

# BIG BANG 2.0

Knowledge of the Natural, Social and Cultural Environment.  
5<sup>th</sup> year of Primary Education.

## 8. WATER TEACHER'S GUIDE



EUSKO JAURLARITZA



GOBIERNO VASCO

HEZKUNTZA, UNIBERTSITATE  
ETA IKERKETA SAILA

DEPARTAMENTO DE EDUCACION  
UNIVERSIDADES E INVESTIGACION

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## 8. WATER

### CONTENTS

The structure of this sequence allows the student to understand the characteristics of water, the natural cycle of water in our planet, the influence humans have on it and the stages associated with our use of water.

Additionally, it presents some guidelines on the sustainable consumption of a resource, allowing the student to deduce the best practices to prevent the uncontrolled consumption of water, on the basis of the fact that water is not available to all the Earth inhabitants.

The approximate duration of the activities presented here is of about 2 hours.

### BASIC COMPETENCES

1. Linguistic communication competence ( I3, P)
2. Mathematical competence
3. Knowledge and interaction with the physical world (I1, I2, I3, E, P ,Q)
4. Information processing and digital competence (I1, I3, E1, E2, P)
5. Social and civic competence (I1, E3, P)
6. Cultural awareness and expression (P)
7. Learning to learn (I1, I2, I3, E, P)
8. Sense of initiative and entrepreneurship (I1, E3, P)

### OBJECTIVES (Obj.)

1. Knowing that water is essential in nature, and that its contamination and waste are harmful to everyone.
2. Identifying actions to protect and exploit it.
3. Having a favorable disposition toward group work, showing a cooperative and responsible attitude, accepting differences with respect and tolerance for the ideas and contributions of others in dialogues and debates.
4. Distinguishing the different procedures for measuring the mass and volume of a body.
5. Being able to explain the observable physical phenomena in terms of differences of density.
6. Understanding the concept of heat, and knowing how to perceive and observe its effects: Raise of temperatures and dilation, changes of state and reversibility, etc.
7. Valuing the effort and personal work , showing an active and responsible attitude in every task, making constructive self-criticism and trusting their capacities.



8. Collecting information from various sources to analyze situations and problems.
9. Have a favorable disposition toward group work, showing a cooperative and responsible attitude. Accepting the differences with respect and tolerance for the ideas and contributions of others in dialogues and debates.
10. Using various sources: Historical, geographical, artistic, etc. Producing reports and other works with historical content. Appreciate the clarity and order in communications.

## ASSESSMENT

1. They know the importance water has in our daily life.
2. They have learned the characteristics of water, its different states and uses.
3. They have learned about the different natural water cycles and the physical parameters that make it possible.
4. They can locate geographically different water masses, describing their main characteristics.
5. They know there are different water currents (groundwater and surface water).
6. They differentiate water masses: Seas, lakes, ponds, rivers and reservoirs.
7. They know how to distribute potable water to the citizens, and know the consequences of water shortage in the world. They identify its causes and the possible measures to mitigate its effects.
8. They know the influence of human activities on the natural cycle of water.
9. They have acquired saving habits in water consumption, and are able to provide good practices to minimize its consumption.
10. They propose good practices for the enhancement of water-saving and methods to raise awareness and the participation.
11. They give examples of the everyday use of natural resources, and explain the need to preserve this resource.
12. They identify cases of unsustainable use or consumption of water, and some of its consequences.
13. They are aware that human activity affects the environment, and are able to give examples of negative actions.
14. They look for the necessary information to develop their research, using the technological means from their environment.
15. They share with the group all the research process, explaining in a clear and organized way its results and consequences, using the most appropriate mean.
16. They try to obtain relevant information from different sources and set out hypotheses, systematizing them.



17. They collect and select data from various sources (direct, books, Internet...) on specific habitats and animals, with a specific objective.
18. They communicate their conclusions by the most appropriate method (oral, written and ICT) and in the most convenient way (either on paper or digitally).
19. They express orderly and clearly the process they have followed and the results and conclusions they have reached, in a given work plan.

