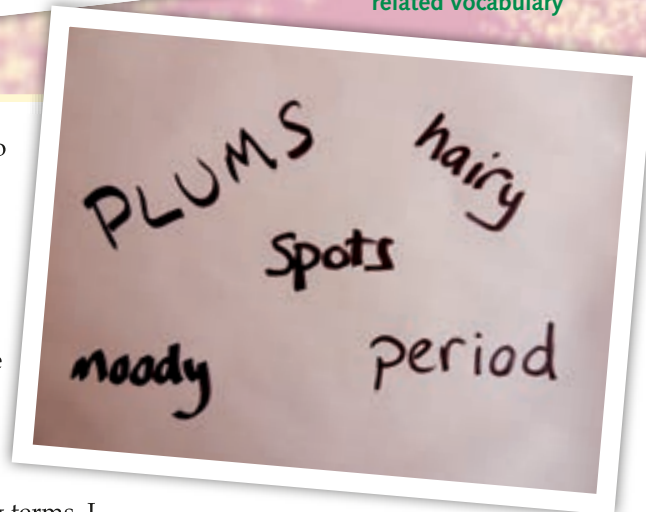




**Figure 2** Still from the YouTube channel of Yorkshire hill farmer Samantha Purcell (see *Websites*), whose excellent videos supported teaching of the mammalian life cycle

**Figure 3** Checking knowledge of puberty-related vocabulary



The children in the class have known me since foundation stage, when I first started working with the school. We have done workshops, shows, science weeks and clubs together. They treat me slightly differently to a teacher because I don't teach them, or so they think!

In my first few weeks in the classroom I learned a lot about classroom craft. I had to change my style from presenting to teaching to fit the setting and the constraints of the National Curriculum. They are very different skills, which I had not appreciated until I tried. The children also had to get used to me being in charge. I discovered that I was building too much excitement for the classroom, making the children very noisy. I always had a teaching assistant for support and in the early weeks they stepped in when I couldn't settle the class – their help was very welcome. The school staff were incredibly supportive in helping me adapt my methods and, thanks to Mrs Arbuckle, Mrs Hutton and Mrs Hale, I now have an armoury of reining-in techniques for which I am truly grateful. I am also far better at spotting when I am pushing the excitement too far.

In our very first lesson, the children already knew that this was 'puberty term'. They also knew the school nurses were coming in to do a session. Each week, increasingly nervous children would ask 'Are the nurses coming in today?'

The coming of the nurses became a 'big thing', which I needed to address. I reorganised my planned lessons to

give myself extra time to cover puberty. I wanted the children to be ready to hear what the nurses had to say. That meant getting them confident and comfortable with the language to describe their own bodies.

As we covered life cycles, we used scientific terminology, while not ignoring slang terms. I needed the children to feel confident to ask and answer questions, even if they didn't know the correct terms yet.

When we got to mammals, I knew I needed an example that the children could relate to but that would not embarrass them. I discovered the YouTube channel of Yorkshire hill farmer Samantha Purcell (see *Websites*). Her excellent videos of the sheep on her farm were easy to translate into a guide to the mammalian life cycle. The birth-to-death journey of a sheep was one the children all knew. There was no embarrassment about sheep mating, but there was a lot of dramatic disgust at urine scent sniffing (Figure 2)! Fair enough.

The children laughed out loud when I feigned amazement at the size of a ram's testicles, but they all learned the word 'testicles' that afternoon and will never forget it. Some contributed tales of dog and cat breeding from home, while others listened with a mixture of fascination and squeamishness. I was pleased that they were relaxed enough with

me to express how they felt without just following the rest of the class.

I introduced them to the question box and invited them to post any questions they had about puberty. I told them questions should be completely anonymous and honest. I also supplied a stack of paper and pencils so they could put in a question whenever inspiration struck.

### The big day

The day of the grand puberty lesson arrived. As I announced the topic, I dramatically placed my hands on my face in the manner of Edvard Munch's painting *The Scream*. The children laughed and groaned in equal measure.

We started with a vocabulary check. I asked them for the words they used to describe body parts or anything that they associated with puberty. I wrote 'PLUMS' on the board in big letters and explained what it meant. I even managed to keep a straight face while the boys surreptitiously checked that their testicles were still where they had left them earlier. The children thought this was

Figure 4 Books used for support in lessons and at home



hilarious and started contributing words of their own (Figure 3). We had a mixture of biological terms and slang, but not one offensive word. Most of the class were relaxed and comfortable and I smiled reassuringly at those who were still a little nervous. They were definitely listening to the information, despite their blushes.

Next, I showed the children the CBBC *Operation Ouch puberty special* (see *Websites*). The children were instantly comfortable with the familiar joking manner of Dr Chris and Dr Xand and they watched intently. As could be predicted, the most shocked faces were at the section on periods. And it wasn't just the boys. The programme also covered growth spurts, hairiness, voice changes and mood swings. I had confidence in the scientific validity of the information and the children felt secure that it wasn't going to get too embarrassing.

