Dear Students,

Welcome to the March newsletter for the Soils in Scottish Schools project. We hope you are already hard at work designing your posters around the theme of “Why is soil important?” (or are soon planning to start). Remember that winners of each school’s in-house competition, and an accompanying teacher, will be invited to present their poster at the university (see below) with a chance to be declared the overall winner. In-house competitions should close by the end of April 2018 and we ask that teachers please let us know the name(s) of the winner(s) and the title of the winning poster, by mid-May.

Happy Easter!

Debbie and Christine

Grand Environment Event, Thursday 6th September 2018

We are going to round off the Soils in Scottish Schools project with a grand environment event at the University of Strathclyde. Lasting from roughly 10 am – 1 pm, the event will include short talks from some of the researchers involved in the study, plus a prestigious guest speaker. The winning posters from each school will be on display, and a team of judges will select the overall grand champion. There will be prizes for the pupils who prepared the overall winning poster and for their school.

We are delighted to announce that the guest speaker for our environment event will be well-known geologist and science communicator Professor Iain Stewart from the University of Plymouth. Professor Stewart has presented numerous TV programmes, including Earth: The Power of a Planet in 2007; How Earth Made Us in 2010; and Rise of the Continents in 2013. His passion and enthusiasm have helped raise public awareness of the importance of earth science and he was appointed Member of the Order of the British Empire (MBE) in 2013 for his services to geology and science communication.

Did you know that Professor Stewart is a Strathclyder? After attending Claremont High school in East Kilbride, he gained a BSc honours degree from the university before going on to do his PhD at the University of Bristol.

Professor Stewart’s work focuses on the close relationship between mankind and the environment. He has studied how geology affected the history and development of civilisation, and made TV documentaries highlighting the pioneering work of Scottish scientists such as James Hutton (the founder or modern geology). Given that we have been studying the links between Scottish soils and Scottish schools, who better to round off our project!

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**Spring is here!**

At this time of year we see plants beginning to grow as they absorb energy from the sun and take up nutrient from the soil. But which nutrients? Are all the elements in the periodic table needed for plant growth? The answer is no: some elements are essential for life but others are not.

The essential elements include hydrogen (H), carbon (C), nitrogen (N), oxygen (O), sodium (Na), magnesium (Mg), phosphorus (P), sulfur (S), chlorine (Cl), potassium (K) and calcium (Ca). These are needed by all life on Earth, from simple bacteria, through food crops such as barley and wheat, to human beings.

Non-essential chemical elements include arsenic (As), cadmium (Cd), mercury (Hg) and lead (Pb). These are harmful even in tiny amounts. There are some areas in the world where environmental pollution with these elements has caused serious human health problems. One famous incident happened in the town of Minamata in Japan, where many people and animals were affected by mercury poisoning. In 2013, the United Nations Environment Programme set up a treaty to reduce the use of mercury compounds worldwide. This was called The Minamata Convention in memory of what had happened in the town.

**Just for Pupils**

Last month we ran a survey for teachers to discover whether they would be interested in more resources for schools on the growing environmental problem of microplastics pollution. This month we have a survey for pupils! We would like to know how you have found taking part in our project and whether it has made you more aware of science relating to soils. Please can you click on the link and fill in the questionnaire at: [https://goo.gl/forms/LGARojMF24vL818r2](https://goo.gl/forms/LGARojMF24vL818r2) There are just three questions and it should take you no more than 5 minutes to complete.

**Crossword Answers**

How did you get on with last month’s crossword featuring the chemical elements?

Here are the answers:

**Across**

2. Bananas are a good source - potassium  
6. Smells like rotten eggs - sulfur  
7. Baking foil - aluminium  
8. Hope you’re not rusty - iron  
10. Inside a thermometer - mercury  
11. Shade of blue - cobalt

**Down**

1. It's a good fertiliser - phosphorus  
3. Quite toxic - arsenic  
4. Fireworks - magnesium  
5. Radioactive - uranium  
9. Penny, dime, quarter (what's missing?) - nickel