Be There

Encouraging girls to try computer science

Federal labor experts expect more than 1.4 million openings for technology jobs by 2020, yet as many as two-thirds of these positions could go unfilled because U.S. colleges are producing too few graduates with related degrees. (And less than 1% of women in college are pursuing degrees in computer science.) Evidence suggests that exposure to the creative world of computing is the best way to get kids interested in one of the country's fastest-growing fields. The National Center for Women and Technology notes that "groups with greater diversity solve complex problems better and faster than do homogenous groups, and the presence of women in a group is more likely to increase the collective intelligence (problem-solving ability, creativity) of the group." Here are some tips for encouraging those who are under-represented in the field, particularly girls, to consider computer science as a career option.

- **Talk about what she wants to do in her life.** What does she **value**? What's important to her in a **career**? Chances are that her interests and passions tie into a field that needs computer science professionals.

- **Discuss the *Why* before the *How*.** Find inspiration in this girl-narrated **video** from Made with Code about girls who "fix something or change something or invent something or run something" with code. Talk about the **why** of computing before you introduce girls to the *how*. She'll be much more motivated to explore computing once she understands how relevant computer science is in her life. **Computing** is about making a difference in the world, creating new things, and helping others. The field is creative, challenging, and highly collaborative. It's both an art and a science, connecting people and changing the world. Girls who pursue careers in computing often are idealistic and socially conscious, and see computing as a powerful tool for change. That said, even idealistic girls generally don't mind that this well-respected field pays well and often offers flexible hours.

- **Once she gets the *Why*, show her the *How*.** Until girls get a chance to try their hand at coding, they don't know what they're missing. Exploratory computer science (CS) classes are available in GCPS middle and high schools, and many elementary schools integrate coding activities into the school day. Watch for special events at school with a technology focus— like the **Hour of Code** in the fall— and participate as a family. You also can take advantage of the many excellent how-to coding resources online (like this free, 20-hour **Introduction to CS** from Code Studio). Many of them are targeted specifically to girls and young women. See the resource box to the left for some places to start.

Find resources online:

- **Made with Code**
- **National Center for Women & Technology**
- **Code.org**
- **DotDiva.org**
- **Girls Who Code**
- **Girl Develop IT**

Tips compiled from listed resources.

- **Encourage girls to take the first step with a fun and easy coding project.** Made with Code offers a number of **creative coding projects,** like coding her own personalized bracelet, coding musical beats, or designing animation.

- **Inspire interest with role models.** There may be comparatively fewer females in the field of computer science, but they tend to be passionate about sharing their work with girls who might be interested in technology. Help middle schoolers hook up with teen girls in the high school computer club or help a budding high school programmer make connections with a Women in Computer Science Club at a nearby college, or with a female information technology (IT) professional. They'll also be inspired by these videos from **Made with Code** about **mentors** and **girls their own age** who are using computing to change the world and "coding the world they want to see."

- **Help girls connect computer science to other career fields.** Coding and computer science skills can be helpful across career fields. Help girls research how coding might connect with their interests— from medicine to security and the arts to scientific research. At Dot Diva, find **profiles** of young women who have pursued careers that use their coding skills or explore **"What's Your Passion?"** to see how computing connects what girls are passionate about with a range of careers.

- **Don't ask her to go it alone.** Some girls may need a nudge to consider computer science, and will feel more comfortable trying it with friends so they won't be the only girl in the class or club.

- **Host a Made with Code party.** Made with Code offers a free kit to plan a **"coding party"** to build community and get girls coding together— at home, with a community club or scout group, or at school.

- **When they're hooked, help girls keep learning!** Find more events, courses, and camps through the local school, online directories, and outreach from nearby colleges. You also can try:
  – These **tutorials** from **Code.org**
  – **Learning to code** from **Code Academy**
  – **Resources** from **Girls Develop IT**
  – **Dash** to learn HTML, CSS, and Javascript
  – **Programming** with **Khan Academy**

- **Help girls meet other girl coders.** Girl coders benefit from sharing with other girl coders, whether that's in person, through clubs and study groups, or in online communities like **this one from Made with Code**.

- **If you are a female IT professional, volunteer your time.** Groups like **Girls Who Code**, **Coder Dojo**, **Computer Clubhouse**, and others are always looking for volunteers in the field to mentor and support student coders.

"[Don't] feel intimidated and always believe in your abilities. Never be afraid to ask questions.… It also helps to form study groups with other girls who share a similar interest as you do. The key idea to remember is that 'results have no gender'. "

*Advice for other girl coders
from Amanda, a GCPS student*

Be There is a national movement that inspires parents to become more involved in their children's education. Teachable moments are everywhere. Be your child's favorite teacher. Connect in meaningful ways and your simple actions will reap immense rewards at home, play, and school!