



Libraries & Teen Science Cafés Keep STEM Local

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Introduction

Teen Science Cafés are free, informal, interactive programs that promote exploration, creativity, and life long learning in STEM. Teens are introduced to the latest ideas in science and technology through stimulating conversations and hands-on activities with scientists, engineers, and inventors in relaxed and social setting.

Teen Science Cafés are a relatively new yet, highly successful approach to reaching teens in their community. They grew out of a successful implementation of teen science cafés in four diverse communities in New Mexico starting in 2007. With funding from the NSF, the Teen Science Café Network was formed in 2012 (TSCN, teensciencecafe.org), and has grown to 41 café sites in 20 U.S states. Teen Science Cafés are happening in libraries, 4-H clubs, afterschool programs, children's hospitals, universities, museums, and aquaria.

Why Teen Science Cafés Matter

Teen Science Cafés have been shown to significantly change teens' view of the importance of science in their lives, positively influence teens' understanding of science in the news, increase their ability and confidence to use facts to support scientific points of view, and cause them to consider multiple sides of an issue before making a decision. The café events also positively influenced teens' interest in science and science careers, and revealed to them the nature of scientific research.

For scientists, the events are a low risk way to share their knowledge and passion with teens, while gaining new perspectives from teens' views of the topic. These experiences have influenced public understanding of important science discoveries and their societal implications, and altered scientists thinking and views about their own work. Scientists report that these engagements have changed the way they think about and talk about their science.



Fig 1. Teens build and test robots at the teen science café and get connected to the local robotics program.

Benefits to Libraries

1 Increases Library's Relevance

Hosting Teen Science Cafés in the local library opens the door for teens in the community to participate in STEM activities relevant to their lives. The informal social atmosphere of the programs lowers the barrier for teens to explore STEM and their local library. The programs develop teens' leadership skills, which can help build stronger relationships between teens, the local library, and other community organizations promoting STEM. The connections between libraries and local experts that arise from the Teen Science Café can be extended to other STEM events at the library, as well.



Fig 2. A geoscientist shares stories about recent Mars discoveries.

2 Connects Library to Underserved

In underserved communities, libraries are particularly ideal sites for teen cafés. They are trusted and safe venues, often located on major public transportation routes making access easy for all. Libraries generally have evening hours and public meeting rooms needed for the events to take on a social and free choice learning atmosphere. We have found that the sense of community ownership inspires Teen Café leaders to take great pride in their program.

How to Get Involved

3 JOIN US!

The Teen Science Café Network is an open community of practice creating events for teens to learn from leading experts about science and technology changing their world. We support and freely share our expertise with others who would like to start a Teen Café. Find us at <http://teensciencecafe.org>.

We offer Members:

Toolkits to start a Café	Professional development
Small grants for start up	Forums and blogs to share ideas
Mentors to guide you	Resource catalog of "Cool Cafés"



Fig 3. Diseases of the brain are a hot topic among teens. Holding in-hand a human brain was a highlight of the café.

We Are Recruiting!

5 We are very excited to welcome a new cohort of Teen Science Café Members this fall. To help them get started, we are offering a series of webinars that will focus on:

- The Essence of a Great Teen Science Café
- Leadership Skills of Teen and Adult Leaders
- Vetting and Preparing Presenters

Anyone considering starting a teen science café is welcome to attend these webinars to learn more about our program and our community of practice. Contact us at info@teensciencecafe.org

Café Core Design Principles

- 4 • Teen Science Cafés are highly engaging and interactive; not a lecture.
- Teens must have a sense of ownership of and opportunities for leadership in *their* Café program.
- Programs seek to attract a diverse group of teens with varied motivations for learning about science, exposure to scientists, and opportunities in science. Cafés are not just for the science geeks; they are for all curious and interested teens.
- Presenters are carefully vetted and trained to communicate effectively with the teen audience.
- Institutions that encourage their teens or scientists to participate in the program are essential to bringing the two audiences together.
- Programs must have adult organizers and leaders with the energy and commitment to make the Café a success.



Fig 4. A neuroscience Café got teens into Zombie costumes.

References

- Mayhew, M., and Hall, M., Science Communication in a Café Scientifique for High School Teens, *Science Communication*, 34 (4) 547-555.
- Hall, M., Foutz, S., and Mayhew, M., Design and Impacts of a Youth Directed Café Scientifique Program. *Int. J. of Science Ed., Part B: Communication and Public Engagement*, DOI:10.1080/21548455.2012.715780.

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