

## Itinerary 13

# PHOTOGRAPHIC COLLECTION OF INVERTEBRATE ANIMALS

## 1<sup>st</sup> year of Secondary Education



**TOPIC:** "MY COLLECTION OF INVERTEBRATE ANIMALS"

## 2. PROJECT:

At the end of this Project each student from the 1<sup>st</sup> year of Secondary Education will present a collection of original and unique photographs of invertebrate animals that inhabit the area. These photographs must be taken by themselves or their family, and they must be digital so as to be displayed in photographic software or a PowerPoint presentation. An exposition-contest will be held at our school with the best photographs.

## 3. Didactic Justification:

This project arose from the need to develop a research project for the students in the 1<sup>st</sup> year of Secondary Education in the subject of Biology and Geology (LOMCE), as well as to develop skills in the areas of Science and Technology.

The project caters to the diversity of students and create new areas of interest.

The project will not only develop skills but will be adjusted to meet the needs of students, the learning pace of each, the knowledge and application of technology, with the aim that the students obtain a maximum set of competencies, skills, and abilities, i.e. it strives for the integral development of the students.

### 3.1. THE PROJECT AND THE KEY COMPETENCES

The key skills developed through this project will be:

- a) **Linguistic communication** (through the oral presentation of their own projects)
- b) **Competence in Science and Technology.** (through the work on invertebrate animals and their classification)
- c) **Digital Competence.** (through the use of digital camera and computer software)
- d) **Learning to Learn.** (through information searches on the Internet)
- e) **Social and Civic Competence.** (respect for their classmates' presentations, respect for nature and the students' families involvement in the project)
- f) **Entrepreneur and initiative Competence.** (locate the habitat of invertebrate animals and presentation design)
- g) **Cultural awareness and expression.** (local names given to invertebrate animals)

### 3.2. RELATIONSHIP BETWEEN THE PROJECT AND THE DIFFERENT SUBJECTS..

This activity is connected to the topic “Biodiversity in Planet Earth” (Bloque 3. “La biodiversidad en el planeta tierra”) from the didactic programme for the 1<sup>st</sup> year of Secondary Education (LOMCE).

The Project is also related to the following subjects:

- BIOLOGY AND GEOLOGY (Science and Environment)
- COMPUTER TECHNOLOGY (digital photography and PowerPoint presentation)
- SPANISH LANGUAGE (text organisation, elaboration of reports, oral expositions)
- SOCIAL SCIENCES (Ecosystems)

## 4. TIMEFRAME.

The following chart details the activities carried out during the project, and the defined times for each of the planned activities.

| Activities   | Time    |
|--|---------|
| Teacher's explanation about the topic 'Invertebrate Animals':                                      |         |
| Definition   | 1 week. |
| Classification   |         |
| Anatomical and physiological characteristics   |         |
| Teacher's explanation about the project.   | 1 day.  |
| Online research on the classification of invertebrate animals.                                     | 1 day.  |
| Searching for different invertebrate animals in the region. Taking the best photographs possible.  | 1 month |
| Organisation of information.   | 1 day.  |
| Preparation of a report that can be presented in class.  | 1 week. |
| Group preparation of the different presentations about the classification of invertebrate animals. | 1 week. |
| Presentations and evaluation.  | 1 week. |
| Selection of the best photographs (by the school teachers)   | 1 day   |
| Exhibition at our School of the selected photographs   | 1 week  |

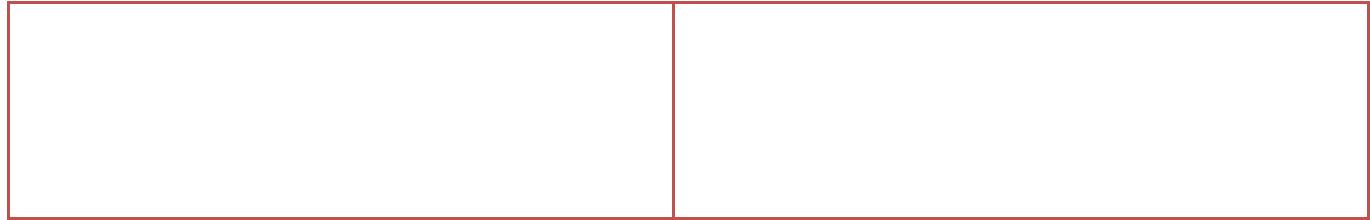
## 4.1. GROUPS.

