



Water for Life, bottle for longer

Summary

This activity was originally is a card-based activity in which groups of young people can investigate the processes involved in the production of a plastic bottle of mineral water and what happens to the end product. We have converted it here to an online activity which anyone can access and is more sustainable as a result (although you may wish to print out the images and arrange the lifecycles in this way).

The 'life cycle' of a bottle of fizzy table water is investigated: beginning with the raw materials to the end of the products life. Sets of photographs that show the key stages of production, use and disposal are provided. The activity aims to raise pupils' awareness of the environmental impact of the widespread use of plastic bottles and asks them to question the rationale for bottling water, something that in the Western world at least is widely and safely available direct from the tap.

Initially pupils work in 5 groups, each with a set of photographs representing stages in the life cycle of a bottle of mineral water. The 5 stages are as follows:

- Producing the plastic bottle
- Producing the paper label
- Producing the water
- From bottle to glass - distribution of bottles of water
- Recycle or landfill

Materials Needed

To run the activity with a class of 30 you will need 5 sets of 8 photographs, each in a separate envelope with a set of 7 small bulldog clips* to link the photographs together.

You may wish to run this activity on computers using the template powerpoint file within the library. Alternatively you may wish to print the file to arrange the pictures as described below

Useful for initiating the activity - a plastic bottle of mineral water and an empty bottle that you can fill from the tap.



* Bulldog clips:

Procedure

Please note that this is just one suggestion for using the resource. You may wish to use different approaches with different classes.

Show the young people a plastic bottle of mineral water and ask them about the 'raw materials' involved in its production (paper label, plastic bottle, water). Have a short discussion about where these materials come from. Young people may need some help with the idea that plastic is made from one of the products of the fractional distillation of crude oil. They may also not realise the different types of water that are bottled.

Divide the pupils into 5 groups and give each group an envelope containing a set of cards and bulldog clips. Ask the pupils to study the photographs carefully so that they can explain what is happening in each one and then try to arrange them in the correct order, using the bulldog clips to link them together. Each image has been given a brief description.

If running the activity using powerpoint, each group should arrange the pictures for each stage on the 'blank slides' provided within the presentation file (usually 8 images per process, arranged across 2 slides, 4 per slide). Arrows should be added to arrange the processes in the correct order.

When each group has completed their sequence, the class can be brought together again and each group can talk about their sequence to the rest of the class. (It makes more sense to do this in an appropriate order, e.g. bottle production, getting the water into the bottle and labelling followed by selling and buying and finally recycling). The rest of the class may comment on each sequence and any 'mistakes' can be corrected at this stage (see teacher information sheet for the correct sequences)

Once the complete 'life cycle' has been assembled, pupils can be encouraged to think about the environmental impact of the processes involved. At each stage energy is used, pollutants are produced, and valuable, non-renewable, finite resources such as oil are used up. More information about these considerations is provided in the background information section.

To conclude the activity, pupils could summarise the completed life cycle of a bottle of mineral water as a flow chart, or produce a more imaginative piece of writing or a poster.

The rationale behind bottled water, cultural implications and its future can also be discussed.

Extension/homework activity

Pupils could produce a report, using ICT, or make a presentation, using the information they have gained from this activity. They could be challenged to think about ways in which the environmental impact of the processes they have been learning about could be reduced and whether there are any steps that they and their families could take to do this locally.

From learning to Action

Your school's Eco-committee may wish to use their learning from this activity to start a local campaign to drink tap water (as opposed to bottled water), or at least take steps to reduce the environmental impact of bottled water - eg. locally sourced & bottled (although this may have financial implications).



In 2010, Paris began a trial with France's first ever free, bring a bottle water fountain where users fill their own bottles with carbonated mineral water obtained free from the fountain - la Pétillante (<http://www.english.rfi.fr/visiting-france/20100921-fizzy-water-fountain-opens-paris>).

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