Assessment rubrics. In the 'Participate' section, there is an assessment rubric for each proposed activity.

**Awareness poster. Descriptive report.**



## ACTIVITIES

### CHECK OUT

<b>I1. Interactive multimedia application</b>	Previous knowledge. Water: Questions and answers.
<b>Objective</b>	1, 3, 7
<b>Basic competences</b>	1, 3, 8
<b>Assessment criteria</b>	1, 7, 18, 19
<b>Methodology</b>	In pairs. Using their previous knowledge, they will have to answer to a series of questions related to water. Once these questions have been written in the white box, they should keep them to discuss the answers with their companions at the end of the sequence. Then, they will decide whether the answers they have written are correct or can be improved. The questions are designed to make students reach the conclusion that water is more important in our daily life than what it seems at first sight.
<b>Timing</b>	10' working in class
<b>Solution</b>	The answers the students can give may vary, but they should include at least the following information:  How can some species live without water in environments as dry as the desert? Because they develop a metabolism of water storage to cope with extreme situations.  Is there water in our body? Yes, the human body is composed of around 55% to 78% of water.  Has there always been water on Earth? Yes, it was necessary for the survival of the first living beings.

<b>I2 Interactive image</b>	Informative collage
<b>Objective</b>	1, 2, 3, 7, 8
<b>Basic competences</b>	1, 3, 7, 8



<b>Assessment criteria</b>	1, 2, 3, 6, 7, 13, 14, 15, 18
<b>Methodology</b>	<p>Working in teams of 4. Each team must investigate with one of the magnifying glasses at home, and summarize the results. After the investigation, they will be required to share the information they have consulted, and they will create a conceptual map. They should be encouraged to do so using a digital application (an application for creating presentations, or <i>Gliffy</i>) but it can also be handwritten.</p> <p>When they finish, the work will be displayed on the whiteboard, and all the teams will create a single diagram.</p> <p>If they consult additional information, they should indicate the sources at the end of the interactive sketch.</p>
<b>Timing</b>	15' working at home + 10' working in class.
<b>Solution</b>	- There are no exercises for this activity.

## EXPLORE

<b>E 1. Interactive multimedia application.</b>	<b>Searching the meanings.</b>
<b>Objective</b>	3, 4, 6, 7
<b>Basic skills</b>	1, 3, 7, 8
<b>Assessment criteria</b>	2, 5, 14, 17
<b>Methodology</b>	<p>Individual work. The student must define the various processes involved in the aggregation changes of water: Fusion, condensation, evaporation, solidification, sublimation and crystallization. The students can document through the different information sources available on the Internet.</p>
<b>Timing</b>	10' working in class.
<b>Solution</b>	<p>There is not a single definition to describe the concepts in the exercise. As a guideline, we have set out below a possible definition of each concept:</p> <ul style="list-style-type: none"> <li>• Fusion: The change from solid state to liquid state.</li> <li>• Condensation: Turn a vapor into the liquid or solid state.</li> </ul>



	<ul style="list-style-type: none"> <li>• Evaporation: Make a liquid vapor.</li> <li>• Solidification: Physical process that consists of the change of state from liquid to solid matter. This change is produced by a decrease in temperature. It is the reverse process of fusion or melting.</li> <li>• Sublimation or volatilization: The process of changing the solid state of matter to the gaseous state, without going through the liquid state.</li> <li>• Crystallization: The process of turning a liquid into a crystalline solid</li> </ul>
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E 2. Google Maps	Google Maps.
Objective	7, 8
Basic competences	1, 3, 4, 7, 8
Assessment criteria	5, 6, 7, 8, 14, 15, 16, 17, 18
Methodology	<p>Groups of three students. On Google Maps, they will have to investigate the journey of water until it reaches their home. After locating the important points, they must place them on the map using the markers, and then draw the route.</p> <p>Help texts are available, as well as several links to videos and websites where they can learn more about the water cycle. Once they have finished the exercise, they will present in groups their journey on the whiteboard. Finally, they will have to answer the questions they are asked by the other students or by the teacher.</p> <p>To complete the activity, it would be very interesting to visit some of the places that have been identified on the map (the reservoirs, the treatment plants, etc.).</p>
Timing	15' working at home, identifying each component of a point related to the activity (reservoir, sewage treatment plant, distribution network, points of discharge, etc.). 20' working in class, creating the map in groups. 20' sharing the information in front of the class and answering the questions.



