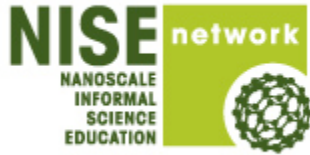


Science Café Guide



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General Description

Summary:

A Science Café is an event that brings scientists and the public together in an informal setting like a restaurant, pub, or coffee shop.

Science Cafés are happening all over the world and have many different formats. Some are lectures with audience-guided questions and answers, some have a moderated discussion between the scientist and the audience, and some focus more on round-table discussion. There is no right or wrong way to put on a Science Cafe, and each organizer is free to design theirs based on their goals and what their audience likes.

A main feature of a Science Café is that is held somewhere other than in the host museum or institution. Bringing a science discussion into an informal venue, such as a restaurant, is a useful too for making the audience feel comfortable to discuss the topic at hand and ask questions – it can be seen as much less threatening and there are fewer barriers between the public and the expert. Hosting the event in a restaurant is also a great way to reach new audiences not already involved in science. People who might not come to a lecture at a museum are often more likely to attend one in a bar or cafe, and there is the added benefit of potentially drawing in people who are already at the venue socially.

Though there is no one right (or wrong) way to run a Science Café, this guide will give some basic information that will help you define your goals and figure out how to get started.

Audience:

Depending on goals of the hosting organization, a Science Café can appeal to all ages. However, many Cafés target an adult audience, and the events are therefore held in a venue that fits that demographic, such as a bar or a restaurant.

For example, the Oregon Museum of Science and Industry runs two Science Pubs, one in Portland and one in Eugene, Oregon. The following data was collected and summarized from 15 events in 2008:

- Average age of Science Pub participants: 44 years old.
- Women make up approximately 60% of the audience; men make up approximately 40%.

Science Café Goals:

There are many different reasons to host a Science Café. Here are a few possible goals:

- Provide an opportunity for adults in the community to learn about science.
- Attract new audiences who are not already involved in science or with the host organization.
- Increase the host organization's relevance in the community. This can be true for both science museums and academic institutions.
 - Science museums are often seen as places for children and families only; perception can be expanded by organizing an event aimed at adult audiences.
 - Academic institutions are often seen as inaccessible; by hosting an event that is open to the general public, an institution can be more inclusive and let people know what kind of research is going on in their local communities.
- Add to a host organization's visitor, membership, and/or donor base.
- It is a pathway to collaboration between museums, institutions, universities, and companies.
- It can strengthen ties in the community, open up grant partnership opportunities, and increase visibility.
- Provide add-on events to create publicity for host organization's features or traveling exhibits. For example, host a Science Café on some aspect of nanotechnology during NanoDays.
- Create an atmosphere where the public can not only learn from scientists, but scientists can learn from the public as well.
- Show that learning about science can be fun!

One of the key features of a Science Café is that it is held in an informal setting such as a restaurant, bar, or café. It has been shown that audiences respond to the relaxed atmosphere and may be more likely to interact with the speaker and each other in such a location.

Here are a few example answers to the question “What did you like most about the Science Pub?”

- “The opportunity to learn in depth scientific information in an informal setting delivered with a sense of humor” [Eugene Science Pub evaluation, July 10, 2008]
- Beer + science = Fun x 10³ [Eugene Science Pub evaluation, May 8, 2008]
- “Subjects and discussions, followed by availability of adult beverages [Portland Science Pub evaluation, April 28, 2008]
- Quality presentation, fun & relaxed environment [Portland Science Pub evaluation, February 18, 2008]
- The entire thing, especially being able to eat good food and hear a good lecture. [Eugene Science Pub evaluation, April 3, 2008]

NOTICE: You're welcome to alter this program to suit your needs. In fact, we encourage it! Change it around, and if you find something that works let us know. Post your revisions on www.nisenet.org.

Program Delivery

Agenda:

There is no one set agenda for a Science Café. What follows are three suggestions for possible agendas, though each Café organizer should feel free to modify his or her event based on audience needs, venue and time limitations, and program goals.

Agenda Option #1 – Lecture with Q&A

~2:00 hours

Welcome and introduction: 5-10 minutes

Science Café organizer introduces program and speaker. This can be anything from a few brief sentences to a longer description of what to expect from the evening and an in-depth bio of the speaker.

Presentation: 30-40 minutes

The speaker presents his or her topic.

Q&A: 40-60 minutes

The speaker takes questions from the audience. The Café organizer can moderate the Q&A, or not.

Farewell: 5 minutes

Café organizer thanks speaker and ends the program.

Agenda Option #2 – Moderated discussion

~ 1:00 hour

Welcome and introduction: 2 minutes

Café organizer welcomes crowd, very brief introduction of speaker.

Presentation: 5 minutes

The speaker gets a very short time to give a quick teaser to his or her work and to inspire questions.

Moderated Q&A: 50 minutes

The bulk of this kind of Café is set aside for questions and interaction between the crowd and the speaker.

