- 1. Unexpected items in classrooms, such as plants or art, makes the environment less polarizing
  - a. <a href="https://www.geekwire.com/2015/study-heres-beat-stereotypes-keep-women-com-puter-science/">https://www.geekwire.com/2015/study-heres-beat-stereotypes-keep-women-com-puter-science/</a>
    - i. "That's the takeaway from the work of a group of University of Washington researchers that's showing just how easily the image of the geeky, socially awkward computer developer discourages women from considering careers in the field."
    - ii. "The solution isn't to shun the image of the nerdy computer developer, the researchers said, but to make sure it isn't the only image there is."
    - iii. "updated their recruitment process, used more diverse role models when reaching prospective students and revamped their classes so they didn't seem to be just for "geeky know-it-alls.""
    - iv. "female computer science teachers help girls overcome deterring stereotypes"
- 2. Here is a couple ideas for attracting people to CS.
  - a. <a href="http://ilabs.uw.edu/Inclusive STEM.pdf">http://ilabs.uw.edu/Inclusive STEM.pdf</a>
    - i. Using social media to highlight the diversity of people in CS
    - ii. Emphasize the fact you don't have to consider yourself a genius in order to pursue CS
    - iii. Show how CS involves working with and helping others
  - b. <a href="https://www.edweek.org/tm/articles/2015/12/07/7-ways-to-get-students-interested-in.html">https://www.edweek.org/tm/articles/2015/12/07/7-ways-to-get-students-interested-in.html</a>
    - i. Show how CS can be used in every field or subject
- 3. Ingrained stereotypes/how to shift them
  - a. <a href="http://www.washington.edu/news/2015/02/11/how-to-interest-girls-in-computer-science-and-engineering-shift-the-stereotypes/">http://www.washington.edu/news/2015/02/11/how-to-interest-girls-in-computer-science-and-engineering-shift-the-stereotypes/</a>
    - i. "suggesting that gender matters less in influencing women's interest in computer science than whether the stereotype is depicted."
    - ii. "representing the fields with a broader range of people, creating physical spaces that welcome both men and women, and shifting the media narrative about who computer scientists and engineers are."
    - iii. "Harvey Mudd College in Claremont, California, divided its introductory computer science course into two sections "gold" for those with minimal previous experience and "black" for other students and pays for any female freshman to travel to the annual Grace Hopper Celebration of Women in Computing Conference. The school's percentage of female computer science graduates has increased from a low in the single digits to nearly 40 percent in 2012."
  - b. <a href="https://www.teachforamerica.org/top-stories/why-its-important-break-computer-science-stereotypes">https://www.teachforamerica.org/top-stories/why-its-important-break-computer-science-stereotypes</a>
    - i. "This early exposure to computer science—and people in the field who look like them—allows students to use their curiosity and fearlessness at

- a young age, while setting them on a trajectory to pursue studies and career opportunities in science and math. They need to believe that being black or brown in this industry isn't impossible, much less improbable."
- c. <a href="https://www.washingtonpost.com/news/education/wp/2016/04/26/researchers-ex">https://www.washingtonpost.com/news/education/wp/2016/04/26/researchers-ex</a> plain-how-stereotypes-keep-girls-out-of-computer-science-classes/?noredirect=o n&utm\_term=.f80ced94bc11
  - i. "The first is about the culture of STEM: Who belongs in STEM, and what do they do?"
  - ii. "Girls were three times more likely to want to take computer science when the classroom was non-stereotypical. The alternative classroom didn't deter the boys, who were just as interested regardless of the classroom design."
  - iii. "The second stereotype that shapes the STEM gender gap is about ability. Our culture persists in thinking that boys are better at math and science."
  - iv. "we need to change the messages we send to young girls and boys. We must tell them that they belong, that it's good to take on new challenges and stretch themselves, and that they can succeed in computer science. We must show them that computer science is for everyone, not just "geeks," and that it involves finding creative ways to help others."
- d. <a href="http://lazowska.cs.washington.edu/r3laz.pdf">http://lazowska.cs.washington.edu/r3laz.pdf</a>
  - i. "The disproportionate success with women is due primarily to three factors that were central in the course redesign: instilling confidence, emphasizing community, and showing the breadth of computer science applications"
  - ii. "We combat this by providing a tight course structure with integrated resources (textbooks, lectures, discussion sections, notes, online practice, videos), intellectually challenging assignments, and an elaborate support structure. Consequently, women learn that the greatest predictors of success in the course and in our field are hard work and organization—not esoteric knowledge of currently popular technologies or some innate gift."
  - iii. "We offer a seminar that explores women in computing that students can take in parallel with the introductory courses."
  - iv. "We find that to "seal the deal" and convince talented young women to major in computer science, we must use every opportunity to show them the breadth of the field."

## 4. Girls Who Code:)

- a. "Our alumni who have already declared their majors are choosing to major in CS, or related fields, at a rate 15 times the national average."
- b. "While interest in computer science ebbs over time, the biggest drop off happens between the ages of 13-17."
- 5. Mandatory CS classes in high school

- 6. Class visits, possible mentorship program?
- 7. More female TAs