Chemistry, environment, & water

**Activity 1.** Simulation of a simple water treatment plant.

Surely you know what a renewable resource is but… are you able to define it?

Do you think is water a renewable resource?

Which kind of pollutants may be in the water? Classify it according to its solubility and state of matter.

Can you think a technique to separate a liquid that does not mix with water?

Build the filter.

**Figure 1.** Photograph of a homemade water filter.

1st step: Get the bottle and cut it in two halves.

2nd step: Get some cotton and fill the upper part of the bottle with a height of 2-3 cm.

3rd step: Turn around the bottle and place it over a beaker.

4th step: Get some stones and put them over the cotton. Then some sand and finally some smashed coal.

We have built a filter! Now it is the time to use it.

4th step: Carefully drop the water with sediments and impurities through the open part of the bottle.

5th step: Take your time watching how the water pass through the different layers.

1. Does water look cleaner to you?
2. Which kind of technique have we used? What kind of mixtures is this technique used for?
3. Was it a physical transformation or a chemical reaction?
4. This water cannot be drunk yet. Do you know the reason?
5. To avoid infectious agents in the running water, some Cl2 is added to the water. Do you think that this is a physical transformation or a chemical reaction?