN DO:

Though things might feel overwhelming in the moment, you've got this and can get everything done! Take a few moments to take a high-level view of your extracurriculars, and make a plan for yourself so nothing falls through the cracks.

GETTING STARTED:

- Take a deep breath. Compartmentalize your life. Do a quick scan of all your commitments and how demanding they are of your time. Based on that, allocate a certain amount of time to work on this computer science pet project.
- Set goals by figuring out a rough timeline of your project now that you know how much time you have per day to work on it. Set goals and benchmarks for things you want to accomplish by a certain time. Make these goals substantial but attainable to set yourself up for success.
- Once you allocate time to work on your pitch, convert that time into "sprints" where you work really hard on something for the allocated time without being distracted by any other commitments. Put on your headphones, put away your phone, and get to work!
- Stay motivated by thinking of the end goal of securing a computer science education across your state and how passionate you are about this. Think of the fact that you will be a part of the fastest-growing industry in the economy and will one day be able to work on things from rocket science to developing apps to help people.

AHHH!



ASK FOR HELP

THE SCENARIO:

You're unsure about where to begin and how to go about all this or you're feeling super confident about what you have come up with but aren't sure if your message is coming across the way you want it to.

WHAT YOU CAN DO:

Ask people around you for help! You have people around you that support you and want to see you succeed. Find the people that have your back and ask them for a helping hand.

I AM STUCK!



GETTING STARTED:

- ▶ **Phone a friend:** Do you ever get stuck on a math question and don't know how to go about it until you start explaining the problem to someone and suddenly it all clicks? If you're feeling unsure about what you're doing or are stuck on something and can't figure out how to proceed, call a friend or a mentor to talk about it. Articulating things will help you process it better and might help you overcome the mental block you had. Talking to other people also helps with different perspectives and ideas.
- ▶ **Ask the Audience:** Gather a few people from your elite inner circle and present your pitch to them. Ask them for feedback on the way you speak, the information you presented, and the way you presented it. This will help you get a wide variety of perspectives and set you up for success.
- ▶ **50/50:** If you're unsure about how to present something and have a bunch of ways to do it, ask your friends to narrow your options down to what you all think will be the most effective. Debating benefits and drawbacks will help unearth pitfalls and strengths that you wouldn't have thought of on your own. Teamwork makes the dream work!

TIPS & TRICKS

- ▶ Get enough sleep before your big day. Aim for 7-8 hours so that you've given your brain some rest and are raring to go!
- ▶ Eat something in the morning so that your stomach grumbling isn't the only takeaway from the meeting.
- ▶ Keep a half-hour buffer when you set times for when to leave home etc. for unforeseen circumstances. You don't want to be late.
- ▶ Try deep breathing when you're waiting for your appointment to help you calm your nerves. Remind yourself that you're prepared and that you're going to do incredibly well.
- ▶ Try some power poses. Put your hands on your waist, push your shoulders back, expand your chest and lift your chin up. This will give you a boost of confidence right before your meeting!



BEFORE THE MEETING

THE SCENARIO:

You're all prepped and ready for the meeting, which is in two days. You now start thinking of everything that could go wrong and want to be as prepared as you can possibly be.

WHAT YOU CAN DO:

Be yourself, but be prepared. Practice your pitch and simulate the meeting with your friends so that you're comfortable in that environment and have command over your material. Make a checklist of things you need to do, but stop adding to it by the time the last day rolls around.

▶ GETTING STARTED:

Here's a [TED talk](#) on how to effectively engage your audience as you present. Here are some things you want to make sure you're ready for:

PERSONAL

- ▶ Smart casual clothing—you want to make a good impression but also be comfortable!
- ▶ Pro tip: Iron your clothes

▶ PACK YOUR BAG

- ▶ Have your handout or booklet with all your incredible research and propositions
- ▶ An extra copy of the handout
- ▶ Your laptop, tablet, or anything you need to make your presentation
- ▶ A notebook
- ▶ A pen
- ▶ A bottle of water
- ▶ Bring your ID
- ▶ Snacks! Fruits and nuts are a great option to have right before the meeting in case you're feeling a bit famished!

