Ten Tips for Communicating Astronomy with Children

Lee Pullen
Freelance Science Communicator
E-mail: leempullen@hotmail.com

Summary

Science communicators must tackle many difficult audiences as part of their jobs, but among the most challenging are audiences of young children. If you are not used to this type of work it can seem like a daunting task, but a few simple tips will help a great deal to prepare you. Get some experience now and you will also be in a good position to help with the International Year of Astronomy 2009.

Be Enthusiastic

Children will take their lead from you, so the most important tip is to be lively, engaged and interested. Your audience will follow suit, making it an enjoyable experience. If you are bored yourself then this will be reflected in their behaviour, and it will not be long before attention wanes. The danger is that if you act too enthusiastically, you will be seen as an entertainer figure. This might be what you are after, but usually you want to keep the children's respect! Remember to be enthusiastic about any work the children produce and questions that they ask.

Keep Things Simple

It is sometimes easy to forget that concepts adults take for granted can be lost on a younger audience and this is even more apparent with topics like astronomy. Almost every aspect will have to be simplified to some degree. As for how much you will need to simplify, just watch the children’s faces as you speak — it will be obvious if they do not understand what you are saying! Detailed information and figures should be avoided as it will just confuse. Use analogies to help get your point across. For example, instead of saying that the average Earth/Mars distance is 225 million km, explain that Mars is so far away that even in a fast rocket ship it would take six months to get there.

Encourage Creativity

Astronomy is a brilliant topic for children to flex their creative muscles. They love to imagine advanced spaceships, strange planets and weird aliens. Although their ideas may not be the most scientific, avoid stifling their imaginations and gently direct them to more realistic notions. The children will be entertained and the activities memorable. When children are allowed some control over their work more pride is taken in what they do. Allowing children to be creative will also help them realise that science can be fun.

Be Prepared

A key to success when communicating astronomy to children is to be prepared. Make sure you know exactly what is expected of you. What age range will you be dealing with? How many children? Are you giving a ten-minute presentation or leading a whole day’s workshop? Are there certain objectives you must meet? Ensure you have the whole picture before you begin. Having suitable materials will also make your life easier. Children appreciate visual aids, so any talk over ten minutes long should feature some large, colourful images. Luckily the field of astronomy has plenty of these! If you are required for an hour or more, prepare a lesson plan. This will provide structure and help you keep to time.

Figure 1. Children need visual aids to help them understand difficult concepts. Credit: Jennifer Barrett.
Know Your Stuff

It is important to do research before you present. If the relevant topic is unfamiliar you may be tempted to skip background reading as your audience will know very little, if anything, about the subject. However, children can be good at spotting when you are pretending to be an authority! Make sure you have a reasonable level of knowledge. You never know which questions you will be asked, so be prepared. Having a mental list of interesting facts and analogies will help.

Spark Discussions

An excellent way of keeping children involved is to encourage discussion and participation. A simple way of doing this is to avoid giving a straightforward presentation and ask questions instead. For example, if you are planning on giving a talk about the Solar System, start off by asking, “Hands up who can tell me something about the Sun?” You will probably get an answer like “It’s hot”. Build on that in your next question. “That’s right, so would you be able to stand on the surface? Hands up who thinks yes.”

You will be guiding the discussion but the children will be providing information and will enjoy the opportunity to answer. They will be much more interested if you use this approach. Try not to completely dismiss any ideas or incorrect ideas, as this may knock confidence, but compliment them on a good guess and gently offer a more sensible answer.

Encourage Friendly Competition

Children are naturally competitive and this can be used to our advantage. A good idea is to prepare an astronomy quiz based on the information that you will have given them. Select questions carefully, ensuring nothing is too obscure and that they have a chance to answer everything. If you are not sure of the ability level you may like to prepare easy and advanced questions, allowing you to use whichever is more appropriate. Children like rewards, so certificates (an A4 word processed sheet, for example) for winners are a cheap and easy way of congratulating them. If you can, prepare participatory certificates too, so no child feels left out. Mention at the beginning that there will be a quiz and then if any child becomes distracted during the session simply remind them that anything they learn could come up in the quiz, so they should best pay attention. This works every time!

Realise That You Are Appreciated

By taking the time to help communicate astronomy to children you will not only educate, but also inspire the next generation to take an interest and perhaps study the Universe in which we live. For communicators not used to dealing with younger age groups it can be intimidating and difficult, but you will learn new skills and improve your own abilities. Ultimately, the children will greatly appreciate your efforts and will gain much from the experience.

Biography

Lee Pullen puts his astronomy degree and science communication master’s to good use engaging a wide range of hard-to-reach audiences. He has taught several thousand children about the cosmos and also works as a science journalist. His website can be viewed at www.leepullen.co.uk.