

# **TEACHING NOTES**

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Lesson 1 What makes an ecosystem?  
Session 1

TEACHING NOTES

This is an introductory lesson. My aim is for my students to learn what are the main components of an ecosystem.

In order to make the introduction more motivating for them and taking into account that they are quite active children, I will ask some of them to participate in a representation of a very basic and familiar ecosystem.

Teacher: All right let's get started.

Today we are going to learn about something called ecosystems. Maybe some of you have heard about them, but in case you haven't. I would like to help you find out what it is and I'm going to need your help for that.

Are you ready to help me out?

Explain the miming of each character (sun shining, river flowing, clouds holding hands together, rain falling, grass growing, cow, girl drinking milk)

You will be the sun.

Two can be the river, the clouds and the rain.

Two more are going to be the grass.

You would be the cow.

And this mug would represent the milk.

And one of you would be a girl who loves milk.

**Let's see what happens now.**

The sun shining makes the water from the river evaporate and become clouds

The clouds become heavy and start dropping rain on the grass, so the grass will grow and the cow will eat it and produce milk. Then the girl, who loves milk, will drink it every day and will grow up healthy.

After the performance I will write a simple table on the board with two boxes

One for living things, the other for non-living things. I'll provide them with an example

Together we'll answer **yes** or **no** to the questions. Is the sun a living thing?

Is the rain a non-living thing?

The use of two patterns of questions tries to avoid repetition and make the exercise less tiring.

Children will answer orally. One of them will write **yes** or **no** in the correct column.

And keep on with the questions.

	Living Things	Non-living things
Sun		
River		
Clouds		
Rain		
Grass		
Cow		
Milk		
Girl		

Once they have reported the results, pupils will work individually (**See Activity 1**)

Lesson 2: Different ecosystems. Sessions 1,2,3

### TEACHING NOTES

After the introduction of the essential components of an ecosystem, we are going to introduce now the three different types of major ecosystems. We'll use them as an example and as an instrument to discover the important relations of dependence among the living and non-living things within the same ecosystem.

The power point presenting the unit is aimed to give the pupils an overview of the three different ecosystems and their main features.

Pupils will have some simple but essential information about changes and adaptations made by the animals representing the different ecosystems.

During the projection of the power point pupils will take notes, individually, about the main features of each ecosystem; Just one or two words that help them to get information and complete the next activity.

After watching the power point they will make groups of four people and with the information they have got individually they will complete the Problem-Solving situation presented to them in groups of four. (**See Activity3**) on this unit). When they finished activity 1, one of the pupils, the speaker of the group will report the conclusions they have

reached.

They will individually read the short description of three animals representing the three big ecosystems introduced by the Power Point.

Afterwards they will complete the table and write some short sentences about the animals. **(See Activity 4 a and b** on this unit).

Whole group. Every pupil will have a picture of one animal living on one of the three big ecosystems (Arctic, Desert, Ocean). They will glue in a big piece of paper grouping them according to the place they live. Every student will write a short information about the animal. There will be some books and the computer accessible to the pupils so they can do some research and write down the information. They will look for a picture of the animal they have chosen and they will stick it on the box. **(Activity 5).**

### Lesson 3: Food Chains, Prey-predators. Sessions 1,2,3

## TEACHING NOTES

The first of the three sessions will be dedicated to introduce the concept of food chain

Food chains are an essential component of the ecosystems.

The video chosen (**Food chain**) has a lot of visual support.

Students will watch the video and do some simple activities in different grouping settings.

In groups of 5 they will try to build a food chain. **(See Activity 6).**

The second session will focus on the concepts producer/consumer as a previous stage before the introduction of the predator/prey concepts.

The words producer and consumer will be written on the board. Teacher will ask children for a definition of both concepts. After that in plenary we will decide on which category to classify the different elements. (See Teacher's materials.)

The second part of the activity will be done individually. Pupils will write some sentences using the substitution table and then they will write the results on the board. **(See Activity 7)**

The third session will focus on working about the concepts prey/ predator.

Before watching two short videos about Preys and Predators (see teaching materials).

pupils in groups of 5 will answer a simple questionnaire to test what they already know about the subject. **(See activity 8)**. The activity should last no more than 5 minutes. Once they are finished they will be reporting their opinions to the rest of the class through a speaker.

After watching the videos children will answer some questions about predators and prey and compare their answers with the information they collected before.

In plenary pupils will play the game Prey-Predator. See rules of the game on Teacher's Materials. **(Activity 9)**

After the game students will individually work in the next activity. **(See Activity 10)**

Lesson 4 Balance in ecosystems. Sessions 1,2,3

TEACHING NOTES

The unit has been designed to be taught in three sessions of one hour each.

First session: As an introduction to the lesson the teacher will show the pupils a short power point that contains the four elements of a small ecosystem. Each element is introduced separately and has a question before and the answer after the picture. The purpose is to initiate a dialogue to activate their previous knowledge.

Power point:

- 1<sup>st</sup> slide an oak tree
- 2<sup>nd</sup> slide an acorn
- 3<sup>rd</sup> slide a squirrel
- 4<sup>th</sup> slide a red-tailed hawk

2. The teacher will comment with the whole group the slides trying to elicit the names of all the pictures and linking them to the concepts producer, prey and predator.

3. In groups of 4 design a food chain with these elements: producers, consumers, predator and prey.

4. Ask them to report the results to the class.

5. Going back to the group work ask the pupils to make a hypothesis about what would happen if the food chain they've designed was broken.

6. Try to give an explanation of the consequences.

7. Report to the rest of the class, the report will be oral, the teacher will write the conclusions on the board. Pupils will choose the correct one.

8. Conclusion chosen by pupils will be written on the board.

Second session: The teacher will start this session reading to the pupils the story of the prairie, the grass, the rabbits, the horses and the sheep. Pictures of the story in Teacher's Materials.

"Once upon a time there was a nice prairie full of grass. There were some rabbits living on the prairie. Rabbits eat grass.

There was also a hawk living on the prairie. Hawks eat rabbits.

One day some horses arrived on the prairie. The horses started to eat grass.

Some time later a man arrived on the prairie with some sheep. The sheep started to eat the grass from the prairie.

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After some time there was not enough grass for the rabbits. The rabbits disappeared. The hawk had to fly away to look for food.”

After listening to the story pupils will work individually trying to match correctly the sentences **(See Activity11)**

Once they have finished the individual work, they will go to work in groups of 4. They'll have sentences about the story all mixed up, their task would be to put them in the logical sequence of the story and once they have finished, they'll report their work to the rest of the class. After listening to the different options the class will decide which one is the best. **(See Activity1 2)**

Third session: Teacher will start the session showing a video from Youtube (see Teacher's materials). In the video there are pictures of different kind of ecological disasters: nuclear, chemical, water, air pollution and overpopulation, human generated waste. The pupils will have the songs lyrics (see Teacher's materials) that are related with the images.

After watching the video in a whole class discussion, the teacher will make a list of the different kind of ecological damage they could spot in the images.

For the following activity we will need to use the computer classroom. Pupils in pairs will try to take notes about two ecological disasters: the sinking of the Prestige and the Chernobyl nuclear disaster **(See Activity 13)**. (see Teacher's materials to web page reference). After the group work, pupils will report in plenary.

Once the activity is finished, pupils will work in groups of 3 and with the substitution table provided **(See activity 14)**, they will come out with 5 things we all can do to help ecosystems survive. After finishing we will write them down on a display that we will display on walls.

The last activity of the Unit will be an individual filling the gap. **(See Activity 15)**