▶ LOGISTICS

- ▶ Figure out how you're getting there
- ▶ Allocate enough time to get there
- ▶ Practice your pitch once the night before. If you know you only have an hour with your elected official, your pitch should be about 20-25 minutes so you can then save room for conversation.



WHAT TO WEAR

THE SCENARIO:

You feel like you're going to knock their socks off at the meeting with your presentation, but you're not really sure which pair of socks you should wear.

WHAT YOU CAN DO:

Make sure you look presentable and dress formally. You're going to an official's office and you don't want their first impression of you to get in the way of making awesome change happen.

GETTING STARTED:

You want to make sure to check four boxes: It fits you well, it is polished, it's presentable, and it represents who you are as a person!

▶ Iron your clothes the night before and make sure you check for any surprises like a stain or a missing button by doing a quick trial run the day before.



▶ Make sure you smell alright. Spritz some cologne or perfume if you want to, but make sure it isn't too overpowering.

▶ Make sure you're comfortable in what you're wearing. To exude confidence you should be comfortable. Don't feel pressured to wear something that goes against your identity. You should feel comfortable and like yourself, just a dressed up version of yourself!

▶ Some outfit suggestions:

- Blazer or a sports coat is a good tool to take your outfit that extra mile, no matter what you're wearing.
- Don't overdo the patterns—try to go for block, muted colors but if you do choose to go with a pattern, make sure it's not too overwhelming.
- Make sure your outfit doesn't have any text on it.
- Steer clear of ripped jeans, flip flops or overly tight outfits.



WHAT TO EXPECT

THE SCENARIO:

It is very plausible that your elected official might not take you seriously, talk to you like you're a child, or think that you're simply there for the photo-op. It might feel bad if a representative doesn't take you seriously the moment you walk in the door, but once you start the meeting, all your preparation will show them how much you care about this issue.

WHAT YOU CAN DO:

Prepare, prepare, prepare! You should go through each of the scenarios in your mind. It might be the most effective aid to your preparation to practice these uncomfortable scenarios with a friend so that you know how to tackle these situations.

GETTING STARTED:

You have to be prepared for a meeting that is challenging. Dressing and speaking well will help people take you seriously. Make sure you practice in front of people and the mirror a couple of times so that you have mastery of the material you're presenting. During these trial runs, you should also be paying attention to how fast you talk and your use of filler words such as "like" and "um."

Make sure all the claims you're making are supported by data and research so that your representative has evidence of the validity of the facts your presentation is based on. It also shows them you've done your homework and are thoroughly prepared for this meeting.



UNEXPECTED SCENARIOS

Elected officials are busy people. They're running in and out of meetings constantly, their schedules are totally booked, and they're always meeting new people. There's a few different situations that might happen. Below you'll find how to navigate two of them:

SCENARIO 1:

They forgot about your meeting!

WHAT YOU CAN DO:

Reschedule your appointment and try not to panic!

GETTING STARTED:

Make sure you reschedule your appointment immediately. Do it in person so that you don't have to worry about emailing back and forth. Carry your planner or calendar and a card with your contact information so that you have that information ready to go if you need it.



SCENARIO 2:

You thought the meeting was half-an-hour, but they only had 15 minutes, OR they wanted to do a walking meeting with you, OR technology gave up at the last second and you don't have a presentation to guide you.

WHAT YOU CAN DO:

Try to practice these situations with your friends so that you're not blindsided by unexpected events. Always take a printed copy of your presentation. Don't panic. You can still make your pitch, you'll just have to improvise.

GETTING STARTED:

Have five key points ready to go in case you have to change the way you present the material. These should be the five most important points you're going to make. For example, have a statistic to start, then why you care personally, your end goal, why you need their help, request their help (and be specific about your request).

DURING THE MEETING

THE SCENARIO:

You're in the meeting. What can you do to make them like you and your idea?

WHAT YOU CAN DO:

Be ready for your pitch! Be confident, concise, and respectful to your audience while you present.

GETTING STARTED:

Here are some things to keep in mind while you're in the meeting.

