

# Great Science Sharing – a home school story!

**Martin Hollins, retired science teacher, has supported children to share their science as part of their home school in Surrey!**



I am a retired teacher living in the Surrey Hills, alongside several families who opt to home school their children. I regularly teach science to several age groups and have taken part in the Great Science Share for a number of years. When the 2020 lockdown hit, it seemed like an ideal opportunity to take part in the Great Science Share again to let the children take the initiative in choosing what to study and what to share.

## The context and setting

The families all live in an 'estate' of about five acres, the remnants of a farm estate, in old, restored or new buildings on the site, which is heritage listed – there are not many farms left in Surrey! We are adjacent to Bookham Common, which is a diverse habitat managed by the National Trust.

The estate grounds include several individual gardens, a playing field, an allotment, an orchard, and a courtyard – the old farmyard, surrounded by barns and homes. The local 'terroir' is the spring line, where the chalk and limestone of the North Downs gives way to the clay of the Thames basin. I say 'terroir', as we have one of England's largest vineyards just down the road.

The children come from five families and each group has members from several families:

- 4-6 year-olds: three girls and a boy
- 7-10 year-olds: four girls and three boys
- 10+ year-olds: three boys aged 10-13, and an adult woman with special educational needs

Springtime had arrived by early April and we were in a nature-rich environment, therefore I simply asked the children to choose to study some aspect of natural life on the farm site. Due to the social distancing measures in place, I would meet them outdoors once a week to see how their work was progressing and they were also encouraged to involve their parents in the activities. Several of the children chose to make something and I advised them that that was fine, but they needed to accompany this with scientific observations. I suggested that these might be prompted by a hypothesis and result in explanations and conclusions, towards a presentation that they would share with all the home schoolers.

## Children's science share activities

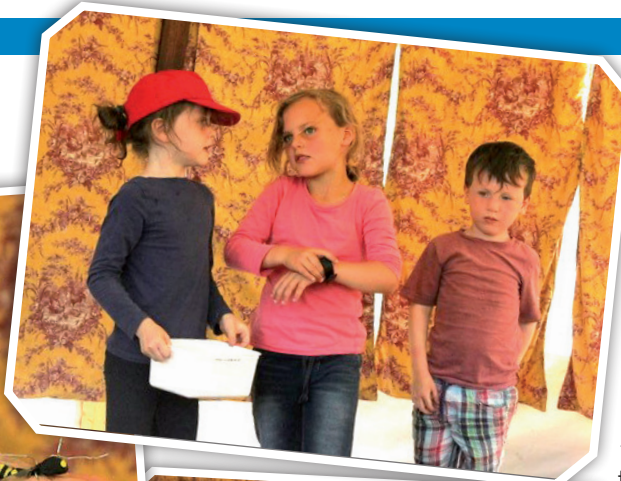
We had been doing some environmental study, which led to the boys wanting to build something such as an insect house or a bird feeder. Most of the girls wanted to make models of living things. Our first discussions focused on how their constructions would lead to them finding out more about local nature. We talked about this being used to inform observations, so it was more than the 'make' itself. With the insect houses and bird feeders, the children considered how the construction could attract insects and birds and they thought about the different

Bug hotels were of great interest to explore living things



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**A marquee-based outdoor Science Share**



they were to share what they had found using their made or found objects and referring to their written work, as appropriate. Each small group or individual was asked up to a small stage to talk about what they had done and what they had discovered. In each case, they referred to what they had made and/or what they had written. As expected, the presentation skills varied considerably, but all except one managed to deliver at least part of an account of what they had done and were applauded by the audience. Afterwards, the display of what they had made and written was available for the audience to view and discuss with the children. The event lasted a little under an hour and was enjoyed by all.

**Legacy**

I encouraged an expectation that some of the investigative work could continue and this was taken up by some groups. They had been surprised at the extent of the birds' activity in our farm site and several families had found nests with chicks hatching that they were keen to continue observing.

The boy who cared for the injured bird found that it soon flew away, but he then found another one and continued to care for it. Furthermore, the investigation of how insects use the children's houses, and the habits that birds have around feeding, have provoked continuing interest, which has been great to see.

The Great Science Share for Schools (GSSfS) fitted very well into my teaching scheme. I welcomed the opportunity for the children to choose what they wanted to work on. It was valuable for them to present to all their parents, even though parents would know quite a lot about what their own children were doing in science, in this home schooling arrangement.



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locations in which they could be placed to have most effect. One of the older boys, who has some learning disabilities, made a fine feeding tray and mapped the site for bird feeders around the farm.

What was notable was the interdisciplinary nature of their work, which encompassed art, craft, technology and communication skills, alongside the science.

● One of the junior girls found and caught an exotic crane fly, which she modelled out of clay and wire and researched its behaviour from a book and the Internet. Three other children observed and carved animals out of soap: a dove, a blackbird and a hedgehog, also researching their animals on the Internet. As all three species are often seen around the farm, they supplemented what they read with their own observations.

● One girl went on to test a hypothesis about what doves choose to eat. From experience of reseeding a lawn, she thought that they liked grass seeds, and tested this idea by giving them a choice of grass seeds or other types of seeds – the grass seeds were the favourite, she found! She observed that they make poor nests, which is why they nest in the corners of the barns and a ready-made dovecote. She also found several abandoned eggs and drew conclusions that it seemed that doves aren't good at hatching either!

● The adult member of the group printed out sheets of bird pictures so that she could identify those she had seen and heard, and then research what they ate.

● One of the older boys found a young bird that was injured by falling from

its nest, and cared for it, making the unexpected discovery that the mother bird still tried to bring it food.

● The youngest children were encouraged to help their older siblings, but actually preferred their own activities. Several of them observed the behaviour of insects, particularly woodlice, which are ubiquitous and easy to collect. They made some good observations of their behaviour, such as how they curl up when threatened.

● Another infant child was surprised to find grass seeds growing better in cotton wool than in mud – this prompted some discussion about variables, such as availability of water, with her family.

**The Share**

Children offered presentations in a marquee that was set up in the farmyard/courtyard to permit social distancing. An audience of about 20 young children included the presenters and their younger siblings, and about 20 adults and older siblings.

I had explained to the children that