

Unidad AICLE: *El medio ambiente. Los problemas medioambientales, ¿cómo podemos ayudar?*

## LOS PROBLEMAS MEDIOAMBIENTALES, ¿CÓMO PODEMOS AYUDAR?

### Identificación de la unidad:

- Idioma: inglés
- Materia: Ciencias Sociales
- Guión temático: Transformaciones que sufre el medio ambiente de forma natural o por la actividad humana. Contaminación: la producción de residuos. Cómo podemos contribuir a cuidar el planeta.
- Material didáctico: Ficha de la unidad, audios y recursos visuales del G&H KC1 de Vicens Vives.
- Temporalización: 4 sesiones
- Competencias clave:
  - ◆ Competencia Matemática y competencias básicas en ciencia y tecnología: los alumnos y alumnas deberán controlar el tiempo de luz que gastan, que dejan el grifo abierto, los kilos de basura que producen, etc.
  - ◆ Aprender a aprender: a través de conexiones conceptuales y modelos de aprendizaje por experiencia propia.
  - ◆ Conciencia y expresiones culturales: los alumnos/as deberán realizar un cartel.
  - ◆ Competencia en comunicación lingüística: a través de exposiciones y debates con los compañeros tanto en L1 como en L2.
  - ◆ Competencias sociales y cívicas: con los trabajos en equipo tratarán con los compañeros; el fin de esta unidad es concienciar al alumnado como ciudadano y habitante de la Tierra de que es su deber cuidarla.
- Objetivos:
  - Explicar y dialogar sobre la relación existente entre todos los elementos del planeta y la fragilidad de dicha relación.
  - Explicar las consecuencias de una acción incontrolada del ser humano.
  - Diferenciar entre catástrofes naturales y provocadas por el hombre.
  - Investigar sobre el gasto de recursos energéticos y residuos producidos en casa.
  - Expresar artísticamente la necesidad de contribuir a cuidar el planeta.
- Tareas:
  - ◆ Listening sobre el sistema marino. ¿Qué come cada animal?
  - ◆ Discusión sobre las causas y consecuencias de la sobre-pesca.
  - ◆ Investigación sobre el gasto energético y generación de residuos familiares.
  - ◆ Elaboración de un cartel publicitario con el lema: *We must take care of our home, The Earth.*

*Unidad AICLE: El medio ambiente. Los problemas medioambientales, ¿cómo podemos ayudar?*

**The Earth is an ecosystem. Interrelationships.**

People, animals and plants living in a particular place interact with each other and with the world around them. These interactions constitute an **ecosystem**.

Climate, water, vegetation, wildlife and humans have close and complex relationships in the Earth. None of these elements is independent, if one changes, the others are affected.

The **Sun** is our planet's **main source of energy** and the origin of life. Without the Sun, the Earth's ecosystems could not exist. For example it allows plants to grow and produce oxygen and organic material. Another example is the **water cycle**, which depends on the Sun because it evaporates water, which later is condensed and falls as rain for all living things to use it.

The **biosphere** consists of all the living things on the planet: vegetation, animals or wildlife, and Human beings or people. The food chain is a complex relationships between all species.

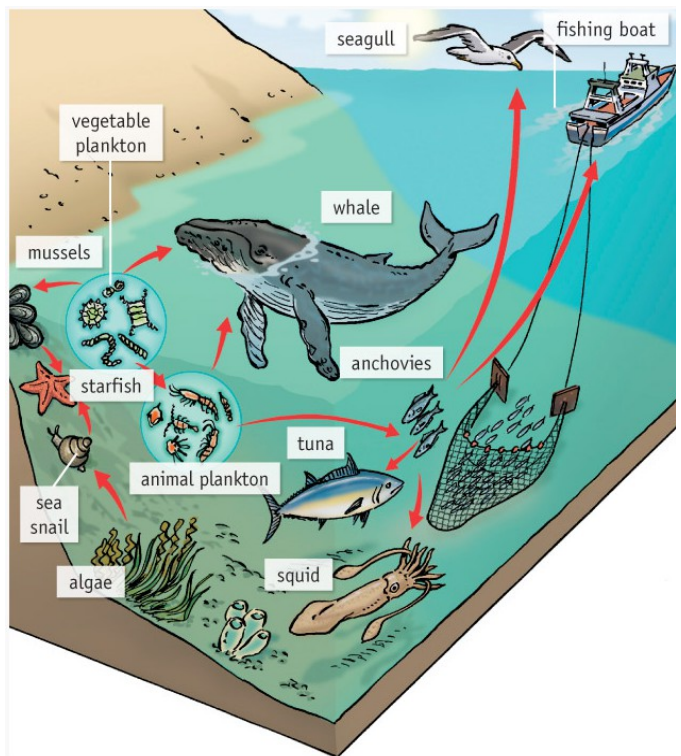
As we said before when something changes in an ecosystem, the others elements are affected too, and this can have very serious effects on the environmental balance. An example is overfishing, which puts fish resources in serious danger because marine species can't reproduce fast enough to replace all the fish that are caught.