- ▶ Breathe evenly to help you stay calm.
- ▶ Give them a firm handshake and keep a smile on your face as you thank them for making the time for you. Find a natural transition from your conversation into your pitch. Be warm. You want them to like you but still be concise and strategic to make a good impression.
- ▶ Make eye contact with the person/people in the room but try to avoid staring into their eyes. Look away for a brief second or two.
- ▶ Listen to people and reference what they say in conversation so that they know you were paying attention. Say things like, "when you were talking about <what you paid attention to>, did you mean..." or "like you were saying before about <what you paid attention to>, here's how I think we can adapt it to my plan."
- ▶ Take notes to help you keep your thoughts on track.
- ▶ Be prepared to both ask and answer questions.
- ▶ If they ask you something you don't know the answer to, don't panic. Tell them you're unsure but will look it up and get back to them with an answer.
- ▶ As you leave, you should thank them and keep lines of communication open. You could say something like, "Thank you so much for making the time to see me today. I would love to stay in touch and continue the conversation. What is the most direct way of reaching out to you?" Reinforce this in your thank you note.
- ▶ Ask everyone in the room for their business cards.



THANK YOU!





AFTER THE MEETING

THE SCENARIO:

The meeting is done and dusted. Now what?

WHAT YOU CAN DO:

Follow up with the people in the meeting and let them know you're excited about this and are eager for next steps.

GETTING STARTED:

- ▶ Send thank you notes to the people you talked to. These can be via email, a phone call, or even a written letter. Make sure you send it within 24 hours after your meeting so that they know you're on top of things.
- ▶ Ask for a timeline of the next steps in the process and how you can contribute.
- ▶ Follow up with things you said you'd do after the meeting, like questions you couldn't answer.

▶ Here's a sample of a thank you note you could send out:

Dear Representative,

I sincerely enjoyed meeting with you earlier today and talking about steps that can be taken to further computer science education in our community. Thank you for taking the time out of your busy schedule to see me and listen to my presentation.

Our conversation confirmed my passion in making a computer science education accessible to students across our state and I hope I convinced you of the same. <Include a stat from the meeting, and/or how their action could make an impact in the community/state>

Please feel free to contact me for any additional information. I would be happy to provide any additional assistance you require from me. I look forward to hearing from you again and thank you once again for the courtesy you extended towards me.

Thank you and hope you have a wonderful day!

*Yours sincerely,
<your name>*



CHECKLIST

Here is a quick checklist of things you need to do during your journey to talking to an elected official about the importance of computer science. This charts an overall map for you to get to your destination. Feel free to edit this as you go based on your needs and progress.

- Organize your time and allocate a certain amount of time a day to work on this project
- Make a timeline and set goals for yourself
- Organize the research you think you'll need to do
- Start your research and compiling ideas
- Brainstorm proposals about how you want to bring computer science education to your community and state
- Work on getting a meeting with a local representative
- Work on how you want to present your ideas
- Enlist your inner circle to help you work the kinks out of your presentation
- Practice a mock meeting to be better prepared
- Consult your last minute checklist to make sure you have everything you need to shine
- Follow up after the meeting and keep tabs on the progress of your proposal

PEP TALK

You're the reason a democracy functions so well. You're tightening your belt and picking up the slack you see in your community. You're great for sticking it through all this work for the benefit of the people around you and the generations to come. You're keeping your representatives on their feet and making sure they hear your voice. You're getting the gears to shift and allowing the rules and legislation to keep up with the rapidly changing needs of the nation. Who knows, you could be the face of the wave of the computer science revolution that sweeps the nation!



