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The macroseismic explain to the children

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Macroseismic intensity is often confused by the media and the public with magnitude. Macroseismic intensity represents the severity of shaking at ground level caused by an earthquake, while magnitude expresses the earthquake's energy. The degrees of macroseismic intensity are estimated from the effects produced by the shaking on indicators such as people, objects, furniture and buildings, while taking the vulnerability of these indicators into account.
The intensity scale is too often confused with a simple damage scale, notably on the internet, but also in schoolbooks, which act as references to both children and teachers.
As an illustration of the difference between intensity and damage scales, shaking of intensity VII will not create much damage in Japan, a country well equipped in earthquake-resistant buildings, while the same intensity VII in Ecuador will generate significant damage on numerous vulnerable buildings.

Teaching the concept of macroseismic intensity to children is rather simple if we use good educational tools. The BCSF (French Central Seismological Bureau) regularly receives children from primary and high schools. We have acquired much educational experience on this subject and use varied and complementary tools: 360 ° images of damage, classification of illustrations in order to distinguish the various intensities, analysis of testimonies, models of houses affected by seismic shaking, simple oscillators with seismic solicitation, a vibrating table etc.

The easiest way to make children understand and to focus their attention is to ask them to « play the scientist ». We illustrate in this poster the set of techniques used in our latest workshop "Macroseismic" held in May 2016 for the sick children of the Hospital Debré during the action "Researchers make children dream". The workshop gave the children the opportunity to bring back their experience to their family and become vectors of scientific information.

For BCSF this workshop represented the opportunity for human exchange by creating a link with young members of the public and triggering an interest in jobs in Earth sciences, seismology and seismic risk. It was also a great opportunity to communicate on what is at stake in the field of seismic risk. Tomorrow, these children may travel all around the world with their knowledge of seismic risk and maybe a desire to transmit it.

To open the doors of institutes, to share the researcher's job with the youngest, is also to pass on the notion of seismic risk and to contribute to its reduction.