- Workshops & Hands-on Learning
- For Primary, Secondary and Special
- Cross-Curricular activities
- Creative, Inclusive and Fun
- Physics, Maths, Music & Making

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NOISYTOYS.ORG

Physics, Maths, Music & Making

Learning through creative exploration of sound and electromagnetism

WORKSHOPS

Noisy Toys lead workshops, run installations at events, perform science demonstrations and 'science-busking' activities in all kinds of settings, and design and build unique interactive instruments. Our aim is to inspire people to experiment with sound vibrations and electromagnetism.

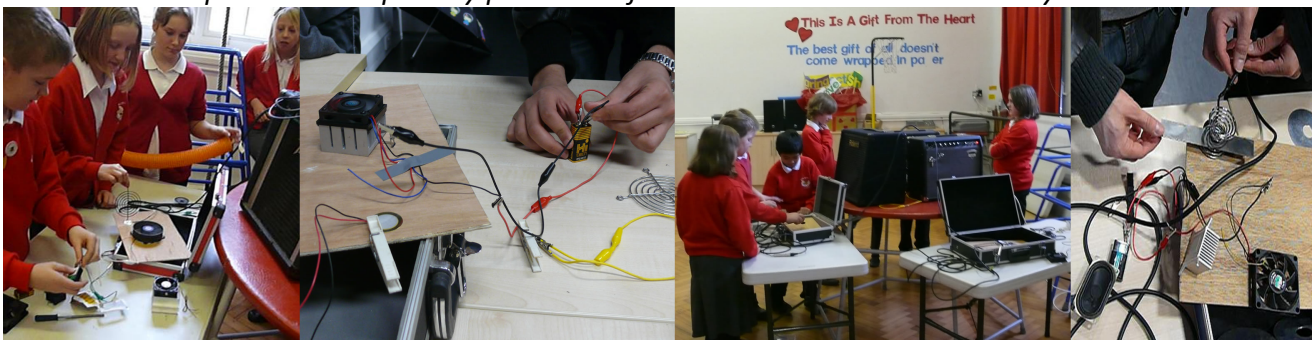
Schools, Science Festivals & Community Events

We run all sorts of workshops and activities in all sorts of locations:

- **structured** sessions for primary, secondary and special schools and other educational settings
- **drop-in** workshops for public events such as festivals
- **participatory** activities; creative, experimental, technical and sustainable
- **demonstrations** and stage shows for events or assemblies
- **training** for your staff to enable you to continue projects yourself

Workshops can be planned around your particular needs; focussing on science, group music-making, instrument-making, sustainability or using a combination of all of these elements.
Listed below are some examples of our most popular workshops, as a guideline to what we can offer you.

Structured workshop costs: ***£400*** *per day plus travel from Manchester. Discounts may be available in winter*



Noisy Robots*: Making sound machines from simple circuitry*

In groups, we construct mini sound circuits from boxes of computer junk. We can build the Victorian Oscillator (it screeches), the Audio File (it scratches and sparks) and finally the Auto-Strummer, which can sound quite nice! The groups can then use any combination of these circuitry techniques (or any others that they invent) to build their own Noise Machines for a final performance/noise-jam.

Creative Scavengers: *Deconstruction and making new instruments from junk*

Using the art of 'Un-Making' the students have loads of fun deconstructing old computers with screwdrivers, salvaging the treasures that lurk inside and building new instruments with them. We will learn about the true cost of consumer electronics, and the wider long-term consequences. Many technical and creative skills also come into the activity, with lots of use of tools and instrument design.

Digital Ducks: *Open Source Coding and Electronic Composition*

Open source coding uses fully reconditioned, working computers salvaged and restored to digital functionality to enable children and young people to compose original pieces of electronic music. These computers run on Linux and only use freely available Open Source music software such as Sonic Pi (developed for use with the Raspberry Pi) and Audacity. Participants can produce beats, make melodies, learn about the maths in music, and may even commence their lucrative coding careers!

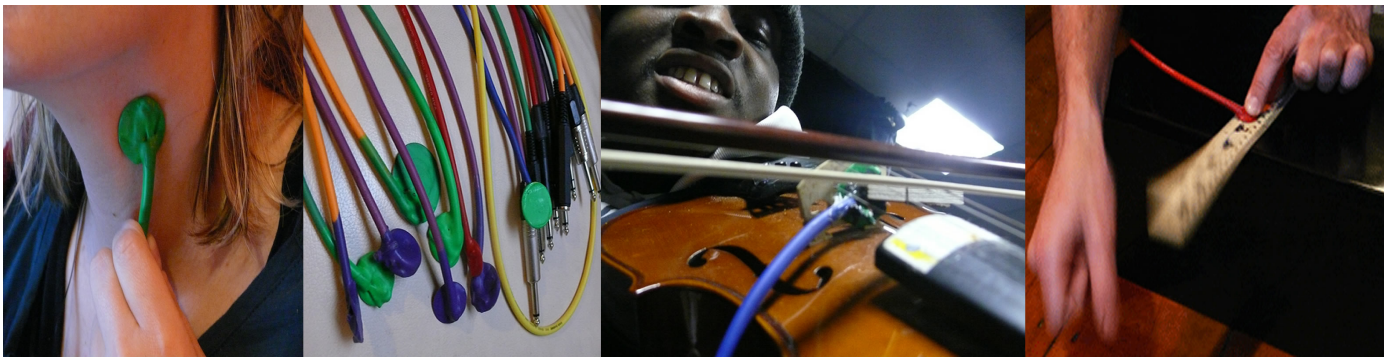
Noisy Toys: *Experimenting with unique hand-made instruments*

In this workshop young people will have use of the full range of the many exciting and bizarre creations from the Noisy Toys Research & Development lab. We will work together to create original pieces the like of which may have never been heard before, using many musical skills as well as music technology including mixing, effects and looping. Music will be more of a focus in this workshop, and participants are encouraged to bring along their own instruments if they have them to accompany the masterpiece composed on the day. However, no prior musical training is needed.

Music is Maths: *Playing around with number patterns in rhythm and harmony*

"Music is the pleasure the human mind experiences from counting without being aware that it is counting. Music is nothing but unconscious arithmetic." Gottfried Leibniz

Using only our bodies and our voices we will play with many musical number games: Indian Taalas, body percussion, African cross-rhythms, and other games designed to get us feeling the relationships between numbers. We may also delve into the mathematical mysteries of harmony, the properties of waves and their associated musical effects, exploring how combinations of pitches can be discordant or harmonious.



These workshops can be tasters, part of a longer project, or even a demonstration for an assembly, or CPD training for an inset day. We are keen to train teachers in your school so that you can continue your own projects 'in-house'. The workshops can be combined and planned for your specific outcomes, and are often used to launch or conclude a project.

Please call me to discuss any aspect of Noisy Toys workshops. We are based in the North West but travel nationally to deliver these exciting sessions. Stephen Summers (Qualified Teacher).

"The children were fascinated. It is science they will all remember because they enjoyed it so much."
Liz Clover, Head teacher, Park Road Primary School

"If any art-form is designed to get young people thinking outside of the box then this one will."
Deborah Curtis, The House of Fairy Tales