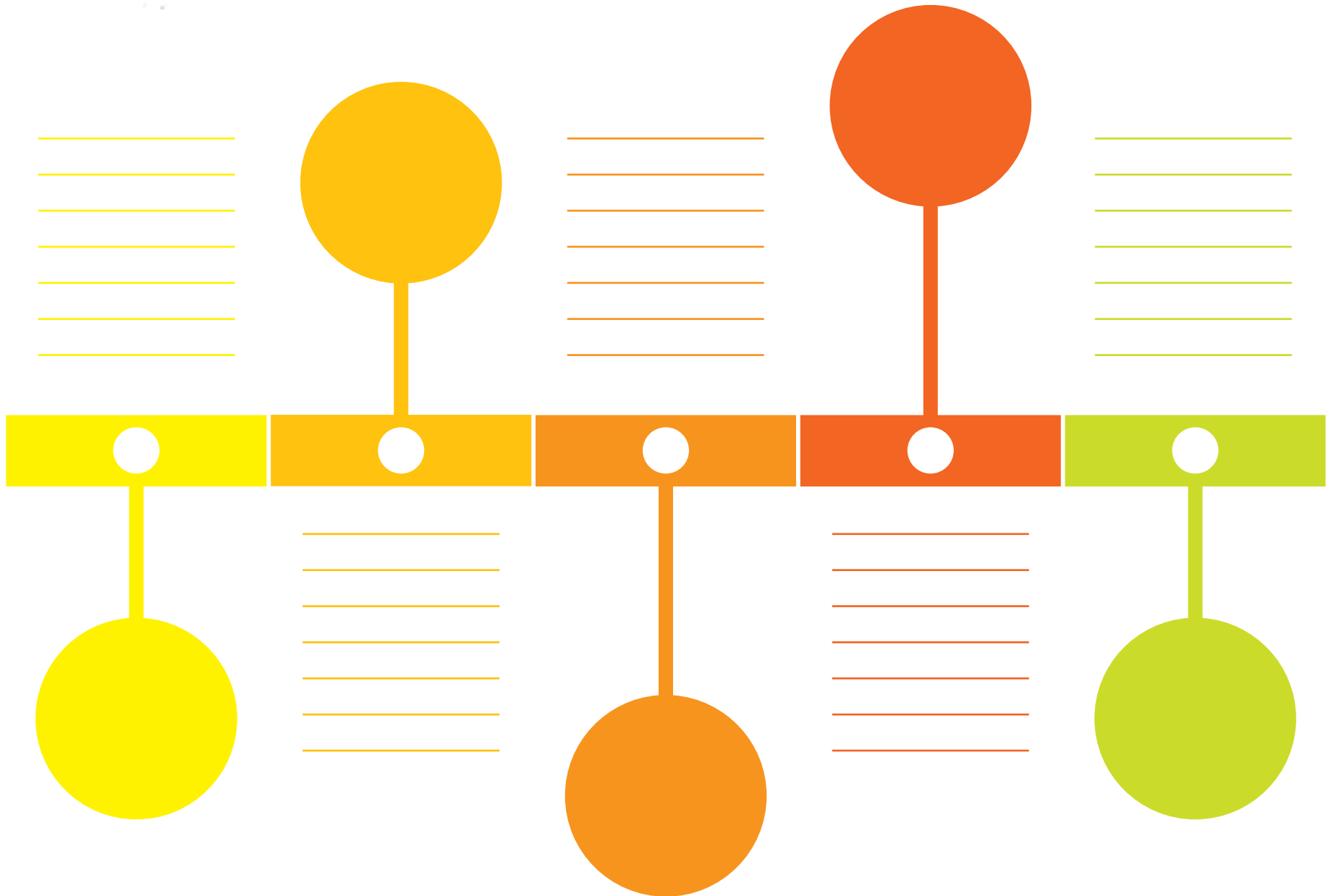


You did it! You now have the tools to talk to your elected official about more access to computer science in your state! [Jump to the end of the toolkit](#) for additional resources including a timeline, the glossary, and info on our partners. Good luck!



TIMELINE

Fill out this timeline to help you organize your goal. Consider breaking down your goal into smaller weekly (or monthly) wins!



GLOSSARY

ACTIVISM: Using campaigning to cause political or social change.

ADVOCACY/ADVOCATE: To publicly support a specific cause or issue.

BRAINSTORM: A group discussion where people can share and create ideas.

CANVASS: Talking to citizens to get their support on a specific cause or issue.

CHAMPION: An adult that is your ally and will help you achieve your goal, think of them as the person who will advocate for you when you're not there.

COMPUTER SCIENCE: The study of using computers.

CONSTITUENTS: The people that voted for an elected official and belong to the district they represent.

DISENGAGED: When someone loses interest in what they're being told, often because they're feeling overwhelmed with information, or bored.

FAX: An old-school scanned image.

GRASSROOTS: When a group of citizens who feel strongly about something get together to start advocating on behalf of that topic or issue.

GRIT: Using courage and determination to get things done.

