It’s Not Rocket Science!
STEAM Programs for Teens

Lisa Donaldson
Youth Services Librarian
Henderson County Public Library
ldonaldson@henderson.lib.nc.us
Why STEAM?

Jobs in STEM fields are growing and are projected to continue growing.

Libraries can provide opportunities to explore science and technology in a low pressure environment.

Teens are learning more than just science:
- Cooperation
- Communication
- Problem solving

Getting Started

Bedtime Math Crazy 8’s Math Club
bedtimemath.org

Partnered with local children's science museum

Hands On!

Received Building STEAM with DIA mini grant in 2015
dia.ala.org
Including Teens

NASA Science for Girls
Now Girls STEAM Ahead with NASA
universe-of-learning.org/girls_steam-ahead

Engineering for Kids
engineeringforkids.com/locations

Hightouch Hightech
sciencemadefun.net
Planning STEAM for Teens

• What do you want to do?
  Coding, Stop Motion Animation...

• What are your goals?
  Bring in more teens, reach out to homeschoolers...

• Identify community partners, ask for help.
  Other library staff, science museums, local clubs...

• How will you fund the program?
  Donations, grants, Friends of the Library...
Planning continued

- Where will you have the program?
  At the library, could you go to an afterschool program?

- How many participants, will you register?

- How will you promote?
  What will you call it? Share with schools, homeschool groups...

- Test everything first! Make sure it works!

Creating STEM Based Programs in Your Library
yalsa.ala.org/blog/2016/09/12/creating-stem-based-programs-in-your-library/
Programs

- Design and Build
- Cost: 150$
- Keva Planks 200 Plank Set, 50$ (4-5 can use at one time)
- K’nex Education Simple Machines Set 352 pieces, 50$ each, purchased 2 sets (2-4 can work from a box at the same time)
• Hour of Code
• Cost: Free
• Used library iPads that check out in house for the program. Hour of code tutorials (and more!) available at code.org.
• Ozobots, presented by Hands On!
• Cost: 150$
• Two educators from Hands On! science museum brought 8 Ozobots and several laptops and tablets. Two to three teens shared an ozobot.
• Circuits
• Cost: 100$
• Purchased three small sets of Snap Circuits for 20$ each (can be used by 2 at one time)
• Purchased supplies to make a paper circuit bookmark using directions from The Big Book of Maker Space by Colleen Graves
• Stop Motion Animation
• Cost: Stop Motion App 4.99, plus materials to use in animations
• Stop Motion Studio Pro installed on 10 library iPads
• Program outline from Programming Librarian:
  www.programminglibrarian.org/programs/stop-motion-animation-workshop
• Another resource:
  www.teenlibrariantoolbox.com/2016/05/makerspace-stop-motion-animation-101/
Resources for More Program Ideas

- YALSA STEM Resources
  wikis.ala.org/yalsa/index.php/STEM_Resources
- Teenlibrariantoolbox.com
- Programminglibrarian.org
- The Big Book of Makerspace Projects: Inspiring Makers to Experiment, Create, and Learn by Colleen Graves
- NCLA STEM Librarianship Round Table
- STAR_Net
  starnetlibraries.org
- Local partners: Science museums, astronomy clubs, etc.