<b>Solution</b>	<p>Some possible answers to the questions are:</p> <ul style="list-style-type: none"><li>• Is water stored in swamps, or is it directly taken from rivers and wells? Where are the wetlands of the Basque Country? There are 3 reservoirs in the province of Álava, and 3 in the province of Guipuzcoa.</li><li>• Does the water come out of the reservoirs, and goes directly to the houses? No, it's treatment is necessary, to guarantee its quality and potability. The treatment takes place at the water purification stations.</li><li>• Does it go through a water treatment center? Yes, it is necessary that the water is treated to remove the organic matter it sweeps on its way from the catchment basin, as well as the potential microbiological organisms and/or the biological contaminants. Where is that center located? In general, it is usually found in places near the towns and cities it supplies with water. In the Basque Country, there are up to 29 water purification stations, distributed in the three historical provinces.</li><li>• How is it distributed? The water is distributed through a supply network to the homes of citizens.</li><li>• Once it is used, is it directly poured into a river or the sea? It depends on the municipality in which we live. In general, the hot water that we generate in our homes or in industrial processes is discharged into the sewage network, to be later treated in the wastewater treatment plants (WWTP). Once the water is treated, it is discharged to the receiving environment. The receiving environment can be a river or ocean, depending on the municipality and the availability of the closest and most appropriate treatment.</li><li>• Where are the points of discharge? In general, discharge points are located close to the places</li></ul>
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	<p>where water is treated, or, on the contrary, on places that secure the prevention of contamination.</p> <ul style="list-style-type: none"> <li>Is it collected and purified before being poured into the environment? Yes. Where are those centers? In centralized locations that receive the water from the sewage network before being poured into the receiving environment.</li> </ul>
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<b>E 3. Interactive multimedia application</b>	<b>The journey of a drop of water.</b>
<b>Objective</b>	1, 5, 6
<b>Basic competences</b>	1, 3, 7, 8
<b>Assessment criteria</b>	1, 2, 8, 15
<b>Methodology</b>	<p>Individual work. Each student will see a simulation of how water changes its state due to weather changes. To do this, they will click on the buttons on the screen, and will themselves change these states (increasing and decreasing temperature, wind and precipitations).</p> <p>Once they have watched the simulation, they will be proposed to experiment these state changes at home with the help of their parents. They will do this by using temperature changes (freezing and evaporating). Once in the classroom, they will discuss the results in response to this question: Are the two processes alike? Why? How have you discovered it? Do you think that the experiment proves that in nature the rain, the hail or the snow are formed this way? (These questions can be asked before the activity or at the end).</p>
<b>Timing</b>	10' working in class.(Experimentation in class).
<b>Solution</b>	The teacher will guide the students towards the solution. They will have to be able to relate natural phenomena with the experimentation, and then explain their hypothesis, experiment, achieve some results and reach some conclusions.



E 4. Interactive multimedia application.	<b>The water in the world.</b>
Objective	1, 5, 6
Basic skills	1, 3, 7, 8
Assessment criteria	1, 2, 4, 7, 8, 14, 15, 17
Methodology	<p>Groups of 3. They will have to place a series of cities, rivers and seas on Google Maps. These are represented on the application through an icon they will have to drag to the right location.</p> <p>The exercise will be completed by descriptive cards about each of these places.</p> <p>As an alternative to this exercise, the teacher can use the clues given in its solution to propose to the students to identify the place they represent. The same game would be made backwards. That is, the descriptions would be read, and the students would have to relate them to the names displayed in the tool.</p> <p>As supporting documentation, the information contained on the following website could be useful. There, we can find educational materials on environmental issues, published by UNESCO. It contains information on fresh water, seas and oceans.</p>
Timing	15' working in class.
Solution	<p>The places they have to locate on Google Maps are:</p> <ul style="list-style-type: none"> <li>• Dead Sea: Sea located between Israel, Jordan and the Palestinian Territories.</li> <li>• Desert of Namibia: It extends along the coast of Namibia, between the river Orange, which marks the border with the Republic of South Africa to the south; and the Kunene River, which marks the border with Angola to the north.</li> </ul>