LEGISLATION: A fancy way of saying "laws".

LOBBYING: To try to persuade a politician on a specific cause or issue.

PITCH: A proposal that hopes to convince someone to collaborate with you on a project or endeavor. This is usually in the form of an organized presentation, or in-person meeting.

POLICY: A way of doing things to achieve a specific goal within government.

NARRATIVE: How you tell your story in order to accomplish your goal.

STATE LEGISLATURE: A group of officials elected in your state that can make and change laws at a state level.

STEM: An abbreviation for Science, Technology, Engineering, and Mathematics.

STRATEGY: Your plan, including all the steps you're going to take, to accomplish your goal.

FOOTNOTES

[1] Klaric, John, Morgan, Rick, "AP® Students in College: An Analysis of Five-Year Academic Careers" The College Board Research Report, No.2007-4.

[2] Whitehouse.gov, "Stem Depiction Opportunities" 2016

[3] Code.org Blog Post, "Women in Computer Science: Getting Involved in STEM" Overview

[4] Code.org

ADDITIONAL RESOURCES AND PARTNERS

Microsoft YouthSpark

Through partnerships with nonprofit organizations in sixty countries around the world, Microsoft brings digital skills to young people – especially those least likely to have access – through cash grants, technology, content, curriculum and expertise.

Our partners reach millions of youth, providing opportunities to ensure they build essential skills for their future and support their interests in creative expression.

Explore more Digital Skills and Computer Science resources at youthsparkhub.com, and at our partner sites.



Microsoft has partnered with Boys & Girls Clubs of America (BGCA) for more than two decades. The partnership has helped BGCA build technology centers and enabled digital skills training to youth. Today, this partnership supports Club Kids as they learn everything from basic computational thinking to advanced coding, game design and application development. Learn more at bgca.org



Microsoft supports code.org in their overall efforts to provide computer science to all youth, especially to girls and underrepresented minorities. Code.org is helping bring computer science to every student in every school. Code.org organizes the annual Hour of Code campaign which has engaged 10% of all students in the world. Learn more at Code.org



City Year and Microsoft have been long-time partners to enhance City Year's IT infrastructure. Today, City Year and Microsoft are partnering to build a set of curriculum and Corps Member training resources so that Corps Members across City Year can deliver computer science during City Year's afterschool programs across the country. Learn more at cityyear.org



CS Unplugged is a collection of free learning activities that teach Computer Science through engaging games and puzzles. Microsoft has provided support to CS Unplugged to support their work overall, and specifically, the Computer Science Field Guide, an online resource for teaching Computer Science to students. Learn more at csunplugged.org



Microsoft supports FIRST's work to create exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities. Learn more at Firstinspires.org



Microsoft and Girls Who Code are working to close the gender gap in computer science. For the last five years, Microsoft has provided funding and has been a host site for Girls Who Code Summer Immersion Programs across the US. Girls Who Code works to inspire, educate, and equip girls with the computing skills to pursue 21st century opportunities. Learn more at Girlswhocode.com



Roadtriplnation and Microsoft agree that anyone has the potential to be a driver of innovation, discovery and progress. Partnering to create "Code Trip", a computer science education RoadTrip, Microsoft is proud to support the creation of content, products, and experiences to help individuals from diverse backgrounds understand how they can pursue a career in computer science. Learn more at Roadtriplnation.org



TEALS (Technology Education And Literacy in Schools) helps high schools build and grow sustainable computer science programs through partnerships between classroom teachers and tech industry volunteers. They work as a team to deliver CS education to students who would otherwise not have the opportunity to learn CS in their school. TEALS is a program of Microsoft Philanthropies. Learn more at TEALSk12.org



Microsoft is proud to help support Year Up in their mission to close the opportunity divide by providing urban young adults with the skills, experience, and support that will empower them to reach their potential through professional careers and higher education. Learn more at YearUp.org



HIGH FIVE

About Microsoft Philanthropies

Microsoft Philanthropies is committed to doing more globally to bring the benefits of technology to the people and organizations who need them most. Together with their grantees, partners and employees around the world, Microsoft Philanthropies is working to fulfill Microsoft's mission to empower every person and every organization on the planet to achieve more through computer science.

