



Educational tools in the Museum of Rocks and Minerals

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The Museum of Rocks and Minerals is a small museum which belongs to the Department of Geology of the Federal University of Pernambuco, Brazil. It was founded in the 1950's and its main exhibits are samples of scarns and pegmatites from the Northeast of Brazil, especially from the Borborema Pegmatitic Region. This museum has been visited by a wide variety of people, but mainly students from private and state schools on scheduled visits.

Over the years museum staff felt the necessity to develop some mediating tools to develop a relationship between exhibits and visitors. Due to a lack of technical staff and finance to create interactive exhibits as well as space limitations, the museum decided to produce some games such as memory games, puzzles and dominoes. These fifteen games deal with different subjects of geosciences, especially those more interesting for children. The subjects chosen were: minerals, industrial minerals, gems, dimension stones, rock cycle, fossils, dinosaur footprints (Ichnofossils), wood fossils, Mohs scale. The games were created by the authors, and undergraduate students were responsible for researching concepts and images. Each game presents a concept and images related to it. The interns are undergraduate students of geology and mining engineering and this experience gives them an opportunity to review and improve some concepts and discuss what is important such as pedagogical actions in museums and geology teaching.

To give an example, the subject of the industry mineral was treated using two games – a memory game and a puzzle. The first one shows images of minerals related each one to an industrial product and in the second, children can see different parts of a house labeled with the minerals used in the production of that space. Another interesting example is the puzzle about dinosaur footprints that uses an image of a dinosaur footprint, part of the paleontological collection of the Department, and a representative ichnofossil from the Rio do Peixe Basin in the state of Paraíba, Brazil, the most important record of dinosaur prints in Brazil.

The games are part of a playful activity used at the end of the visit called "NiFe", in reference to the Earth's core. The idea is for this to be a moment of concentration and an opportunity to share the museum experience, an activity which is coordinated by the interns of the museum. The "NiFe" is an educational activity for children, which aims to transform the visual and sensory experience into a complete experience, something that changes us through our experience.

The objective is to make the visit a dynamic and educative experience in contrast to the inanimate characteristic of the kingdom of minerals and rocks. The intention is that these games will be adopted by the education secretaries of state and municipal governments in order to contribute to the teaching of geoscience mainly at primary and secondary of education and undergraduate level.