

ENVRI COMMUNITY
The Community of
Environmental
Research Infrastructures



ENVRI+ Scientific Game Game Rules

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The project is currently coordinated by University of Helsinki. The coordination will switch to ICOS ERIC once this funding

ENVRIplus Game -- Game rules

1. The game

1.1 ENVRIplus game

The project proposes practical and didactic works, which combine theoretical activities with ICT (INFORMATION COMMUNICATION TECHNOLOGIES) in order to introduce students to the scientific ENVRIplus. Here the scientific contents are ecological sciences and specifically biodiversity, which is the main topic. Ecology is a trans-disciplinary subject and allows understanding the role of biodiversity in our ecosystems.

ENVRIplus game includes a series of actions in which students participate to a game where players act as researchers studying the subject, designing a study to test specific questions, competing in a final online contest.

1.2 The game approach

The proposed innovative game will use a range of “game based features” to support learning. The point of ENVRIPLUS GAME is to teach a methodology; the project uses experimental research planning as the process through which scientific method can be taught and learnt. Research means producing a scientific idea and testing it through experimental activities. The Research plan is essential for learning the methodology. The important thing is the ‘methodology’ and the research work process, not the final results or the individual skills required in it.

The ENVRIplus game will focus on the scientific methodology (i.e., the learning goal), specifically it will be oriented on scientific/ecological contents.

The game is about developing research on ecological contents (i.e., biodiversity). The game itself consists of different steps (see on platform) embedded in a web 2.0 platform (<http://www.envri.eu>) and a competition among the different teams. The game covers scientific topics related to ecology and adapted to the landscape characteristics of each partner’s country.

2. Gameplay settings

The game consists of two phases:

- Carry out a research project (phase 1)
- The online competition (phase 2).

2.1 Players

- Players are students from 10 years old
 - Players play in teams
 - Each team chooses its name and members
- ✓ A team is composed by 4-8 students and a mentor (a teacher who creates and organizes the team and is the interface between the school and the project team); each school may have more than one team during the “Carry out a research project” phase; but only one team per school can participate to the final online competition unless the school covers more than one school level. It is up to each school to decide which team shall take part to the final online competition. Each mentor has to indicate which one of his/her teams (if more than one) will continue to phase 2; if not the Scientific Committee will grant access to the team with the highest score. However, it is allowed that teams from the same school which have taken part to the first phase may merge, if they wish, into one (or two) big team (including students coming from the same school level).
- ✓ Students could be organized in a sort of chart (reflecting roles, among which: who studies the topic in detail, who carries out practical activities, who posts assignments, etc. [see appendix A])

Appendix A – Template for team roles

Name of team _____

Role in Team	Name of Student
Head scientist (leads the team) [1 student]	
Researcher (carries out the research work) [1 or more students]	
Research assistant (helps to the research work)) [1 or more students]	
Informatic (works on the PC) [1 or more students]	
Technician (carries out the experimental work)) [1 or more students]	
Etc	

2.2 Languages

- ✓ All resources and the games themselves are available in English, German, Italian, Portuguese, Turkish.
 - The online competition will be played in all languages.
- ✓ The communication and feedback among schools of different countries has to be in English and take place on the forum and team's wiki area on the game platform.
 - All products of the first phase have to be published in English.

3. The platform

- ✓ The platform consists of a dedicated area for registered users, where students and teachers can find information on how to use of the platform, the game and the scientific content.
 - The platform is multi-lingual.

Registration

- ✓ Each reference teacher has to register to the platform as mentor indicating his/her school and creating his/her team. If the mentor wishes to register more than one team he/she has to repeat the step 2 of the registration procedure. The mentor's registration has to be validated by the 'Scientific Committee'
- ✓ To participate to the game each student is required to register to receive a personal username and password
- ✓ Each mentor has to match his/her students with a team



How to Play the Game -- Phase 1

- ✓ Once logged in, some options will be shown according to the users' role (students, mentor etc.)
- ✓ All students, and their mentors, who had registered on the platform will have access to the phase 1
- ✓ Each team organizes a 'research project', carries out all activities required by the game's and can interact with all other teams on the platform
- ✓ All activities will be concluded by **4 April 2017**
- ✓ During the phase 1, students (indicating the name of the team they belong to) can exchange information with other teams on the 'forum'
- ✓ At the end of the first phase, each team has to publish the products (i.e., papers, videos etc.) of their 'research project' on the dedicated area, the 'team wiki area'

3.1 How getting score during the phase 1

- ✓ At the end of this phase, each team can earn a 'badge' that is displayed on their profile and reflects their progress through the game
- ✓ All teams can earn score during the first phase through the products they produce. They have to submit the products (published on the team wiki area) of the research activities for evaluation (a template is available on the platform). These are presented as:
 - a. a video record of their activities together with the conclusions they reached – this includes some field research conclusions. The focus here is on presenting and promoting their idea and research with a maximum length of 3 minutes. The video will be published on you-tube and linked to the platform or
 - b. an one-two pages summary including their findings or
 - c. a poster on the results of the research project and the conclusions reached during their work

Students have to submit the products of the research activities for evaluation

- ✓ The products of each team are evaluated by a scientific committee. All teams can give their qualitative appreciation of the work developed by the other teams, posting a 'Like' in the appropriate area of the project platform; the scientific Committee consists of the President of EEF (who coordinates the Committee), the Scientific Advisors and other members eventually appointed by Co-ordinator
- ✓ The scientific committee rewards a score to the products developed by each team, ranging from 0 to 30. Up to 20 points are given to the coherence of the research activity and how the materials produced fulfill the steps of the scientific method; up to 10 points are assigned to aspects of the creativity of the work produced, as well as the amount and quality of interactions of each team within the platform;
- ✓ The evaluation rules of the products will be based on a specific matrix and focus on the process followed, rather than on the accuracy of results
- ✓ Each team can give their own evaluation of the work produced by other teams in the appropriate area of the project platform, giving a minimum of three preferences (a like) to the products of the other teams



- ✓ At the end of the phase 1 a badge will be displayed on the platform for all teams who had participated. Types of badges: bronze from 0 to 10 points; silver from 11 to 20 points; gold from 21 to 30 points.
- ✓ These teams access to the phase 2 (the online competition) with a starting score of maximum 30 points

3.2. The online competition – Phase 2

- ✓ The online competition has been designed to be quite demanding and each team has to collaboratively answer to get to the final score. The competition fulfills aspects of the proposal and serves to consolidate the basics of the scientific method referring to biodiversity.
- ✓ During the phase 2, each team has to cover a set of minigames which different objectives to be reached
- ✓ During the second phase of the game (the online competition), all teams can earn a maximum of 70 points
- ✓ The competition will be on **28 April 2017 and start at 10:00 a.m. C.E.T.** and remain open for a certain amount of time.
- ✓ Each team can earn a bonus at the end of each minigame (the minigame is a single path of exercises included in the game) depending on the time spent to accomplish each objective
- ✓ Once a team starts the final competition it has to play it until its end. No breaks are allowed.
 - Only the teams concluding the game will be included in the final rank
- ✓ At the end of the game the team with the highest score will be declared the winner
- ✓ The teams classified in the first, second and third positions receive a cup and a diploma
- ✓ The teacher (mentor) and one student, representing the winning team (first position), will be invited to the conclusive awarding ceremony. The cost of the travel and the subsistence will be covered by the project.
- ✓ The scientific committee reserve the right to attribute special prizes taking into account the results produced by the teams
 - A certificate of participation will be given to all participants
- ✓ The products of the winners will be published on the projects web site (<http://www.envri.eu>)