

# Science of Fireworks Stage Show

The science of professional firework displays, suitable for audiences of all ages and abilities. Topics include energy transfers, forces, combustion, rates of reaction, sound waves, oxidation, circuit theory, electron transitions and risk.



This extremely popular and visually exciting stage show will **deconstruct the science behind firework display operation** - from ignition to the visual and aural spectacle. Audiences will discover the components that go into making a spectacular live firework display and how **science, technology, engineering** and **mathematics** ensure that displays are both **accurate and safe** for the public.



See how pyrotechnicians create **colours, sound effects** and perfectly timed bursts in time to music. Featuring shock waves, **forces, energy** transfers, **electricity**, flames, sparks, smoke effects and **real indoor fireworks**, this is an **exciting and dramatic** show that will guarantee to have the audience on the edge of their seats.

This is a lively experience that demonstrates how many **fundamental aspects of science** are used to create the building blocks of modern-day firework displays.

The content of shows can be adapted to any audience ability and age group. As such, the core content of an individual show may differ to others as each one will be aligned with the type of audience and, in the case of schools shows, the curriculum for the particular audience age group.

Audiences with specific needs can be catered for.

**A full detailed Risk Assessment and Method Statement are provided along with £10m Public Liability Insurance for all pyrotechnic and science demonstration activities.**

***“Matthew presented a fantastic lecture - a great mix of science and the wow factor. The audience loved it and we will definitely be booking again.” – Claire Kirk, Director of Science, King Alfred Academy***

***“I won’t forget how interested and engaged my kids were (7 & 13) who were sceptical about listening to a talk. They had great fun and that’s the way learning should be. Matthew Tosh was great for all ages.” – Parent (in audience at Royal Institution)***

***“He is great on stage. His shows are really well-paced, not too technical but with plenty of science. Matthew is able to engage students of a wide range of ages and abilities” – Angela McKeown, Regional Coordinator (Royal Society of Chemistry)***

Matthew Tosh is a member of

