Chris Pearson

Pet rock: bringing geology into the classroom

This article describes a lesson with year 8 students on the theme of weathering. Students are introduced to an aspect of physical geography early in the academic year and then maintain an ongoing conversation about this throughout the year. An important feature of this work is its connection with the outdoor classroom.

The teaching process

After teaching students about the four types of weathering – chemical, freeze thaw, onion skin and biological – through many images and some careful explanation from myself, I ask students to close their books as I have a special 'pet', which as a treat I have brought in to meet them.

A sense of suspense and intrigue is thus created! I then produce from the store cupboard a cardboard box which I gingerly bring to the desk (acting as though it is very sensitive), and I ask for quiet so we don't scare my pet.

Inside the box is my pet: a rock! it is helpful to select a fairly interesting-looking rock such as one with lots of holes in, e.g. volcanic rock, or one with seams/layers. Rock from the local area that students can see in their own environment is a different angle to take. Ultimately the rock needs to capture students' interest.

I continue by asking students what pets they have at home; this builds a connection and encourages students to speak with confidence about something they know well. I tell them that my pet is different from the usual kind of pet.

I then tell them that as geographers we use skills to find things out, and we consider what investigative skills we have. Students are then asked how they might find out what is in the box without looking inside What clues do we have? I encourage them to consider size of box (could it be something large but curled up?), and also to use their senses, listening for sound and sniffing for any smells. To maintain some suspense we sit in silence as we all listen for any noise clues from the box – of course there is no noise – but it is interesting how someone always imagines they have heard something rustling or making a noise! Next, we all take in a big sniff at the same time for any smells! Again someone always imagines they can smell something horrible – I tend to play along, saying they could possibly be right.

Figure 1: An interesting volcanic rock formed from solidified bubbling lava. **Photo:** Chris Pearson.

I try to build students' sense of expectation and then a volunteer is asked for to come and lift out the pet – a sea of hands normally shoots up. However, I walk around, eliminating anyone who has dirty hands or any cuts as I don't want my pet being made dirty; students frantically try and clean grubby hands! I then select one lucky volunteer to come and gently put his/her hand into the box without looking and lift out my pet; the rock is underneath lots of crunched-up newspaper bedding.

Just before this happens we discuss what the pet might be from the clues we have. We know it is unusual – snakes, spiders, scorpions, lizards are normally mentioned – what will it feel like – slimy, spiky, slippery, hairy? Often the volunteer bottles out at this point, which is good as it prolongs the need to know, but there is always at least one student (as always!) who will take the chance and put their hand in the box, no matter what, and feel around for the mystery pet.

By now the tension is often unbearable for the students – a need to know has been created! Finally student puts a hand in the box, feels around and pulls out … a rock! Stunned disbelief all around is normal. I then explain that we are going to adopt this pet as our class pet, and that we are going to make it live outside all winter and then find out how it has survived over the next six months. We then have to decide on a name. I get students into groups to think of a name for our pet rock (they love this) as I walk around, letting them stroke, pat and talk to our pet rock.

We write suggested names on board (the dafter the better as it sticks in their minds more and creates a sense of ownership). The class vote for the most popular name as we also consider the nature of democracy and decision-making in our classroom. Everyone has one vote and we have to agree with the majority.

Pet rock as a geological artefact

I tend to react offended and hurt (I appreciate that this will not suit every teacher) that students are being so rude; my special pet is 50 million years old and nobody else in the world owns one like it. I then tell then something about the rock – where it is from, where else in the world this type of rock is found, how it was made, how

old it is and its physical qualities. We look at images of features created by the rock type and have a conversation about the significance of our pet rock to human activity. It is important to put the pet rock into some form of geological/ geographical context if the purpose of having the pet in the first place is not to be lost. I find that by this stage students are genuinely curious and have lots of questions of their own to ask.

Writing task: our pet rock

In a writing task students explain how we have acquired our pet rock, what it is called and a little bit about the history of the rock. They then complete the table in Figure 3.

I tell students that we will be hiding the rock outside so no one can find it and that we will be using map skills (directions, distances) to track it down in six months' time. Student mobile phones (with cameras) can be used to take a photo of our pet, so we can compare the difference in six months and we can see how it has survived. We will take its photograph again and see who is the closest in their predictions from table above.

And finally ...

I hide the rock. I normally half-bury it somewhere where it will not be found and also somewhere to make it look grubby when it is unearthed. Whilst we know nothing will probably happen to it in six months, this is valuable as students can begin to consider why this is so and start to get to grips with the significance of time in relation to rock degradation.

Figure 2: What is the story of pet rock?
Photo: Shaun Flannery.

To maintain the sense of drama I tend to tell students not to lie awake at night worrying about our pet having to live outside in the cold, as this is what rocks like to do! In the following weeks I find many students stop me around school asking how our pet is getting on, which suggests that students are talking/thinking about their geography lesson outside the classroom.

This activity could be developed and students could be asked to acquire their own 'pet'. They could research their pet's geology and also see how it has fared after six months. Different rocks could be compared in all sorts of ways: formation, location and use. | **TG**

Type of weathering	Is this type of weathering likely to happen to our pet rock while living outside our school?	My reason
Freeze thaw		
Biological		
Chemical		
Onion skin		

Figure 3: How weathering is likely to affect our pet rock

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