

# HIGH SCHOOL STE(A)M ACTIVITIES

- Café Sci
  - Similar to the STE(A)M Career Panel, except it is instead hosted informally in a scaled-back setting. Different STE(A)M career representatives come in and “host” an informal chat with high school students over coffee, hot chocolate, and other treats. Could also be subject-based, rather than career-based; i.e. space travel, global warming, science of concussions/other medical issues, psychology-based issues (the science of emotions, communication, love).
- Programming/Hacking/Technology
  - Programming with Raspberry Pi and Arduino
    - See links on the Resources handout
  - Tech Helpers
    - Ask for teen volunteers willing to work as tech help during the day, or set up tech help hours in the library. Teens can help teach other patrons basic computer skills and help problem-solve computer issues.
- STE(A)M Projects
  - Cardboard Regatta
    - See links on the Resources handout
  - Architecture/Object Models out of Recycled Materials
    - Have supplies of recycled materials (bottles, cans, newspapers, recycled paper, etc.) for teens to use.
    - Can either be a make-at-home project OR can be a program done in the library.
    - Models can be displayed in the library, and the public can vote on which one is the favorite! Winner can earn a prize or some other incentive.
  - Pendulum Painting
    - See links on the Resources handout
  - One Hour Video Project
    - Have cameras and computers available for teens to use.
    - Instruct teens to develop a two-minute script (either freestyle, or on a theme), and that they must film, upload, edit, and mix the sound for their video.
    - Have teens vote for the fan favorite either as a contest on your Facebook or YouTube channel, and offer a prize to the winning teen group.
  - Physics Olympics
    - See links on the Resources handout
  - Graphic Design Workshop
    - Have teens come in and learn the basics of graphic design to create a bookmark, poster, iron-on decal or other project.
    - Partner with a local college professor to talk about the basics of graphic design – color, spacing, using publishing software, etc..
    - Can make it a clothing design workshop by having teens provide their own t-shirts, bags, pants, etc., and printing out their design on fairly inexpensive iron-on transfer paper.

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- STE(A)M Career Panel
  - Have local community members come in and discuss their journey to a STE(A)M career as part of a panel.
  - Architects, engineers, forestry workers, biologists, doctors, nurses, graphic designers, fashion designers, etc. – all work as STE(A)M careers!
  - Talk about what drew them into the field, why they chose to pursue a career with STEM emphasis, and how the work/things they did in high school helped them make that decision.
- Flash Bang! Demos
  - Probably too dangerous for libraries to replicate, but cool nonetheless! See links on the Resources handout for ideas.
- Food Science
  - Have a passive/stealth program showing the different amounts of sugar found in commonly-consumed energy drinks, sodas, and juices. Fill bags with sugar and have empty bottles/cans of each drink in the display as well to give a visual of the amounts, and have a science section explaining why our body craves sugar and how it processes sugar as energy.
  - Do taste test programs to see the difference in taste preferences, and have a local nutritionist explain the differences in taste perceptions.
  - See links on the Resources handout for additional ideas.
- Exercise Science
  - Have a physical therapist or sports trainer come in and talk about proper stretching, working out to fit your lifestyle and proper diets for athletes and non-athletes. Make this enticing for teens by having a “cooking” element to the program – use the ideas on nutrition to show teens healthy snacks they can make from simple ingredients.
- Community Garden for teens
  - If you have the outdoor space, see if you can get a Teen Gardening Club started. Meet once a week, and give them the ability to come in at other times to work in the garden, also. Have a community member teach about gardening science, plant biology, weather, growing cycles, etc.