



Teaching science problem based learning (PBL) implementation of rocks and minerals

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Problem Based Learning (PBL) is a teaching methodology based on the Inquiry Teaching approach, which consists of finding a solution to a problem that requires the use of higher-level cognitive skills. It's best carried out in small groups.

(I) First the teacher asks some questions related to the implementation of rocks and minerals in the school's area and in our life. (II) Then the teacher leads students to an area of the city (Avenida dos Aliados - Porto) and asks them to look at the buildings and the objects there are. They should take pictures and notes. (III) Finally, in the classroom, the teacher gives an object (phone, CD, lamp, lipstick, dish/cup, etc.) to each group and asks them to do a research to find out what materials they contain or are made of.

The teacher helps students to think about where and how they can find information about the subject. Students should proceed with their research by presenting the results to their colleagues, discussing in groups, doing brainstorming and collaborating in the learning process. After the discussion the students must present their conclusions. The main aims are: to report some applications of rocks in society; to recognize the rocks used in some buildings of the region where the school is located; to respect and preserve the traditional architecture of the rocks in each region; and to raise awareness among young people about environmental issues of preservation and sustainability of our planet.

The teacher finishes the lesson, asking some other questions: Will it be possible to use the natural resources of other planets? Can human beings use them to their advantage?

This educational approach motivates students towards science, helping them to solve problems from their daily life and in collaborative work. The cognitive strand continues to be the most valued for pupils.