

Geosciences flipped classrooms based upon a digital learning ecosystem

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Several topics of geosciences can be taught by flipped classroom. These teaching method often require numeric tools.

GOLAB ECOSYSTEM

The Go-Lab Ecosystem targets science teachers from primary and secondary schools and aims to help them enrich their teaching practices with innovative teaching approaches and supportive technical tools.

The platform enables teachers to create Inquiry Learning Spaces ILS which are virtual spaces structured and containing online labs, learning apps, and any other multimedia learning materials selected by the teacher.



This space can include text, pictures, table, videos, and links. The students study individually or in group. They find all the knowledges that they need to do the exercises and they can work at home as long as they want.

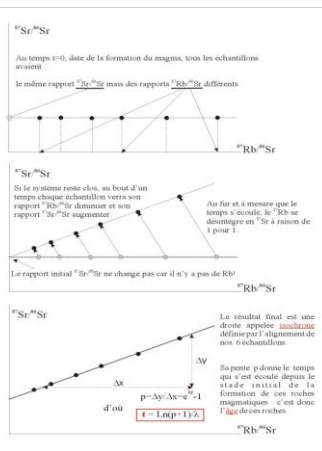
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Project [Next-Lab](#) Next Generation Stakeholders and Next Level Ecosystem for Collaborative Science Education with Online Labs; co-funded by the European Commission, Horizon2020, (Grant agreement No 731685)



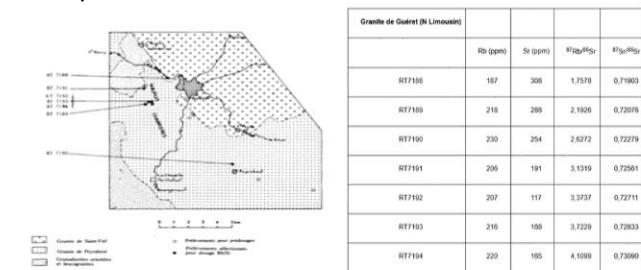
STUDENT SPACE

For instance, an ILS about **Rubidium–strontium dating** <http://graasp.eu/s/pbx5rw> You only need a nickname to connect to the platform. Students reach to different spaces where they can find information and exercises about the topic.



In orientation space, it's an introduction about radioactive dating. In conceptualisation space, the student learn more about rubidium-strontium dating. In investigation, they resolve two exercises with a spreadsheet and they import their work with an app File drop. In conclusion, there is a last exercise to ensure that the student has understood the concept suited.

Example: Granite in Gueret France

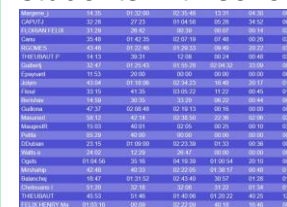


TEACHER SPACE



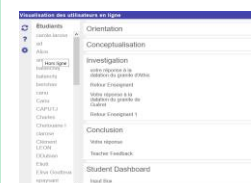
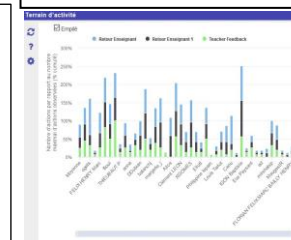
To create an ILS the teacher uses a scenario and these spaces are generated. Then, he fills these space with learning material

Using the learning analytics applications, teachers can follow the progress of the students with several apps.



This app displays a table with the time spent by all the students in each phase of an Inquiry Learning Space

This app shows a summary of the number of actions performed by the students in the different apps found in the ILS



This app shows in which phase of the ILS each student is currently active

Teachers can help the students on line with an app call teacher feedback as well.