

Science Enrichment Activities at St Jude's C of E Junior School

Unity Schools Trust STEM Outreach in-house sessions at St Jude's with Dr Metcalfe.

Year 1 & Year 2

Animals, including humans

- [*Delightful Development*](#)
- [*Wonderful woodlice: classification & habitats.*](#)

Year 3

Animals, including humans

- [*Lavish Lungs: Lung Capacity STEM.*](#)

Forces & Magnets

- [*Fantastic Friction: Measuring forces enquiry.*](#)

Light

- [*Lovely Light \(resources to support teaching\).*](#)

- [*Shapely Shadows: Puppet Theatre STEM.*](#)

Plants

- [*Perfect Pollen: introduction to microscopes.*](#)

Rocks

- [*Soil Secrets: Being a pedologist.*](#)

Year 4

Animals, including humans &

Living things & their habitats

- [*Awesome Owls & Precious Pellets \(also links to yr3 skeletons\).*](#)

Electricity

- [*Wonderful Wind: Renewable energy STEM.*](#)

Sound

- [*Sensational Sound \(ID\): Vegetable Instruments, Stethoscope STEM.*](#)

States of matter

- [*Wonderful Water.*](#)
- [*Gases have Masses: Using physics & chemistry to collect evidence.*](#)
- [*Charming Chocolate: Rate of melting enquiry.*](#)

Year 5

Earth & Space

- [*Sensational Solar System: modelling movements, size & distances.*](#)

Forces

- [*Powerful Pulleys: Levers & Pulleys STEM*](#)

Living things & their habitats

- [*Mighty Moss: Using microscopes to go on a "Moss Safari."*](#)
- [*Super seeds: germination enquiry in to salt tolerance.*](#)
- [*Perfect Pollen: introduction to microscopes.*](#)

Properties & changes of materials

- [*Bubbling Bombs: Required Practical foundation enquiry into rates of chemical reactions.*](#)
- [*Separation Science: quantitative separation challenge.*](#)

Year 6

Animals, including humans

- [*Healthy Hearts: Anatomy & dissection.*](#)

Electricity

- [*Curious Current: measuring and modelling current in circuits.*](#)
- [*Radical Resistance: Required Practical Foundation enquiry.*](#)

Evolution & Inheritance

- [*Super seeds: germination enquiry.*](#)

Light

- [*Magical Mirrors: The Law of Reflection & Periscopes STEM*](#)
- [*Ludicrous Lenses: Refraction STEM*](#)
- [*Shapely Shadows II.*](#)

Living things & their habitats

- [*Mighty Moss: Using microscopes on a "Moss Safari."*](#)

Participants in Royal Holloway University's (RHUL) Birdsong Project.

RHUL activities and workshops at the Egham site are in discussion.



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Dear St. Jude's Year 6 parents and carers,

We are a team of researchers at Royal Holloway working on the biology and psychology of bird song learning*. As part of our research, we are developing a citizen science and educational project where we enlist schools and the public to help us record song across the country. This will allow us to examine how bird song varies and changes, and how human activities (such as traffic noise and air pollution) affect this process. We are hoping that, with your permission, Y6 at St. Jude's can help us pilot this project.

What will children do? We hope to send children home with an automated bird song recorder. This is simply a box with microphones and electronics to record the song. It is programmed to only record from 4am until 8am. The children will be asked to place this in their back gardens on the night before, and then collect it in the morning and bring it back to school. We will then analyse the bird song recordings it has made.

Will the recorder only record bird song? The recorder could also record human voices, but (a) it will only record early in the morning from 4-8am, and (b) our automated methods of analysing the recordings are set to extract only bird song, not human voices. We will not be identifying anyone's garden individually but will try to examine how song varies street by street within the area. We would be delighted to discuss any concerns about privacy you may have.

What will the children learn from the project? We will be using the children's bird song recordings and working alongside the Year 6 teachers to illustrate key points related to the Year 6 Evolution and Inheritance topic. We will be: showing how different species make different songs (and teaching the children to learn some of the common bird songs in their gardens), showing how different species of birds sing in different styles (e.g. each male robin learns more than 200 different songs), and how that is an adaptive way to show off their abilities and we will be looking at how songs in different areas around the village varies and why that might be.

Yours sincerely,

Robert Lachlan, Senior Lecturer, Department of Psychology

* Some write-ups of our research:

<https://www.theguardian.com/environment/2021/sep/06/fast-or-slow-study-reveals-differences-humpback-whales-change-tune>

<https://www.nationalgeographic.com/animals/article/swamp-sparrow-bird-sings-same-song-animals>

<https://www.nytimes.com/2015/01/13/science/sparrows-dont-just-sing-same-old-song.html>

The Year 6 Team

I/We give permission for my child/children _____
to have a bird song recorder overnight and will return it to school the following day.

Parent/Carer Signature _____