- Amazon River: Runs through the South American continent from the west to the east, from the Andes in Peru to the Atlantic coast in Brazil.
- Yellow River: Originates in the Qinghai-Tibetan Plateau, in the Kunlu mountains, particularly in the Tsinghai; and ends up forming a large delta in the so-called Bohai Sea, gulf located to the north of the Yellow Sea, in the east coast of China.
- Ganges River: It flows eastward from northern India, across the plain of the Ganges to Bangladesh.
- Nile River: This river has two channels, one starts from Uganda and Kenya (White Nile), and the other from Ethiopia (Blue Nile). These two streams come together in the city of Khartoum, and flow into the Mediterranean in Alexandria.
- Rome is located in the central and western part of Italy (it is the capital of Italy).
- Danube: It is the second longest river in Europe, after the Volga. It is born in the Black Forest of Germany, and flows into the Black Sea in Romania, where it forms the delta of the Danube .
- Ibaizabal River: Born on the border of Biscay with Alava and Guipuzcoa, near Elorrio. It joins in Basauri with the Nervion River. At the height of Bilbao, it forms the estuary of Bilbao, which flows into the Bay of Biscay.
- Oria River: The main river in the province of Guipuzcoa. Born in the foothills of the mountain range of Aizkorri, and empties into the Bay of Biscay, near the town of Orio.
- Zadorra River: A tributary of the Ebro, which runs almost entirely through Álava. It is born in the port of Opakua, in the town of San Millán, to the east of Salvatierra, and heads northwest to be dammed in the reservoir of Ullibarri-Gamboa.



## PARTICIPATE

<b>P1. Awareness poster</b>	<b>Glogster. Google docs.</b>
<b>Objectives</b>	1, 2, 3, 6, 7, 8, 9
<b>Basic competences</b>	1, 2, 3, 4, 5, 6, 7, 8
<b>Assessment criteria</b>	1, 9, 10, 11, 12, 13, 14, 15, 17, 18
<b>Methodology</b>	<p>In groups of 5, they will develop with Glogster a poster that collects measures to save water in our daily activities, performed both by the students and their families at home. The poster will include pictures, videos, texts, photos, etc.</p> <p>The completion of this activity involves the previous search for information on the Internet, the organization of documents by topic, the search for images with a <i>Creative Commons</i> license, the creation of short, striking and direct texts and the design of advertising material.</p>
<b>Timing</b>	2 hours working at home; 1 hour working in class (presentation of work). Publication of the works in the blog or website of the class.

<b>P2. Descriptive report</b>	<b>Google docs.</b>
<b>Objectives</b>	1, 2, 6, 7, 8
<b>Basic competences</b>	1, 3, 4, 7, 8
<b>Evaluation Criteria</b>	1, 2, 3, 4, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18
<b>Methodology</b>	<p>In groups of three. The goal is the the students obtain the information necessary to answer a series of questions about the water cycle. Once collected, will write a report. Using Google Docs, collaborative work and the correction by the teacher are reinforced.</p> <p>The process of drafting a written report of the previous study involves the issue that will treat the report as well as the logical exposition of ideas, with a beginning, middle and end.</p>
<b>Timing</b>	1h homework, 1 hour in the classroom (presentation of work). Posted 1 hour of work in the classroom blog or website.



