

Teen science

□ How can we persuade teenagers to stick with science? Maybe we should just ban them from science fairs, says Henry Gee.

Henry Gee

On 18 March I attended the Cambridge Science Festival, UK, now in its thirteenth year. I had been invited to talk about my book *The Science of Middle-earth*. Accustomed to having an audience that can be numbered on the fingers of one thumb, I found myself speaking to a 410-seat theatre packed to capacity. Afterwards, gangs of small boys asked me for my autograph, as if I were a Premiership soccer star.

I can't flatter myself that this was entirely due to my charm and charisma. All the lectures were mobbed, as were the multitude of hands-on events. Within ten minutes of arriving at the festival, my elder daughter (eight years old that day) was extracting her own DNA at the popular 'Bottle Your Genes' stall, and we went on to make our own robots and do loads of other fun stuff. Even my five-year-old daughter learned about complementary DNA bases and went away with a neat girlie DNA bracelet.

"Teens will avoid anything that even vaguely looks like it was designed for children."

No one can doubt the success of the Cambridge Science Festival, with its vast programme and range of associated outreach activities. But there was something wrong: amid the surging crowds there were very few teenagers. Nicola Buckley, coordinator of the festival, confirmed this: a random sample of 100 young attendees that day discovered 77 eager festival-goers aged between 5 and 14, but just eight 15-18-year-olds.

This isn't good. But what can we do? My first thought is to take the daring, proactive move of banning teenagers from events like this, telling them that science is just too cool for them, in a radical attempt to harness subversiveness and con them into liking it. "That's an interesting idea," says Caitlin Watson, physics in society manager at the Institute of Physics (IOP). But for some reason I don't think she's convinced. "I somehow can't see gangs of kids meeting up in the park to do an experiment to prove Hooke's Law," she muses.

A place of their own

The vast majority of informed opinion seems to lie with a different, but related, tack. They agree that dragging teens to the same place where mom and pop and baby sis are having a good time just wouldn't be a good idea. But instead of simply banning them, we should concentrate on making a new space just for teens.

"You have to do something that the teenagers can 'own'. Something that isn't in a place where their parents and younger siblings are going to be," says Watson, adding that the IOP has a number of imaginative programmes to do just this: including having a stand at the Glastonbury rock festival, and staging debates where audience opinions are fed directly into a government consultation.

"They will avoid anything that even vaguely looks like it was designed for children," agrees Dave Ansell of Cambridge Hands-on Science (CHaOS). "On the CHaOS tour we often get groups of teenagers who will look on superiorly from a distance right up until all the kids have gone away and then they become immensely interested, normally just as we are packing up," he says.

"The real trick is to make science interesting and fascinating rather than just fun. This will stick by you even if it gets a bit difficult, whereas if you are looking for fun, as soon as it gets difficult you will just go and play computer games," Ansell adds. Sage advice.

From the mouths of babes

And maybe the best way to do that is to get the teens into a teaching role, rather than letting them just hang about as observers. "I stopped being able to get my daughter to go to events when she was about 13 or 14," says Lynne Harrison of the Institute of Continuing Education at the University of Cambridge, UK, who ran the 'Bottle Your Genes' stall that so captivated my eight-year-old. "But now she's there actually participating, extracting the DNA, she and her friends are really quite keen to get involved. Perhaps that's the key, they don't want to be 'visitors' but 'presenters'."

This, then, may be the solution: to create environments in which the teenagers can take control and teach themselves and their friends. This strikes me as having the extra advantage of being in the true spirit of science, which is about exploring the world for oneself.

Encourage that, and the prospect of teenagers meeting up in the park to discuss Hooke's Law might not be as outrageous as it first seems.

Visit our [newsblog](#) to read and post comments about this story.

Cambridge Hands-on Science (ChaOS)