**Activity 1.** Look at the picture and listen. Complete the sentences and then answer the question: what is the man describing?

a. This very big animal eats both \_\_\_\_\_ and \_\_\_\_\_ plankton:

b. Tuna, \_\_\_\_\_, seagull and \_\_\_\_\_ eat this fish:

c. This animal eats \_\_\_\_\_ and sea snails:



This picture shows the relationships between the different organisms in a marine ecosystem.

**Activity 2.** In groups of two or three discuss why overfishing exists and what can produce, take notes in a sheet of paper. Finally one member of each group will read the conclusions.

*Unidad AICLE: El medio ambiente. Los problemas medioambientales, ¿cómo podemos ayudar?*

### **Hazards and disasters**

A **hazard** is something that can be dangerous for living things, they can be natural or caused by human activity.

A third of the people on the planet live in places where there is a risk of **natural hazards**. When human life is affected, natural hazards become **natural disasters**. Natural hazards are caused by atmospheric phenomena or activity inside the Earth, there are four main types:

- **Earthquakes:** cause less damage in places where buildings are designed according to special regulations, for example using flexible structures and fire-resistant materials. The effects of earthquakes are more devastating in poor countries because they have less resources.
- **Volcanic eruptions:** the lava, smoke and ash that come out of the volcano can devastate large areas. Volcanic gases can also cause pollution.
- **Hurricanes:** these very strong winds can reach more than 120 km/h. They are accompanied by torrential rain and can cause a lot of destruction with many victims.
- **Floods:** occur when a lot of rain falls in a short period of time and rivers or soils can't absorb that amount of rainwater. The water not absorbed overflows and destroys everything in its path.

**Human activity** creates also hazards that endanger people's lives and contribute to environmental imbalances. Industrial activity and energy productions can cause huge problems: toxic spillages, which pollute water and soil, or gas emissions, which pollute the atmosphere. The most serious technological hazard is when radiation leaks from a nuclear plant. When a technological hazard causes significant human and environmental damages, it is known as a **technological disaster**.

**Activity 3.** In group of three or four make a list with hazards and disasters which put at risk the health of the Earth, separate them between natural or technological.

### **The urban ecosystem**

Cities are homes to living things and have a physical environment, that's why we can think cities are ecosystems. But cities consume much more than they produce, so they are unbalanced ecosystems.

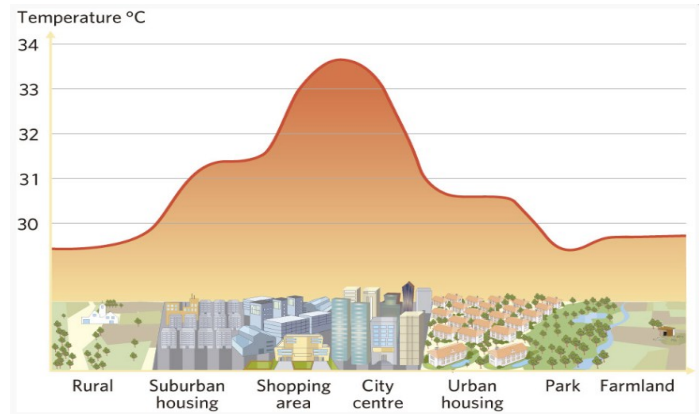
Cities need **many products**: energy, food, water, etc. For example, each inhabitant of an average European city consumes around 300 litres of water every day.

Cities produce a **lot of waste** that needs to be processed or recycled. For example in Spain each person produces about two kilograms of waste a day. Selective collection of rubbish and recycling of materials (glass, paper, plastic, etc.) is fundamental to avoid creating more and more landfill sites. Also we have to

Unidad AICLE: El medio ambiente. Los problemas medioambientales, ¿cómo podemos ayudar?

take care about **wastewater** because if it is not properly treated, it can pollute the subsoil and reach springs and rivers. This endangers wildlife and plants and can also affect people's health.

Pollution from vehicles, factories, heating and air conditioning creates an **urban microclimates** in cities. For example, it can alter the local climate, for example, as you can see in the picture, cities are warmer than the suburbs. Pollution also creates a dark dense cloud over the city.



**Activity 4.** How much do we waste daily? Do a research at home and find out how much rubbish you produce in a day, how much time you keep the tap running water and how much time you spend with the lights on. Take notes of everything.

**Activity 5.** After reading all our researchings lets talk about what can we do to decrease how much rubbish we produce or water and light we spend.

**Activity 6.** In groups of three create a poster showing how we can take care of our planet, it has to include the sentence: *We must take care of our home, the Earth.*