


STEM workshops


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Matthew Venn 2011

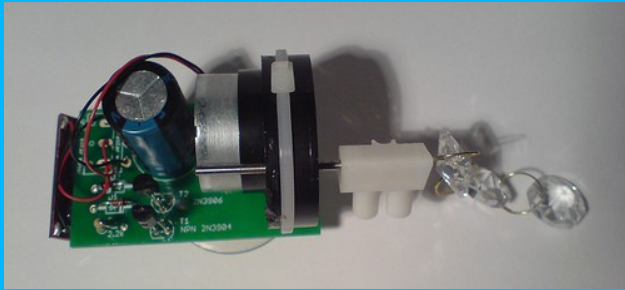
Current Projects



Workshop name	Reused phone charger Moodlamps.
Aim	Everyone builds a beautiful moodlamp to take home. Appreciate that recycling / reuse can be fun and creative.
Learning outcomes	Importance of recycling, why reuse is better. Energy consumption and saving.
Cost per head	£2 plus everyone brings an old phone charger.
Time	2 hours. 15 participants at a time.



Workshop name	The great efficiency race
Aim	Build a hydrogen-powered car and compete against other designs to discover which car can travel furthest. This hands-on workshop allows participants to design and build a hydrogen powered model car. Each car will then be tested in a 'three heat' race to discover which design is the most efficient.
Learning outcomes	As new and more exciting forms of renewable energy are developed, how do we store this energy? Can Hydrogen provide a viable method of energy storage for a low carbon future?
Time	1 Hour, up to 30 participants at a time.




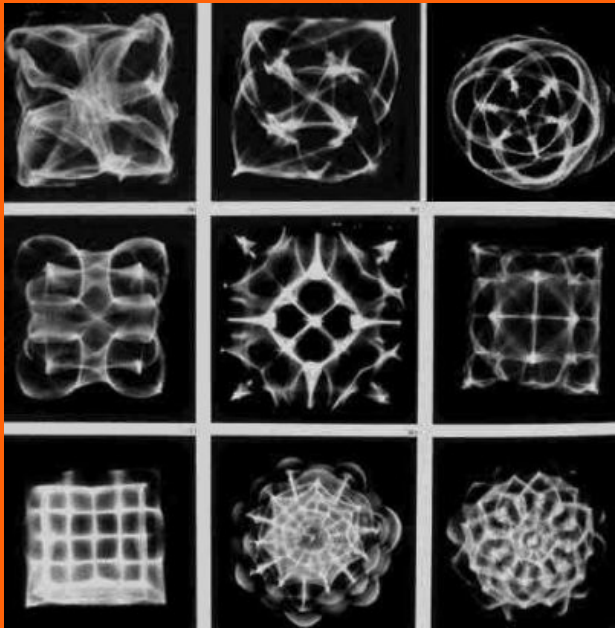
Workshop name	Solar rainbow maker.
Aim	Everyone builds a really cool solar rainbow maker to take home! Understanding of solar energy and it's use in our future.
Learning outcomes	Understanding solar engines, drawing and labelling a diagram of how it all works. Learning about light, and how it can be split into different colours.
Cost per head	£12 per head.
Time	2.5 hours, 15 participants per session.



Workshop name	Building wind turbines
Aim	Each team builds a set of turbine blades from recycled materials. These are tested in a wind tunnel. Scores are recorded and each team can modify their blades to improve on their scores.
Learning outcomes	Renewable energy, wind resistance, power generation, material selection for strength and shape.
Cost per head	£0.50 per head.
Time	1 hours, up to 30 participants per session.

Workshops in development - are you interested in a collaboration?

	Workshop name	Atmospheric probe.
	Aim	Make and launch a probe to the edge of the atmosphere (35,000m!) Understand the flight process and how we will find it after landing. Use maths to work out ascent and descent times. Air resistance/parachutes design.
	Learning outcomes	How weather balloons work, how robots work. The atmosphere and the different zones. What is space and where does it start?
	Cost per head	n/a.
	Time	2 hours plus launch and retrieval.

	Workshop name	Physics in Art.
	Aim	We use various natural phenomena to create pictures including sound/vibration, pendulums, magnetics, centrifugal force.
	Learning outcomes	Creativity, use of physics to create art, understanding of basic natural phenomena.
	Cost per head	£2 per head, 20 participants per session.
	Time	1 - 2 hours.

About Matthew Venn

I also work as a professional electronic engineer. Over the last few years I've found that not many creative practitioners are offering STEM workshops; an ideal way for me to unite my love of science and teaching!

Aim

I've been very interested in the educational psychology research carried out by Carol Dweck and others. My mission in schools and workshops is to encourage the growth mindset – where we learn to believe in our continual ability to grow. More information on this can be found on my website: <http://learning-to-learn.org.uk/blog/2009/08/24/communication-in-the-classroom/>

Comments

- “Absolutely loved Matthew’s workshop...really engaged the children and allowed them to really think and investigate.” Debbie, Teacher.
- “I learn and enjoy a lot of things in this workshop like the wind thing and allowing everyone participate in the workshop. It was educative and really good. Thank you for your good work.” Participant.
- “I have enjoyed making Wind Turbines because we was able to experiment with different themes and think of ways we can develop them themes. Thank you.” Participant.
- “I enjoyed making the Wind Turbine because I enjoyed getting more than one chance and knowing that every time I had a chance I could be a winner. Thank you.” Participant.
- “I really enjoyed creating mini turbines as it allowed our creativity to be in contrast with our scientific knowledge. Everyone was ambitious about creating a successful mini wind turbine. I also liked the fact that you were aware of what was happening to our climate.” Participant.

Workshop costs

Each workshop's cost depends on the length of time and how many people are partaking. Discounts are available for participation in more than one workshop. My daily rate is £200.

Insurance/CRB

I have an up to date CRB, and have £5 million pounds public liability insurance.