

What we've learned about writing and performing science shows

Practical tips if you're writing and performing new science shows in your museum

When you're planning a new show...

Define who the **audience** will be for your show, and **why** you want to produce a show at all. Is it to show the background to everyday science? Make the most of your museum's collection or staff? Show the audience how science works?

When you're developing content for the show...

Start with your **research**. Choose a general topic with plenty of potential themes, and think up as many demonstrations linked to the theme as you can. Your show needs a **bang at the beginning** and a good **ending**, with amazing **experiments** in between, opportunities for **humour** and for the audience to get **involved**, both children and adults. Audiences love oversized **props**.

When writing the show's script...

Whittle down the number of experiments and demos to the **best and most practical** ones. You need five or more for a show 20 minutes long, and about ten for a show 45 minutes long. Link them together with a storyline, keeping the pace fast with changes of focus and surprises. Use **simple language**, referring to key curriculum vocabulary for a schools audience. Incorporate questions to the audience that they can genuinely answer. Take the approach of 'let's find out...' rather than 'teaching' the audience. Add **staging instructions** for the presenter. If using a presentation, make sure the slides are high quality, and consider using video.

When preparing a performance...

Use presenters with an affinity for the topic or the audience you're aiming at. Train presenters in the scientific ideas and facts the show should contain, but do encourage them to **present the show in their own way**.

Organise all materials well in advance of show-time. Learn the stories and links but don't try to stick rigidly to the script. Prepare **more demonstrations that you actually need** to perform the show, so that if you're losing an audience's attention you can do something different. Rehearse alternative endings to experiments in case they go wrong. Schedule show-times when you have **plenty of visitors** in the museum.

When performing the show...

Enjoy the performance, maintaining eye contact with the audience. Make sure your voice can be heard, and vary it during the show. Try to avoid saying 'um' and 'er'. Avoid turning your back on any audience member. Use humour – and silence to build up dramatic tension.

Select a **variety of volunteers** from around the audience. Don't dismiss 'wrong' answers; use them to lead to the correct one. Ask volunteers their **names** and use them. Don't be afraid to tease children a bit, but always ask the audience to **applaud** a volunteer on their way back to their seat. Promote a sense of order and organisation on stage, and always act safely. **Never act 'the mad scientist'**. Over time, let the show evolve based on audience reactions.

Further resources:

Find out what teachers and parents say they'd like to get from a science show by consulting summaries of key findings from Science Museum Research reports:

- Science Museum Research Summary: What parents want from a science show
- Science Museum Research Summary: What teachers want from a science show

Read about the science questions children actually want the answers to:

www.guardian.co.uk/education/2009/jun/16/science-lessons-inspiration