

Learning Computer Science during Elementary School

In Fall, 2019, two events stimulated me to write this note. My oldest daughter called me and mentioned how her 8-year old daughter is learning about computer programming and robotics with a local organization in Charlotte, North Carolina, called Digi-Bridge (<http://digi-bridge.org/>). She likes it because she pays a substantial amount each session that buys equipment that her daughter uses, but then at the end of the series of sessions, that equipment is donated to local schools to be used at no cost there.

Then I saw on the news program “60 Minutes”, a segment was about how efforts to get more women into computer science were being made by starting in elementary school with a nation-wide organization called Code.org (<https://code.org/>). It was mentioned that Code.org considers it crucial that girls get comfortable with computer coding in elementary school before becoming discouraged and distracted in middle school.

My younger daughter has her 12-year old daughter in a program called First Lego League (<https://www.firstinspires.org/robotics/fll>).

My favorite educational computer organization is the Raspberry Pi Foundation (<https://www.raspberrypi.org/>) based in Cambridge, England. It makes the very powerful, but inexpensive Raspberry Pi line of computers (See https://en.wikipedia.org/wiki/Raspberry_Pi) with over 30 million having been sold. If any of you decides to get a Raspberry Pi, I'm happy to help answer questions well after you have finished Science-1A.

The Raspberry Pi Foundation runs Pi Academy (<https://www.raspberrypi.org/training/picademy/>) to help educators learn how to teach about computers, and coordinates Raspberry Pi gatherings called Raspberry Pi Jams (<https://www.raspberrypi.org/blog/raspberry-jam-big-birthday-weekend-2019/>) .

In lab, we will watch a few segments of the 40-segment series called Crash Course in Computer Science (<https://thecrashcourse.com/courses/computerscience>). Its presenter, Carrie Anne Philbin started out doing excellent YouTube presentations about the Raspberry Pi and was then hired by the Raspberry Pi Foundation to be its Director of Education. She does that, but also created this crash course in computer science series in produced in collaboration with PBS Digital Studios <http://youtube.com/pbsdigitalstudios> and animation studio Thought Café (<https://thoughtcafe.ca/>).

The Crash Courses (<https://thecrashcourse.com/courses>) cover many subjects, including physics and chemistry.

Of course, there is also the Kahn Academy (<https://www.khanacademy.org/>) which has nice explanations of numerous scientific and mathematical topics.