

Report Rockwatch August 2011

Elizabeth Devon

Once again, the Somerset Earth Science Centre was the venue for the August meeting of Rockwatch. Unlike last year, I did not have to compete with the ducks pecking on the window. We started the day by travelling back in time. Using the splendid BGS 'Climate through time' poster, four groups followed the Earthlearningidea 'What was it like to be there' for four different rock types. Each group then reported back to the rest of us. The stories were varied and accurate as they described what it was like to be there when one of the Moon's Hill volcanic bombs was flying through the air. I should point out to those of you don't know, the Earth Science Centre is situated in Moon's Hill Quarry, the site of a Silurian volcano.



Selection of Volcanics

We had a graphic description of life south of the Equator, what could be seen, what could be heard, what could be smelled, how would you feel and so on. Next, we heard about what it was like to be swimming in the sea next to a Jurassic coral. The third sample was some Triassic gypsum so our environment changed to deserts with flash floods and ephemeral, evaporating lakes. The last rock type was the oldest, Lewisian gneiss. It was

decided that an extremely strong suit would be needed to survive when this was being formed!

The Rockwatchers then showed where their rocks were formed on a sketch of the dynamic rock cycle, followed by a circus of activities based on the rock cycle. We tried Earthlearningidea's 'Rock cycle in wax' and all went well until we had to heat and squash our sedimentary layers to make metamorphic rocks. There was only one thing to do – put the layers of grated wax into a shoe and walk around with it for a bit – somewhat uncomfortable but good at giving the necessary heat and pressure to 'metamorphose' the sedimentary layers.



Trilobite pygidium

Because of the smoke detectors inside the Centre, we had to go outside to try the ELI 'Cracking apart'. Pieces of granite were heated in a portable Bunsen flame and then dunked into cold water. They sizzled and started to break up - - physical weathering (heating and cooling) explained.

Next was rock resistance (ELI 'Rock, rattle and roll'); we tried to predict which of four rocks would be most resistant to erosion. We had granite, slate, chalk and a crumbly sandstone. Most people predicted that the chalk was the least resistant but, after shaking the rocks in a shaker for a bit, they discovered that, in fact, it was the sandstone that eroded

most because of its very weak cement.

The group then turned sediments into sedimentary rock – 'Make your own rock' They soon discovered that the strongest 'rocks' (pellets) were made if quite a lot of 'cement' (plaster of Paris) was used. We had some very good examples and some rather squishy ones.

Last of all we decided to try a new Earthlearningidea 'Bubblemania' (due to be published on the ELI website in February next year). This is all about viscosity of lavas and we tried blowing through straws into golden-coloured water and then into syrup. The bubbles blown into the syrup were really good ; huge and gloopy with a very satisfying pop and splattering when they finally collapsed. Of course it was much more fun to blow into the high viscosity liquid and the syrup that splattered out of the glass was likened to the volcanic bombs we later found in the quarry.

In the afternoon Gill Odolphie took us to visit the Silurian volcanics in the quarry. This was amazing particularly as exquisite little brachiopods, tiny corals and one trilobite pygidium were found. Marine fossils you ask – in a volcano? The sea was not far away when these volcanoes were erupting some 425 million years ago.

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<http://www.earthlearningidea.com>

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