## WHAT HAVE WE LEARNED?

Q1. Interactive multimedia application.	Interactive system.
Objectives	3, 5, 6
Competences	1, 3, 8
Assessment criteria	1, 2
Methodology	Individual work. The aim of the activity is to complete a sketch in which the changes that occur in the aggregation state of the water are represented. The student must fill in the gaps that have been drawn with this purpose.
Timing	5' working at home or in class.
Solutions	The response to the sketch is as follows: <ul style="list-style-type: none"> <li>• Change from solid to gas and viceversa: Sublimation and crystallization</li> <li>• Change from solid to liquid and viceversa: Fusion and solidification.</li> <li>• Change from liquid to gas and viceversa: Evaporation and condensation</li> </ul>

Q2. Interactive multimedia application	Completing the hydrologic cycle
Objectives	3, 5, 6, 8
Competences	1, 3, 8
Assessment criteria	2, 3, 5, 6, 15
Methodology	Individual. In an image the phases of the water cycle are represented by numbers. The student must write on the whiteboard the name of the phase that is associated with a number. Once written, another student will check whether it is correct. If the answer is right, they will go on to the next phase. If the answer is wrong, they will have



	to correct it. Each student will write an option, until the sketch is complete.
<b>Timing</b>	15' working at home or in class.
<b>Solutions</b>	<ol style="list-style-type: none"> <li>1: Snow</li> <li>2: Rain</li> <li>3: Condensation</li> <li>4: Runoff</li> <li>5: Percolation</li> <li>6: Lake</li> <li>7: Transpiration</li> <li>8: Evaporation</li> <li>9: Ocean</li> <li>10: Groundwater current</li> </ol>

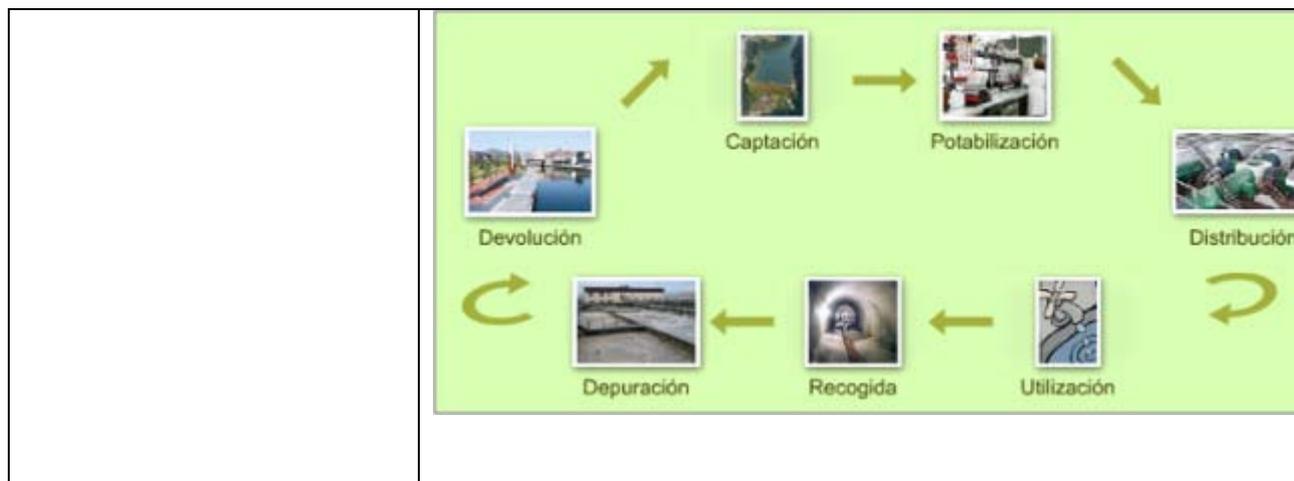
<b>Q3. Interactive multimedia application.</b>	<b>Writing the uses of water</b>
<b>Objectives</b>	1, 2, 7
<b>Competences</b>	1, 3, 5, 8
<b>Assessment criteria</b>	
<b>Methodology</b>	Individual work. They will have to write the answer to a series of questions related to the use that humans give to water.
<b>Timing</b>	10' working at home or in class.
<b>Solutions</b>	Different answers are possible, depending on the skills or way of expression of the students when they give an answer.

