



## 02. The invisible water in food

How much water is embedded in food production? How much water is used to grow an apple? Or to get a burger? Farming and cattle use an important amount of water.

All the processes to obtain the food you buy every day in the supermarket consume a big amount of water at each step of the production chain. The water footprint of products comes from the estimation of all the water used to get the final product.



Produce 1 Kg of beef consumes 15,400 litres of water

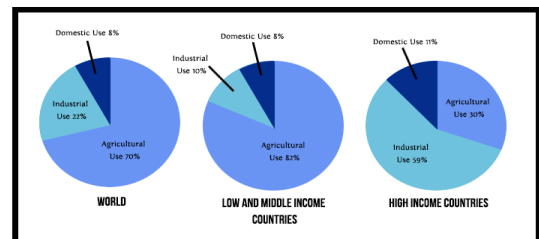
### AIMS

1. This activity tries to get students to think about the amount of water used to grow crops and cattle.
2. Students will also realize the “hidden” water involved in getting processed food.

### PROCEDURE

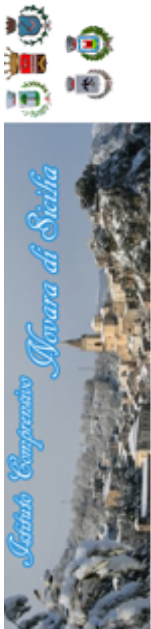
1. Using internet pages or articles, students find out the amount of water which is necessary to grow and to process food.
2. Students trace a case study: in which steps of the production chain of an apple and a burger water is used. They reflect their findings in a poster.
3. Each group decides what kind of diet has less water footprint

### GLOBAL USE OF WATER ACROSS INCOME GROUPS



### Resources

1. <http://www.treehugger.com/green-food/from-lettuce-to-beef-whats-the-water-footprint-of-your-food.html>
2. <http://www.treehugger.com/clean-technology/how-many-gallons-of-water-does-it-take-to-make.html>
3. <http://www.gracelinks.org/285/the-hidden-water-in-everyday-products>
4. <http://www.gracelinks.org/1361/the-water-footprint-of-food>
5. <http://www.gracelinks.org/825/water-footprints>
6. <http://www.watreducation.org/post/food-facts-how-much-water-does-it-take-produce>



INFORMATION: Typical values for the volume of water required to produce common foodstuff

Stuff	Quantity	Water Consumption (Liters)
Chocolate	1 Kg	17,196
Beef	1 Kg	15,415
Sheep meat	1 Kg	10,412
Pork	1 Kg	5,988
Butter	1 Kg	5,553
Chicken meat	1 Kg	4,325
Cheese	1 Kg	3,178
Olives	1 Kg	3,025
Rice	1 Kg	2,497
Cotton	250 Kg	2,495
Pasta (dry)		1,849

Stuff	Quantity	Water Consumption (Liters)
Bread	1 Kg	
Pizza	1 unit	1,608
Apple	1 Kg	1,239
Banana	1 Kg	822
Potatoes	1 Kg	790
Milk	1 x 250 ml cup	287
Cabbage	1 Kg	237
Tomato	1 kg	214
Egg	1 unit	196
Wine	1 x 250 ml cup	109
Beer	1 x 250 ml cup	74
Tea	1 x 250 ml cup	27a

Source: IME, in *The Gardian*, available on-line,  
<https://www.theguardian.com/news/datablog/2013/jan/10/how-much-water-food-production-waste>.

### Imagine All the water

(Source: the European Union)

Litres of water	Litres of water
Beef 15,415	Chocolate 1,720
Hamburguer 2,393	Beer 170
Pizza 1,216	Cheese 152
Jeans 9,982	Coffe 132
Shoes 8,547	Apple 82
T'Shirt 2,495	Loaf of bread 48
Rice 2,497	Paper 13

