**Scenario “Geoadventure - Part 1”**

**Title: Geoadventure - Part 1**

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**Context**

Looking at the landscape always evokes emotions and feelings. Some people, from an artistic point of view, see it as full of shapes and colours. Others, on the other hand, are reminded of stories, adventures or events in their lives. But we rarely analyse the elements of the landscape (mountains, valleys, rivers, beaches, etc.) and their geological formation and evolution, or the influence that humans have on their transformation and alteration.

**Scenario**

Students will imagine that a Nature Centre has opened in Portugalete this year and in order to raise awareness of the River Nervión, a competition has been launched.

The competition is aimed at young people and it consists of a virtual journey and the analysis of the River's course.

The works can be digital or handmade (posters, models, etc.).

The project will be developed through the activities listed below.

**Task**

To do the work in digital format, analysing the course of the River Nervión. By means of the proposed activities, students have to carry out the following tasks:

* Profile of the River Nervión.
* Explanation of the development of the current landscape in the selected photos (geological agents, human activity, etc.).
* Analysis of the causes of the 1983's floods, the risks that existed in the Nervión basin at that time, as well as the solutions and preventions that have been carried out and potential solutions to this type of events.

Each group will decide the roles of its members: secretary, moderator, researcher, and work organiser.

The secretary will write the workbook or portfolio, which will show the work planning, the tasks carried out by each student, the agreed decisions and whether or not each member fulfils the agreements. This notebook will be handed in at the end of the project.

The moderator will monitor everyone's participation, ensuring that everyone's opinions are taken into account.

The investigator will lead the analysis of the information, helping his/her peers to search for the most interesting web pages where the necessary information may be gathered.

The work organiser will be the main responsible for the distribution of the work, making sure that all group members have an equal workload.

To do the work, students will create a collaborative document on Drive, so that all of them may write. They will also prepare for their presentations on Google Slides.

Assessment

The following components will be taken into consideration:

* The river profile
* The images of the river and their explanations
* The results of the research on the 1983’s floods
* The quality of the presentation and exposition.

For an excellent result, students will have to achieve the following:

| **River profile. 0,4 points** | **Images of the river and explanations**  **0,8 points** | **Consequences of**  **1983’s floods. 0,8 points** | **Quality of presentation and exposition**  **1 point** |
| --- | --- | --- | --- |
| Students gather all the information and make a good graph of the river profile, using the right format. | The images are illustrative and well-explained. As a result, all the elements that cause the alteration and the current situation of the landscape may be identified. | The students do their research well and they also analyse different information sources. In their conclusion, they perfectly explain what happened in the floods, as well as the causes, the solutions and the preventive measures that have been put in place since then. | Students elaborate a quality presentation in an appropriate format and they accompany the information, which is well synthesised, with illustrative images.  They deliver a good presentation by involving all group members, using scientific language well and explaining clearly all the information gathered as well as the conclusions of their work. |

**1st teaching period**

***1st Activity:***

Time: 60’

Type of activity: Making a list and gathering information

Class organisation: In groups

Actions/Tasks: Students have to make a list of the cities, towns or villages along the river’s course, look up their altitude and then make a profile of the river on graph paper or in digital format.

***2nd Activity:***

Time: 60’

Type of activity: Gathering information and writing

Class organisation: In groups

Actions/Tasks: Students have to look up the source of the river, its middle section and its mouth with Google Maps or a similar application. They also have to get an illustrative photo of each place, indicate the river's course on a map and place the photos in the appropriate spot. Finally, next to each photo, they will have to write an explanation of the geological formation or the influence (human or environmental) that has shaped its current state.

***3rd Activity:***

Time: 60’

Type of activity:

Class organisation: In groups

Actions/Tasks: Students will search on the internet for information about the floods that took place in Bilbao and the Nervión basin in 1983, and they will also look for their causes. Then, they will analyse the risks that existed for this type of phenomenon in the Nervión basin at that time. To finish, they will also analyse the solutions that have been put in place since the floods took place as well as the prevention measures that exist or that could be implemented.