# How do I create a science exhibition?

## Guidance on designing an engaging installation or exhibition

*Exhibitions are a great way to tell a story through objects, showcase exciting equipment and innovations and create an immersive experience for visitors. They can be large or small scale, a permanent feature in galleries or can pop up just for a couple of hours.*

## 1 | Why create an exhibition?

Exhibitions enable you to not only share your work but to provoke thinking about a topic and inspire audiences. Traditional exhibitions might showcase objects accompanied by interpretation, whilst interactive installations might involve different elements that visitors can explore themselves. Exhibitions can be small-scale and temporary or something larger that's professionally created and longer-term. There are advantages to all formats. As we describe in our planning resource, you should always work from your aim forwards when planning an engagement activity.

**Here are some examples of what can be achieved through an exhibition:**

- Informing others
- Entertainment
- Provoking thought and discussion
- Changing perspectives or behaviour
- Bringing science into a community space

## 2 | Decide on a key message or theme

What key message or theme is relevant to your aim above? For example, let's say our aim is to get locals in a disadvantaged area inspired by the research being conducted at CERN. A good theme for this might be 'scale', as it will be easy to inspire people with the extremely large and small factors at play in particle physics research.

From your theme or key message, develop a list of concepts you might want to cover. In our example, we could cover the large end of the 'scale' with the sheer size of the tunnel, the particle detectors, the amount of processing power needed and so on, while contrasting this to the extremely tiny particles that are detected in the tiniest fragment of time. Remember to only include concepts that add to or are relevant to the theme or key message in your list.

**Do your research!**
Before you plan your exhibit, you might want to do some research or front-end evaluation.
What do you know about your audience? What knowledge are they coming with and what interests them?

# 3 | Pull together your elements

Based on your theme and the concepts you want to cover you can start thinking about objects you want to display or create. Don't forget that exhibits can be multi-sensory using light, movement and sound. They can also be interactive, allowing the visitor to have more autonomy as they explore your concepts. Often, the more multi-sensory and interactive the experience, the more enjoyable and impactful it will be.

What could you include? In an exhibition, practically anything goes but here are some ideas to get you started:

- **Original objects or artefacts**
  e.g. pieces that are historical, technical or personal to your life as a researcher

- **Games and interactives / quizzes**
  – these can be digital or hands-on

- **Reflective moments** to pause, watch, observe, look at, listen to

- Areas where you are prompting the visitor to **discuss, feedback** or **comment**

- **A call to action** or ideas for exploring further

- Photography or images related to your theme

Once you've designed and gathered your exhibits, build them into a narrative. In what order should the visitor encounter them? With a route in mind, you can plan how to tell this story and whether you would like to use text, audio or other formats to accompany your objects and interactives. For each exhibit or section, what does the audience need in order to understand and progress along the journey?

### A hierarchy of messages
Your visitors will differ in how much they are willing to read or how many objects they're willing to interact with. However, it's important that each visitor gets a comprehensive picture. This means developing a 'hierarchy of messages'. Ensure that the key concepts are given prominence, either spatially or visually, e.g. by using large font. Less important but contextual details come next, while unimportant details that may be of interest can be least prominent. These are some of the things you might want to investigate to help you design your installation.

# 4 | Thinking about space

While planning the route for your exhibits and how they will be presented you should also be thinking about the space. Firstly, consider how the space will meet your aims. In our example we want to get locals from a disadvantaged area interested in CERN, therefore we will ideally use a community space where they are more likely to be. You can also think about how the space might relate to your theme. In our example, we might make a cyclical route to mimic the large hadron collider.

Aim for a venue that meets your needs but if not, you might be able to adapt the space to meet them. In our example, we might not be able to use an actual tunnel but can use large barriers and black cloth to create a tunnel effect.

### The visitor experience
As you design your space, keep the visitor experience in mind. Will the loud noise from one exhibit affect the calming experience you want to achieve with the next one? If so, consider rearranging the order or adding headphones. Also think about the different kinds of visitors and their needs. For example, if exhibits are interactive it might be easier to make them seated. This helps prevent height differences of adults and children becoming a problem.

# 5 | Refining your exhibition

As you plan and prepare your exhibits you will need to do a thorough risk assessment to ensure the space is safe for visitors. Once you are sure it's safe, it's a good idea to evaluate your exhibits to be sure visitors will interact with and experience them in the way you intended. Try and get some of your intended audience to test your exhibits while you observe them during an accompanied visit. Make a note of any problems you noticed and ask them about their experience after. It's important to reassure people you are looking for ways to improve as they may not want to upset you by saying anything negative. Collate what you've learnt and use it to tweak your exhibition.

## Case study:
## A multi-sensory dark matter experience

### What is it?
'A multi-sensory dark matter experience' was a pop-up exhibition in the Science Museum during the Great Exhibition Road Festival 2019. It was a collaboration between Imperial College Astrophysicists and the multisensory research team at Sussex University, led by Roberto Trotta. This was an immersive five-minute experience, taking place within a pop-up planetarium and involving all the five senses.

### Why is it a good example?
This project demonstrates an innovative way of engaging the public with a complex subject matter. It was also accessible to those with visual impairments for whom more traditional engagement methods might not be appropriate. Whilst some of the equipment used in the exhibition was expensive, the project team are developing a low-cost, portable version for use in schools and other contexts, for example replacing haptic technology with vibration function on mobile phones.
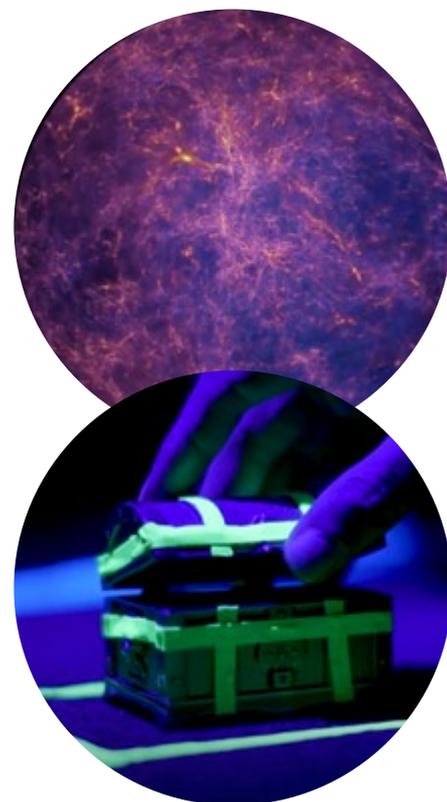
## Further resources – Let us know of others!

To learn more about how to communicate about your exhibits, see this guide on interpretation:
www.museumsgalleriesscotland.org.uk/advice/collections/introduction-to-interpretation/

If you want to make your exhibits more interactive, see this page for ideas:
www.lamasatech.com/blog/how-to-design-exhibitions-with-interactive-museum-technology/

See this blog for general guidance on organising exhibitions:
www.museumplanner.org/category/museum-exhibitions/

The V&A have an excellent guide on writing accessible and engaging exhibition text:
https://www.vam.ac.uk/__data/assets/pdf_file/0009/238077/Gallery-Text-at-the-V-and-A-Ten-Point-Guide-Aug-2013.pdf