At the end, I asked for questions based on the programme and we opened the question box. The most common question from the box was 'Why do we have to talk about it?', a distinct sign of embarrassment and

anxiety on the part of some of the children. I explained how knowledge is power and that by knowing what is going to happen to your body, you are able to cope much better with the changes. Knowing the right language gives you the confidence to speak to a grown-up who you trust if you have any worries or need help. The children were thoughtful about this idea and

showed through their interest and attention that they understood.

Some really thoughtful questions emerged too, such as 'Do periods hurt?', 'Do girls voices get deeper?' and 'Do boys breasts grow?' We covered them all. The box was resealed and left for the following week, when the children knew the nurses were coming. But now there was significantly less anxiety about the visit.

### The session with the school nurses

The school nurses were wonderful. We had a senior nurse and a trainee. They had a lovely easy manner and presented a factual session with some challenge games. Boys and girls were in the session together (a change from when I was at school) so that everyone had *all* the information. The children were really engaged and asked lots of pertinent questions to embed and extend their knowledge. They were marginally less horrified by periods and generally looked less nervous than the previous week. It was also obvious that some of them had spoken about puberty at home since our last session. The whole class was simply more confident and relaxed.

The nurses also asked the children questions about what they expected to happen and how to cope with changes. Lots of hands were raised and the most common answers were 'speak to an adult you can trust' and 'wash lots'. Maybe I overdid the hygiene aspect – that'll be the mother in me.

After the nurses left, we went back to the question box, where many of the questions had already been answered. I answered them again because these were clearly key concerns. The children also asked further questions and were confident to do so in front of their peers. Some children did approach me afterwards but I was delighted they had the confidence to do so.

### More support

In the lessons, I referred to two books I have used at home with my own children, and we emailed parents the titles in case they wanted a little extra support at home (Figure 4). Several parents told me how our lessons had been the prompt for their own conversations at home: they were relieved to have finally broached the subject.

### Conclusion

By not being the children's regular teacher, I think I had a distinct advantage when it came to talking about puberty. Children develop a respect relationship with their teacher that can lead to similar embarrassment as when speaking to a parent. These children know me as a scientist, they are used to questioning me and they know I will give an honest answer. They know you don't need to be embarrassed about puberty because it is just a biological process that we all go through to become adults. I hope I have equipped them well for the future.

### Websites

CBBC *Operation Ouch puberty special*:  
[www.bbc.co.uk/cbbc/watch/operation-ouch-puberty](http://www.bbc.co.uk/cbbc/watch/operation-ouch-puberty)

Samantha Purcell sheep-farming videos:  
[www.youtube.com/channel/UCI1DNUEAwhMmBeEjSnoHDKA](http://www.youtube.com/channel/UCI1DNUEAwhMmBeEjSnoHDKA)

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# SPRING

Figure 1  
Exploring life cycles

is in  
the air, but  
don't forget  
the other  
seasons!



**Steven Lewis-Neill** explains how he supports the teaching of life cycles and offers some ideas to explore all year round

**A**s an outreach education provider for all things biological, I am regularly asked for workshops that support the teaching of life cycles. There are obvious times of year when this is easy, but with a little thought there is much to see and teach all year round, even within the confines of your school grounds. Being flexible and relating your work to what is happening in the 'right now' makes it all the more relevant and engaging for children and this underpins my work: I see what I can find and fit investigations around that.

As the creator of the *Eco Explorer* app, I also try to incorporate technology when it can enhance a lesson. A trusty digital microscope is

a must; I use a Dino-Lite model for the class to see high-resolution images on the whiteboard.

### Springing into action

Insects are fascinating: their stages of metamorphosis through eggs, larvae, pupae and adults are well known in butterflies but less so in beetles, such as the ladybird (Figure 2). In the early part of the autumn term it is possible to find all stages of a ladybird's life cycle, often on the same tree (Figure 3)!

However, this is not always easy and can be supported by models such as those of the ant, bee, butterfly and ladybird, each at their four different developmental stages, available from Insect Lore ([www.insectlore.co.uk](http://www.insectlore.co.uk)). Challenge the children's thinking

further by mixing up all 16 and let the children discuss, separate and order; you will end up with some interesting results! The benefit of this is the discussion around the sorting, allowing some real insight into the thoughts and understanding of the children. It is not simply fun, but serves as a great means of assessment too.

Spring term brings frog spawn as early as February, as a mass of developing tadpoles – be sure to visit your pond (if you don't have one, get one, they're wonderful!). Toad spawn is easily recognisable in its long strings. Elsewhere in the garden, froghopper nymphs can be spotted hiding in their 'cuckoo spit', the frothy bubbles protecting them until adulthood. Birds are busy nesting

Key words: ■ Life cycles ■ Technology ■ Apps