Agenda Option #3 – Roundtable discussion

~ 1.5 hours

Welcome and introduction: 5-10 minutes

Science Café organizer introduces program and speaker.

Presentation: 30 minutes

Speaker gives short talk on his or her topic.

Break: 10 minutes

Round-table discussions: 30 minutes

Time for questions and discussions between audience members around their individual tables, possibly moderated by Café organizer or speaker. Could be an opportunity for audience members to come up with questions to ask the speaker.

Q&A: 30 minutes

Speaker answers questions that were discussed by the table groups

Farewell: 5 minutes

Café organizer thanks speaker and ends the program.

Nanotechnology Topics:

Any nanotechnology (or science) topic can be chosen, depending solely on Café organizer preference or speaker expertise.

Tips for Organization:

- Science Cafés can be done as one-time events, or can be done weekly, monthly, or in some kind of series. If they are done in a series, it may be helpful to have scheduled one or two in advance so you can advertise the next event and build momentum.
- If the Café is run by an organization (museum, educational non-profit, university, etc.), the Science Café can be used as an opportunity to advertise or market other events. For example, put out flyers for other events hosted at the museum, or mention them in the introduction or farewell.
- It may be helpful to have some sort of icebreaker at the beginning to get the audience in the right frame of mind. One method of doing this is to create a brief trivia quiz with questions that relate to the event's topic. (See below for trivia question examples.)
- Some Science Cafés use PowerPoint presentations, and others forbid their use in order to add to the informality of the event. It is up to the individual Café organizer to make that choice, though if you DO use PowerPoint, make sure to arrange the equipment (projector, computer, screen) with the venue in advance.
- Some Science Cafés use a short video clip as part of the introductions or speaker presentation. They can be a useful tool to give specific information succinctly, but make sure the venue has the appropriate equipment to play the clips.
- Be aware that these kinds of events are happening all over the world and are very popular – some Cafés in larger cities get 150+ people or more at each event. It is helpful to decide in advance how many people you hope to attract to each Café, since that will affect which venue you choose, how you advertise, and what kind of agenda or format you employ. For example, a Café that focuses on round-table discussions may be most effective with a smaller group, therefore you can use a smaller venue and target your marketing to a more select audience. On the other hand, if your goal is to reach as many people as possible, a lecture and Q&A-type event may serve you better and you can market the event more aggressively, but you will need a bigger venue. You may also find that if you do a series of Science Cafés that your audience's needs and your goals may change, and you may have to shift marketing methods, venues, or agendas to match.
- It may be useful to attend an existing Science Café (if there is one nearby) to get a feel for how they work.

- Decide if you have funds to provide a stipend or honorarium for your speaker. (Most US Science Cafés do not offer any payment.) Many speakers are glad for the opportunity to discuss their work with new people, and some may even have grant requirements for educating the public which could be partially fulfilled by speaking at a Café. Even if you do not have funds to pay a speaker, it is a nice gesture to buy him or her a drink or food (when appropriate) and some host museums send a note or a gift membership as a thank you afterwards.

Tips for Choosing a Venue:

- Before choosing a place to hold your Science Café, think about what kind of audience you are trying to attract.
 - Do you want to reach adults? Consider hosting the Science Café in a bar or restaurant that serves alcohol.
 - Do you want to reach young adults or families? Consider hosting the Science Café in a bookstore, coffee shop, or pizza place.
 - Do you want to build a repeat audience and/or have everyone in the place paying attention and participating in the Café? Consider hosting the Science Café in a venue that has a separate room or space off to the side.
 - Do you want to attract brand new audiences? Consider hosting the Science Café in a venue that has an open room for everyone so that even people there for their own social reasons can participate if they wish.
- Ask a prospective venue if they will waive any room fee as either an in-kind donation to the host organization or because the Science Café will bring in patrons. Consider hosting the Science Café on a night when the venue would otherwise not be busy, that way you can increase their revenue and not interfere with their regular customers. In some cases, depending on how many people come to the Science Café and how often they are held, it is possible to work a deal with the venue to pay the host organization or split profits.
- Make sure the venue has the appropriate audio/visual equipment, such as a microphone and speakers, projector and screen (if using PowerPoint), etc. If they are not available at the venue, you may need to bring your own equipment.
- It may be helpful to find a venue that already has live music or other performances so that you can include the Café in their existing advertising methods (web calendar, flyers, etc.).

