



## IUGS Commission on Geoscience Education, Training & Technology Transfer (COGE)

### The 'Earthlearningidea' initiative (<http://www.earthlearningidea.com>)

The Earthlearningidea website was launched in 2008, following a failed bid for funding to the International Year of Planet Earth (IYPE) for a larger initiative. The Earthlearningidea initiative has no funding and is supported by voluntary endeavour. During IYPE a new activity was published every week. Since then publication has continued at two-week intervals; the website currently carries 280 activities in English with a further 30 activities in the pipeline.



The Earthlearningidea website.

During IYPE a colleague based in Argentina voluntarily offered to translate the ideas into Spanish. This wonderful offer was accepted and triggered the offer of many more translations. Currently the website carries translations in 12 other languages (Spanish, Catalan, Chinese (Mandarin), Norwegian, Italian, German, Portuguese, Polish, Slovak, Japanese, South Korean and Tamil).



A recently-published ELI: Comparing the melting of a partial melting model and a real rock.

The original activities were aimed at the teaching of Earth science in developing countries, and so used minimal equipment and relatively simple ideas. However, when download analysis showed that most usage was from more developed countries, the scope was broadened to include the apparatus and materials likely to be available in a normal school science laboratory and higher-level ideas.



A recently-published ELL: Jelly/biscuit modelling of how earthquake waves amplify and devastate

The initiative has proved to be very successful as measured by the number of downloads of the activities (nearly 3.5 million by January 2018), the numbers of downloads per month (averaging nearly 43,000 per month during 2017), the numbers of translations (922 by January 2018), the numbers of countries and towns/cities where the Earthlearningidea blog has been accessed (202 countries and more than 10,500 towns/cities by January 2018) and the reports from many countries of the activities being used in teacher-training workshops.

An example Earthlearningidea is given below:

### An earthquake in your classroom A classroom earthquake intensity scale

Ask one of your pupils to sit at your desk or table in front of the class, to help you to act out the effects of an earthquake as you describe what happens at each level of the intensity scale. Begin with intensity I – then build up to intensity XII.

Earthquake intensity	Description	What you would feel and see, what to do
I	Not felt	Nothing
II	Scarcely felt	If you are on an upper floor, vibrate the table slightly to make pens or pencils move
III	Weak	Move the table a little more, so that things on the desk clearly vibrate
IV	Largely observed	Move the table more, note the rattling noises. Lots of other things in the classroom are rattling too; hanging objects are swinging backwards and forwards
V	Strong	Shake the table even more, the pupil should get under the table to feel safer; top-heavy objects on the desk topple over; hanging objects are swinging even more, while doors and windows swing open and shut

<b>VI</b>	Slightly damaging	Rock the table – your pupil should certainly be under the table by now, and holding onto the legs so that, if the table vibrates across the room, they can follow; objects fall off walls, cupboards shake, wall plaster cracks, flakes fall from the ceiling
<b>VII</b>	Damaging	Greater movement of the table, your pupil should hang on tight; things fall off shelves, walls crack, bigger flakes from the ceiling, lots of dust
<b>VIII</b>	Heavily damaging	Great table movement, desks and chairs overturn; large cracks in walls and big chunks fall off the ceiling onto the desk and other furniture; even more noise and dust
<b>IX</b>	Destructive	The ceiling collapses onto the desk, but your pupil is safe beneath; much vibration, crashing noises and dust
<b>X</b>	Very destructive	The classroom walls begin to collapse outward or inward, but it is still safe under your sturdy table; it is dark, very dusty and noisy
<b>XI</b>	Devastating	The rest of the building collapses, but people protected by strong furniture and in protected corners of buildings survive
<b>XII</b>	Completely devastating	All buildings in the area collapse, but alarms have gone out far and wide; the rescue services are coming, but this will take time as all the roads have been destroyed; stay under the table and be patient – help is on its way

Developed from: the Wikipedia article on the European Macroseismic Scale at:

[https://en.wikipedia.org/wiki/European\\_macroseismic\\_scale](https://en.wikipedia.org/wiki/European_macroseismic_scale)

and the British Geological Survey synopsis at:

[http://earthquakes.bgs.ac.uk/education/education/ems\\_synopsis.htm](http://earthquakes.bgs.ac.uk/education/education/ems_synopsis.htm)

This scale is based on the widely-used European Macroseismic Scale (similar to the Modified Mercalli intensity scale). Both intensity scales are based on the impact of an earthquake at different places. They are completely different from earthquake magnitude scales (like the Richter Scale) which are based on seismograph records measuring the power of an earthquake at the epicentre.