Jane Thomson (School Projects Manager)

As usual, I promise myself ‘never again!’ as I finally collapse on the sofa having hosted yet another traditional ‘at home’ style birthday party for six small boys! Musical bumps, pass the parcel, treasure hunts, they were into everything. Having annihilated the piñata, the inquisitive little tribe finally settled down with a box of old toys, pulling them apart, seeing how they worked and pushing buttons just to find out what would happen (a spell on the naughty step if they’re not careful!). The indoor firework finale led to lively debate about what would happen if we ...ate them? ...breathed in the fumes? ...ground them all up and set fire to the dust? These 8-year-olds were riddled with curiosity.

In consultation with a focus group of parents (held captive at the school gates), it would seem that most 8-year-olds are bursting with questions about how their world works. Tricky questions, however, are not always answered or welcomed due to a number of factors (such as frequency, complexity and wonton disregard of how busy or tired the nearest grown-up might be). Explanations can be sought wherever puzzling phenomena arise, be it at the supermarket checkout, in the middle of a film or as one is trying to pull out at a busy junction. During such events, some of my focus group admitted to suggesting they should “Google it later” or “Ask dad when he gets home”, but usually the moment passes and often the question is forgotten. During especially curious episodes, some parents confessed to simply ‘tuning out’. We all had our own coping mechanisms – this is real life after all – but acknowledging my own substandard efforts to address the daily torrent of ‘whys?’ and ‘what ifs?’ brought back memories of the frustration I felt as a child at being fobbed off with unsatisfactory answers.

In my previous incarnation as a secondary science teacher, the curious child syndrome would have been a source of delight. I have spent years trying to encourage, coax and flatter teenagers into asking questions about science. My feeling is that if someone is interested enough to ask a question, it would follow that they would have to be at least half-interested in the answers (and surely the pursuit of answers is what, one might argue, science is). Working with teenagers, I expect to ease them gently into asking questions by using an arsenal of confidence building and philosophical techniques. I hadn’t realized that, back in primary school, my students would have probably been as curious as the 8-year-olds at the party.

The science behind the fun is explained by sixth form ‘Gopher Trainers’ so the freshly trained ‘Gophers’ can share the experiments to their classmates back in school
So what goes wrong between primary and secondary school? Is it hormones and an increased self awareness that makes teens clam up? Fear of looking silly and a ‘too cool for school’ attitude can undoubtedly play a part for some, but I can’t help wonder whether all the unanswered questions in the early years may have taken its toll. With all the evasive answers, can we really blame youngsters if there comes a time when they simply give up asking?

With this in mind, the Biochemical Society Education Team decided that it was about time we came up with a way of rewarding curiosity in primary children and to encourage them to keep asking questions. For this, we teamed up with the Society of Biology and created a special event called Gopher Science Lab. We envisioned an exciting event that would feature fun hands-on science activities and all the questions the children can muster.

Armed with two supermarket trolley-loads of supplies, we piloted our first ever Gopher Science Lab in February with teams of children (nominated by their teachers on the basis that they had shown a keen interest in science or the world around them) from five primary schools. The event was hosted by Aylesbury Grammar School, where sixth-formers demonstrated to 41 very excited 8-year-olds (and their teachers) how to suck eggs into bottles, skewer balloons and use chromatography to work out who had stolen their prizes! David Lidington MP and the Bucks Herald joined the fun as chemistry teacher Matt Neill delighted the audience by making balloons go WOOF and jelly babies scream!

### Cascading the curiosity

Our pilot showcased a selection of hands-on practical activities based on tried-and-tested protocols from a variety of sources and using inexpensive easy-to-obtain materials. While the pilot event itself targeted only a very select number of the most inquisitive youngsters, we wanted to encourage participants to spread their enthusiasm for science by providing them with packs of resources that would enable primary schools to replicate the demonstrations that the children had seen. We hope that the primary school students themselves will be given the chance to explain the experiments to their classmates on their return to school to earn themselves a ‘Gopher Guru’ certificate. News of such endeavours will also help us to gauge the impact of the project.

As well as encouraging youngsters to keep asking questions, Gopher Science Lab has the potential to provide a number of other key benefits such as:

- supporting secondary schools in establishing further links with feeder primary schools;
- providing opportunities for secondary students to develop their presenting skills (and enhance UCAS applications);
- providing opportunities for scientists and science outreach personnel to share their expertise and create links with schools in their area;

Following the success of our Aylesbury pilot, we are now planning to roll out the scheme more widely. Laboratory protocols will be made freely available online and guidelines will be produced to allow others (e.g. STEM Ambassadors, the Society of Biology’s Local Branch members and our own Outreach Grant holders) to co-ordinate events for inquisitive tribes across the land.

During National Science and Engineering week in March, the Education Team was kindly invited to join the Society of Biology stand at the Cambridge Science Festival to try out some of the Gopher activities with the public. We were hugely encouraged by parents and children of all ages during the enormously popular family weekend. Feedback was great and we rose to a variety of challenges which included explaining convection currents to a 4-year-old and preventing our floating teabag demonstration from ruining a protein-inspired tapestry. At the end of the day, yet again I found myself slumping down on the sofa exhausted from having been asked masses of tricky questions, but, deep down, as it is with the parties, I know I’ll be back for more (but next year, maybe we’ll bring some sixth-formers to help).

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### Get involved

If you would like to co-ordinate a Gopher Science Lab event in your area, please visit www.gophersciencelab.org to find out more. You can also apply for a Scientific Outreach Grant to help support a Gopher event in your local area (www.biochemistry.org/ScientificOutreachGrants).

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1 Royal Society, Science and mathematics education, 5–14, a ‘State of the Nation’ report, July 2010 (www.royalsociety.org/education/policy/state-of-nation/5-14/)