Tips for Marketing a Science Café:

- Marketing a Science Café can be very cheap, and there are plenty of ways to get the word out without paying for advertising. There is a cost associated with the time it takes to write the promotional text, creating a web page, posting information online, or creating flyers, but depending on the host organization's budget, it can either be very simple or very elaborate.
- If your goal is to increase adult participation, you may want to use the host organization's existing marketing methods such as posting it on the website, sending it out to the member or donor email list, and putting flyers out for visiting public.
- If your goal is to reach new audiences as well, you may want to branch out into other methods of marketing, such as
 - Posting on <http://www.craigslist.org/about/sites> or <http://upcoming.yahoo.com/>
 - Posting information on local event websites
 - Creating a presence on Facebook or another kind of networking website
 - If possible, send out a press release
 - Ask the venue to include information on their calendar or website
 - Ask the speaker or speaker's organization to send out an email
 - Post flyers
 - Partner with organizations with similar interests to do cross promotion. For example, if your topic is on how nanotechnology may be used to clean up pollution in waterways, send a notice to local kayaking clubs, local conservation groups, or a local marina or boater organization.
- It may be useful to create a mailing list and send out a reminder email a week or two in advance of the next Café. You can gather emails in several ways: from existing lists from the host organization, ask Café attendees to sign up, and post a mailing list sign-up link on the Café's website.

Tips for Preparing Speakers:

- Most Science Cafés happening in the US do not pay their speakers, while ones in the UK and elsewhere do have a stipend or honorarium. Whichever you decide, make sure that is clear with the speaker up front.
- It is a good idea to prepare the speaker for what may be a very different kind of venue than he or she is used to. Make sure that the speaker is aware of the setting, and encourage informality and humor. One of the goals of a Science Café is to demystify science, and part of that is showing that scientists are people too.
- Not everyone will make a good Science Café speaker. Some scientists are uncomfortable with the informal nature of the event and that discomfort will show through in their presentation. If possible, have an in-person or phone

conversation with the speaker to gauge their adaptability to the format. Be aware that some potential speakers may need a bit more coaching or reassurance.

- Encourage the speakers to repeat the audience questions so that everyone can hear what was asked.
- If the goal of the Science Café is to engage non-scientists and if speakers are allowed to use PowerPoint, the Café organizer may want to encourage them to limit the number of graphs, data sets, equations, and other scientific notations.
- You may want to arrange a cut-off cue with the speaker so he or she knows when time is up, like “we only have time for two more questions”.

Additional Resources

As mentioned above, there are many Science Cafés happening all over the United States and all over the world. (In fact, the Science Café idea was started in the UK.) Listed below are two useful websites for more information on how to start and run a Science Café and how to find other organizers to talk to:

www.sciencecafes.org/
www.cafescientifique.org/
www.oms.edu/sciencepub

Evaluation resources :

NOVA scienceNOW commissioned an evaluation report that surveyed Science Café organizers, presenters, and audience members. This report covers issues such as a Café’s perceived effectiveness and influence. It is available online here: http://www.sciencecafes.org/q_2007_study.pdf

Nova scienceNow also has data relating to educational and cultural impacts of Science Cafés: http://www.sciencecafes.org/cafe_impacts.html

Nanotechnology trivia questions

As mentioned in the Tips for Organization section above, here are some possible trivia questions that could be used for an icebreaker at the beginning of a Science Café. These questions include pop culture references in addition to more scientific questions in order to reach all areas of the audience’s intelligence and let them know that it will be an informal and fun event. (Answers marked with **).

1. The word “nano” comes from the Greek word for:
 - a) Small
 - b) Minor
 - c) Brief

**d) Dwarf

2. Which of the following is NOT true about nanotechnology?

a) Research in nanotechnology includes work in many fields, such as chemistry, biology, physics, and medicine

b) Nano-sized particles often have very different properties than their larger-sized counterparts

**c) Nanotechnology is being used to produce tiny robots that will complete tasks like cleaning up oil spills

d) Nanotechnology may lead to self-cleaning toilets

3. A nanometer is approximately how many copper atoms long?

a) 2

**b) 8

c) 23

d) 47

4. If you lined up copper atoms in a row across the diameter of a penny, approximately how many atoms would there be?

a) 105 million

b) 137 million

**c) 152 million

d) 173 million

5. Who sang the song, "Tiny Bubbles"?

**Don Ho

6. Buckyballs are molecules that are made of 60 carbon atoms. About one nanometer in diameter, buckyballs are extremely strong and very slippery, and scientists are studying how we might be able to use them. Who are buckyballs named after?

**Buckminster Fuller

7. In addition to yellow, gold nanoparticles can be what color?

a) Blue

b) Purple

c) Red

d) Orange

**e) All of the above

8. How does the nano fabric used clothing (like pants from L.L. Bean) keep liquids from sticking?

a) The fabric is coated in nano-sized particles of teflon

**b) The fabric has nano-sized threads or "whiskers" sticking out that prevent the liquid from penetrating

c) The fabric has nano-sized threads of goretex woven into it

- d) The fabric has nano-sized threads of silver woven into it
9. In "A Christmas Carol" by Charles Dickens, what was Tiny Tim's last name?
Cratchit
10. Which one of the following "nano" products is fake?
- a) Antibacterial nano socks
 - b) Nano ceramic curling irons
 - c) Nanorama-Gold toothpaste
 - d) Nano pacifier
 - e) NanoSlim, the world's smallest weight-loss solution
 - f) Nano chopsticks
 - g) Nanogaine hair growth formula
 - **h) None are fake, they're all real

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