Why is White White?

BY CAL PARK

Why is the grass green? How many stars are there? How does the fridge work? Where does the rain come from? Where does the light go when you turn it off?

Most children are full of questions like these, and whatever you do, please don't fob them off, says physics lecturer, Richard Pilkington: "Children are naturally interested in science; they're desperate to learn about the world around them and it's crucial to feed that enthusiasm."

That's all very well, but as you know, kids have an innate knack of asking complicated questions at the wrong time (in our house it's usually at five to nine when we're running along, late for school, or when I'm talking to an important client on the phone!) And let's face it, even when they pick a good time to ask, how often do you find that you don't actually know the answer?

'Not a problem' says Richard. 'The main thing is not to be afraid of questions. It's all about fanning the flame of your child's interest – and looking up answers together is a great way to do that. By showing them how to find things out, you can help your child to develop a lifelong curiosity for the world around them. If we keep on fobbing them off, they'll lose interest which would be a huge waste of natural talent and enthusiasm'

A physics lecturer at Salford University, Richard is keen to share his passion with the children and recently spent an afternoon at Brookburn School in Chorlton with his 7 year old daughter Catrin's class looking at sound and light, explaining about colours of the rainbow, and demonstrating sound waves by making telephones with plastic cups. The children loved it.

"Because of the constraints of the curriculum, it's hard for teachers to do this kind of thing, but it's really important for children to see science as play. Most primary teachers are not trained as scientists, and lack the confidence to teach science. Kids pick up on this, and start to perceive science as hard, whereas, actually it's just the world around us. Without realising it, children are learning all the time. Whether it's playing with building blocks and discovering which construction stays up, or kicking a football, or even falling over – it's all physics, but people think physics is scary - and that's the thing, we have to make it fun.'

According to a recent CBI report, the UK needs to double the numbers of science and engineering graduates leaving university by 2014 just to fill new positions, and this shortage of skills, combined with the predicted growth in jobs, could lead to many more British technology and engineering jobs being exported overseas. There is a national shortage of science teachers and Richard is keen to raise the profile of science in primary schools so that it is on a par with Maths and English, instead of the poor relation that it now is. He is currently working on setting up a mobile science team to travel round Manchester schools on a regular basis. The team aims to survey primary age children, find out what interests them, and then develop fun, hands on experiments to help them find answers to their questions about the weather, stars, football, how music is made, or whatever their interest is.

Top Tips:

- Choose toys carefully – Geo Mag magnetic toys are a good start from £2.99
- Answer questions! - If you're really stuck email us at **editor@mums-dads.co.uk** (mark it 'Ask Richard')
- Use the internet - **www.bbc.co.uk/schools** (for parents, children and teachers), www.planet-science.com (includes ideas for space parties), www.kids-science-experiments.com (fun experiments and science projects) and many others.
- Check resources on your doorstep – The Museum of Science and Industry (Liverpool Road in Castlefield, Manchester), Eureka! (Discovery Road, Halifax, West Yorkshire, HX1 2NE) Techniquest@NEWI (just off the A483/A541 (junction 5) at NEWI, Plas Coch, Wrexham. Brown tourism signs on all major local routes). Jodrell Bank Science Centre (Lower Withington, near Macclesfield, Cheshire). Catalyst (Mersey Rd, Widnes, Cheshire).

Do It Yourself... & see what will happen
BEND WATER WITH STATIC ELECTRICITY

- ***You will need***

- A dry plastic comb
- An indoor tap
- A head full of clean dry hair

- ***What to do***

1. Turn on the tap and slowly turn down the water until you have a VERY thin stream of water flowing.
2. Take the plastic comb and brush it through your hair about ten times.
3. Now slowly bring the comb close to the flowing water (without actually touching the water). The stream of water should bend towards the comb!

- ***What's happening***

When you brushed that comb through your hair, tiny parts of the atoms in your hair, called ELECTRONS, collected on the comb. These electrons have a NEGATIVE charge. Now that the comb has a negative charge it is attracted to things that have a POSITIVE charge.

When you bring the negatively charged comb near the tap, it is attracted to the POSITIVE force of the water. The attraction is strong enough to actually pull the water towards the comb as it is flowing! It's all thanks to the wonders of static electricity.