The following chart shows the students' organisation according to the activities programmed:

| Activities  | Students' organisation        |
|---|-------------------------------|
| Research on the classification of invertebrate animals  | Individual.                   |
| Organisation of the information.  | Individual or in groups of 4. |
| Preparation of the oral presentation of the photographs and the classification of invertebrate animals. | Individual or in groups of 4. |
| Oral presentations.   | In groups.                    |
| Self-assessment and evaluation.   | Individual and in groups.     |

The following chart describes the different roles the students will have in the various activities of the project.

| Activity   | Student's role  |
|--|---|
| Information about invertebrate animals, their classification and characteristics.                      | He/She comes to class and takes notes   |
| Photographs  | He/She takes photographs and interviews people from the region in order to get information about the local names for those animals found.       |
| Internet   | He/She will search online for the photographed animals and will check the scientific name and the group they belong to.                         |
| Organisation of the information.   | He/She will organise the information and will present the most relevant facts. Then he/she will prepare PowerPoint presentation.                |
|  |   |
|  |   |
| Preparation of the oral presentations about the classification of vertebrate and invertebrate animals. | Individual or in groups of 4, they will organise their work and their roles.  |
| Oral presentations.  | Each student will relate their experience when dealing with the project and will talk about the most significant fact from their point of view. |
| Self-assessment and evaluation.  | Individual and in groups. Individual and group assessment about their own work and their participation in the Project.                          |



## 4.2. MATERIAL RESOURCES.

### Materials:

- Digital camera
- Digital, printed and/or drawn images.
- Computer with photographic software or Powerpoint
- External memory
- Pencils and colour pencils.

### Human:

- Students.
- The teacher of the subject.
- Parents or tutors.

### Economical:

- Photographs: €30.
- Exposition Prize: €50

Total: €80.

The economical resources will be provided partly by the families and partly by the School and school institutions.



## 5. PROJECT SUCCESS INDICATORS.

| MARK | SUCCESS INDICATOR   |
|------|---|
|      | 1. Support from families or legal tutors.                                     |
|      | 2. Support from the School and school (School Management Parents Association) |
|      | 3. Support from other professionals of the areas of Biology and Zoology.      |
|      | 4. Technological resources. (cameras, computers,...)                          |
|      | 5. Students' spontaneity during the learning process.                         |
|      | 6. Teacher's orientations during the process and development of the project.  |

## 6. EVALUATION STRATEGIES AND MECHANISMS OF DATA COLLECTION.

- The different work sessions will be assessed according to evaluation scales.
- The final report and presentation will be assessed according to the following chart:

| Evaluation Criteria   | Low knowledge  | Medium knowledge  | High Knowledge  | Total                                   |
|---|--|---|---|---|
| The student presents the information with coherence, highlighting the main concepts.                  | The student presents the information with no basis or coherence, including at least one main concept.<br><br>1 point | The student presents the information with coherence and including 1 or 2 main concepts.     | The student presents the information with coherence and including all the main concepts .           | 2 points<br><br>3 points                |
| The student presents the Project in an original way with the help of PowerPoint, videos and internet. | The student presents the Project in a simple way with the help of images.  | The student presents the Project in an original way with the help of PowerPoint and images. | The student presents the Project in an original way with the help of PowerPoint, images and videos. | 1 point<br><br>2 points<br><br>3 points |
| The student shows self-   | The student shows lack of  | The student shows self-   | The student shows self-   |   |

|  |   |  |  |  |
|--|---|--|--|--|
| confidence, spontaneity and coherence when explaining his/her ideas. | self-confidence, and the ideas are not coherent | confidence and presents 1 or 2 coherent ideas. | confidence, spontaneity and coherence when presenting the ideas. |  |
| Self-assessment.   | Self-assessment.                                | Self-assessment.                               | Self-assessment.   |  |