



## **Earthlearningidea – a global online geoscience teaching resource**

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The Earthlearningidea website ([www.earthlearningidea.com](http://www.earthlearningidea.com)) was launched in 2008 as part of the International Year of Planet Earth, to publish geoscience teaching ideas online as free-to-download pdfs. Since then a new idea has been published every two weeks, so that more than 280 ideas are now on the website in English. Translators around the world kindly offered to translate the ideas into their own languages and there are now more than 800 translations. So far, more than 3 million pdfs of the ideas have been downloaded at more than 40,000 per month. The activities have been used in teacher training in several countries, as recorded in the Earthlearningidea blog at <http://earthlearningidea.blogspot.co.uk/>

An analysis was published in 2016 of the different approaches used in the ideas published to that date. The analysis (n=250) showed that some ideas covered several of categories, and that overall coverage was: basic skills, 4%; observation, 16%; illustration 39%; investigation, 10%; diagrammatic models, 5%; physical models, 44%; thought experiments, 13% and unattributed, 12%.

Earthlearningidea exemplars of each of these types of activity are given below:

**Basic skills exemplar:** ‘The do-it-yourself dip and strike model (with DIY clinometer)’ activity uses a model sloping surface to teach students about the differences between strike directions, dip direction and apparent dip.

**Observation exemplar:** The suite of Earthlearningidea building stone activities asks students to compare photographs of a range of cut building stones with examples in their locality to help them to identify and be able to explain the original formation of the different types of stone.

**Illustration exemplar:** The ‘How many Beany Beetles? evolution game: investigating evolution by adaptation and natural selection’ is a game aimed at primary-aged (elementary) pupils.

**Investigation exemplar:** In the ‘Will my gravestone last?’ Earthlearningidea, pupils investigate a range of scientific questions, which can be addressed by examining the ages, distributions, facing directions and rock types of the gravestones.

**Physical model exemplar:** In the ‘Magnetic Earth: modelling the magnetic field of the Earth’ activity a large clay ball containing a bar magnet is used with either a Magnaprobe, a magnetised needle on a thread, or plotting compass to ‘map’ the magnetic field of the magnet and the model Earth in three dimensions.

**Diagrammatic model exemplar:** ‘The meeting of the dinosaurs - 100 million years ago: the evidence given by dinosaur footprints’ uses a map of dinosaur footprints drawn to provide a stimulus for pupil thought and discussion and is an activity devised to highlight the importance of hypotheses and evidence to scientific enquiry.

**Thought experiment exemplar:** In the ‘Sand on a sill: What will happen to a sand grain left on a window sill? – a rock cycle discussion’, a sand grain, painted in a bright colour and left on the classroom windowsill, is used as the prompt for a debate about ‘What might happen next?’ The prompt is used to promote pupil discussion about rock cycle processes and possible links to other Earth cycles.