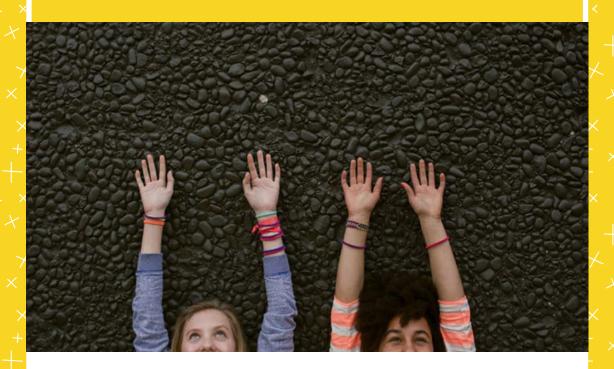# WHY CODING IS KIND OF A BIG DEAL

For students today, coding is becoming an essential skill, just like reading, writing, and math. If you have a daughter, niece, or other girl that you know, encouraging her to learn to code can open up countless opportunities for her future. Whether she's an athlete or an artist, loves animals, or wants to explore medicine, coding can help her pursue her interests now and create greater career options and job security for her future. Long story short? She can make anything with code.

We've made this resource to give you the answers you need to have a conversation about Computer Science (or CS)—what it is, why it matters, and what girls can do with it. If your daughter is already taking AP Computer Science at her high school, awesome! Jump down to the What Else Can I Do? section to find more ways to support her in learning to code. If you haven't heard a whole lot about CS, start from the beginning to see all of the different ways CS is part of our daily lives.

LET'S START OFF WITH THE BASICS:

WHAT IS CODE?

Simply put, code is a tool that lets you write your story with technology.

If you can code you can communicate your ideas with a computer or a program so they can be brought to life in bigger, brighter, and more creative ways. With code you can build a great new app or design the next trend in wearable fashion or even build a robot that can help doctors and nurses save lives.

Code may look intimidating at first but really it's just another way for you to share your ideas with the world–albeit in a very powerful, creative way.
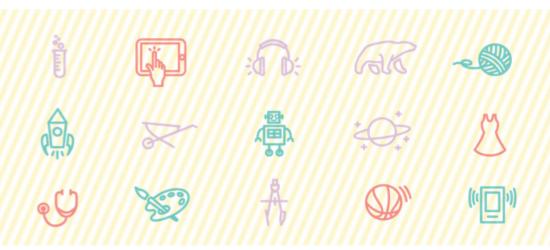
WHAT IS CS?

TV and movie pop culture often depicts CS as all about sitting in a dark room, in front of a small screen, processing cascades of numbers. In reality, CS "includes the knowledge and skills necessary to build the next generation of software and hardware tools that the world needs."[1] It's a hugely diverse field that has become essential to so many things, from art to business to government to entertainment. CS is very much at the center of our lives today—how we learn, teach, work, play, travel, and share are all made with code.

A-HA... AND SO... WHY SHOULD I CARE?

Today, only 0.4% of female college freshmen plan to major in CS.[2] This lack of participation in such an important and growing field has serious consequences for the future of technical innovation.[3] If women aren't represented in technology, their ideas, concerns, and designs won't be included when we create the cities, cars, infrastructure, medicines, communications, companies, and governments of tomorrow.

And the need for coders is only going to increase. According to the U.S. Department of Labor, by the time girls in middle school go to college, there will be one million more CS jobs than computer scientists to fill them. CS jobs will be one of the fastest-growing and highest-paying sectors over the next decade, earning the highest entry-level salary of any bachelor's degree. At about $60K, that's almost $15K more than the average college grad will make in their first year in the workforce.[4]will make in their first year in the workforce.[4]

We started the Made with Code initiative to help change that. Together, we can help ensure that more girls become the creators, and not just the consumers, of our collective digital future. As parents, teachers, coaches, advisors, and role models, we all have a huge role to play in helping to make coding relevant and exciting for girls. In fact, a nationwide study that we published 5 earlier this year found that encouragement from adults and peers is the most significant contributor to a girl's decision to pursue Computer Science—even more than her parents' occupations or household income. No matter what your background is, you can help by connecting coding to the things girls are passionate about.
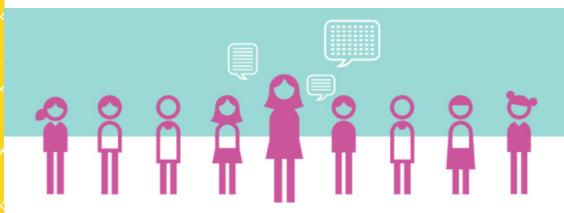
GREAT...BUT WHAT CAN SHE ACTUALLY DO WITH CODING SKILLS?

Literally anything. Computing skills can enable girls to pursue their passions, no matter what they are. Coding touches every field a girl could work in, from medicine to race-car driving. Even if being a software developer isn't at the top of her list, fields like social media, music, crime scene investigation, video gaming, fashion, farming, government, education, design, manufacturing, or film and special effects very well might be.

You can help girls connect their interests to coding by introducing them to inspiring women and girls who have combined their interests with coding to create amazing projects—like Miral Kotb, who merges her passions for dance and programming to create living animation performances, or music producer Ebony "WondaGurl" Oshunrinde, who was nominated for a Grammy® for the beats that she codes.

For girls looking to change the world, coding can help them develop solutions to some of the world's most challenging problems. Erica Kochi develops technologies with UNICEF to help save the lives and improve the health of millions of people. Brittany Wenger, at the age of 17, developed an app for making the diagnosis of breast cancer less painful and more accurate.

No matter which career path she pursues, coding teaches the foundational problem-solving, creativity, and teamwork skills that will help her succeed and stay competitive in anything she does.6

OK, I'M ON BOARD…
BUT DON'T THEY ALREADY TEACH CS AT SCHOOL?

Today, only about 10% of high schools offer Computer Science classes.7 And when they do, the curriculum isn't always best suited to be inclusive of girls.8 In 28 out of 50 states, Computer Science doesn't even count toward high school graduation math or science requirements.9 Check with your school to find out what they offer. If they offer CS classes, great. Encourage your daughter to enroll, get a friend to take the class with her, and help her navigate challenges throughout the class so she sticks with it. And if your local school doesn't offer CS, read on for more ways you can get involved.

WHAT ELSE CAN I DO TO ENCOURAGE GIRLS TO CODE?

WE'RE GLAD YOU ASKED. HERE ARE FIVE THINGS YOU CAN DO RIGHT NOW TO HAVE AN IMPACT:

1. Just talk to girls you know about Computer Science. Help them connect coding to their interests, no matter what those interests might be. You can use our profiles of inspiring mentors and community members to make coding relevant by introducing the real girls and women who are using coding to make art, improve medicine, save the world, and have fun.

2. Encourage girls to take the first step in coding with one of our creative coding projects, like coding their own LED dresses or coding their own musical beats.

3. Host a Made with Code party at home or at your school to build community and get girls coding together.

4. When they're hooked, help girls keep learning. Find more information from our additional educational resources and partner projects.

5. Help girls meet other girl coders and stay up to date on the latest from Made with Code on our G+ community.

STILL NOT ENOUGH? HEAD TO CODE.ORG TO GET EVEN MORE INVOLVED IN BRINGING COMPUTING EDUCATION TO YOUR LOCAL COMMUNITY.

Made w/ Code