UNIT 4: THE HYDROSPHERE

INTRODUCTION AND URBAN WATER CYCLE.

Dear language assistant,

This is our first class about Hydrosphere and you can explain that hydrosphere is all the water in the planet. You can review the meaning of some words: lake, sea, river, **stream**, iceberg, **spring**, ocean, **glacier,** cloud, **underground water, well** (the more difficult words are in bold letters)**.** You can show them in a presentation or you can say the words in English and ask the students to translate. They don't have to copy yet.

We can classify the previous words writing them on a chart (Textbook page 45).

State	Where can you find it?	Fresh or salty?
Liquid		
Solid (ice)		
Gas (water vapour)		

For instance, the first word in the list above is lake. Is water in a lake a liquid, a solid or gas? A lake is usually made of liquid water. And then, is that water salty? (You will have to explain the difference between salty and fresh water).

State	Where can you find it?	Fresh or salty?
Liquid	Lake	Fresh
	Sea	Salty
	River	Fresh
	Stream	Fresh
	Spring	Fresh
	Ocean	Salty
	Underground water	Fresh (usually)
Solid (ice)	Iceberg	Fresh (usually)
	Glacier	Fresh
Gas (water vapor)	Cloud	Fresh (pure water)

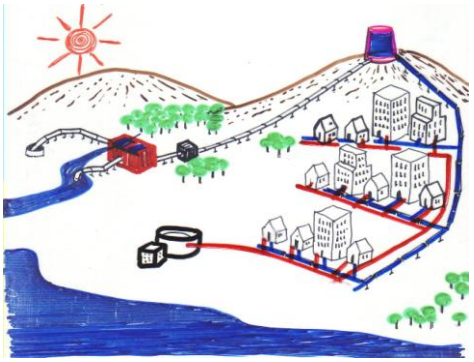
I think 5-10 minutes are enough to review **natural water cycl**e that they have already studied at primary school. If you like you can write the main stages on the board:

1. Evaporation.
2. Condensation and clouds formation.
3. Precipitation (rain, snow).
4. Run off (streams, rivers).
5. Infiltration and underground water.
6. Evaporation again and transpiration (water released by living beings).

They have studied this topic in previous years but they don't know there's another cycle: **the urban water cycle**, the movement of water in a town. You are explainig it

using a presentation and the students have to write down the main stages (in capital letters) as a list; at the end they will copy the whole picture.

1.WATER COLLECTION OR GETTING WATER (CAPTACIÓN). The water which we consume in towns comes from the Earth's surface found in rivers and lakes. We also can get it from underground water by making wells	
2.DRINKING WATER PLANT (POTABILIZADORA). The water we get from nature usually is not safe for drinking. In the purification plants (red building) the water is treated to assure the quality required for adequate purification. 3.TRANSPORT AND STORAGE (TRANSPORTE Y ALMACENAMIENTO). Next, the water is moved to water tanks (or reservoirs) where it is kept until it is going to be consumed. The stores usually are in high places (water towers in plains) and the water is pumped to them (black box) and it arrives at the deposit through pipes. Then it goes down as it is needed.	
4.DISTRIBUTION AND CONSUMPTION (DISTRIBUCIÓN Y CONSUMO). The water crosses the city through the pipes to arrive at all the houses, factories, hospitals, schools... (You can ask about uses we make of water: washing, cooking, watering, cleaning...)The control center and the remote stations can guarantee at any moment the quality and amount of water.	

5.SEWAGE SYSTEM (ALCANTARILLADO O SISTEMA DE AGUAS RESIDUALES). Once the water has been used, it becomes residual water and it goes to the sewage system of the city. The sewage system is a network of pipes that gather the dirty water and the rainwater to take it to the purifying stations. 6.PURIFICATION PLANT (DEPURADORA). The purification of residual waters consists basically of eliminating dirt that has accumulated through water use. Purification reduces environmental damages to a minimum and allows secondary uses of water.	

7.USING PURIFIED WATER. Purified water is not potable, cannot be drunk but it can be used for other things: agriculture, watering of parks and gardens, cleaning of streets...

8.RETURNING WATER TO NATURE. The purified water that is not used returns to nature through rivers or the sea. We try to impact the environment as little as possible.