<b>Q4. Interactive multimedia application.</b>	<b>True or false?</b>
<b>Objectives</b>	5, 6, 7, 8, 10



<b>Competences</b>	1, 3, 4, 5, 8
<b>Assessment criteria</b>	2, 3, 5, 6, 7, 15
<b>Methodology</b>	<p>Pairs. We need to search for the necessary information to conclude whether this statement is true or false: "The water cycle can only start in one place".</p> <p>To this end, a link is provided on the Internet. The answer must be justified.</p> <p>For the activity, they should consult the link they are provided with.</p>
<b>Timing</b>	15' working at home or in class.
<b>Solutions</b>	The statement is false.

<b>Q5. Interactive multimedia application.</b>	<b>Interactive diagram of the water cycle + Questions to think about.</b>
<b>Objectives</b>	2, 6, 8
<b>Competences</b>	1, 3, 5, 8
<b>Assessment criteria</b>	1, 2, 3, 7, 15
<b>Methodology</b>	<p>In groups of three, the students must complete an outline of how the water cycle develops, by dragging the pictures and names of the phases to the right place. The phases have to be ordered based on when they occur.</p> <p>All the members in the group will complete the cycle and will write the answers. When the work is finished, each group will reflect on the answers given, and will fill in a single outline and a document with the answers, where the work made by the group will be put in common.</p>
<b>Timing</b>	15' working at home or in class.
<b>Solutions</b>	The answer is:



Q6. Interactive multimedia application	Saving Water
Objectives	1, 2, 4
Competences	1, 3, 5, 8
Assessment criteria	1, 8, 9, 10, 11, 12, 13
Methodology	<p>Individual work. Each student must reflect on the actions they can carry out to promote the saving of water in their daily lives. They will have to write eight things they can do at home or at school to minimize water consumption.</p> <p>At the end, they will share their answers on the whiteboard. Teachers must evaluate the participation and the quality and justification of the answers.</p>
Timing	5' working at home or in class.
Solutions	<p>This is an exercise of reflection, but some ideas to save water can help generate a discussion in class. These are some examples:</p> <ul style="list-style-type: none"> <li>• Closing the tap when brushing our teeth.</li> <li>• Having a shower instead of having a bath.</li> </ul>



- |  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>• Watering in the evening to avoid evaporation losses</li><li>• Placing diffusers and other savings mechanisms in taps.</li></ul> |
|--|---|



## GLOSSARY

1. **Crystallization water.** The water that enters in a fixed proportion as a physical component of crystals or hydrated compounds, which lose their crystalline form when the water is removed.
2. **Fresh water.** Drinking water with little or no taste. The opposite is saltwater in the sea.
3. **Groundwater.** The water present under the ground. This water represents an important part of the mass of water present at all times on the continents. The quantity of groundwater is much greater than the mass of water retained in lakes and/or rivers (surface water).
4. **Water.** It is the most abundant component on the Earth's surface. In a more or less pure state, it forms the rain, the fountains, the rivers and the seas; it is a constituent of all living organisms, and appears in natural compounds. It is liquid, it has no smell (odourless), no taste (bland) and has no colour (colourless).
5. **Canalization.** Change of the bed or the current of a river or a stream. It is used for the irrigation or the navigation of running or stagnant water. It gives direction to the water through channels or irrigation ditches.
6. **Pipes.** Pipe made up of tubes, from which water is distributed.
7. **Hydrological cycle or water cycle.** It is the process of water circulation between the different compartments of the hydrosphere, which is the layer of water in the planet. Consists of oceanic and continental waters that give life to the planet. The hydrosphere covers almost 3/4 parts of the Earth.
8. **Climate.** The climate is the measuring of the characteristics of the atmosphere in a given region, over a long period of time and at a given space. There are a number of elements and factors that make up and affect climate. There are four major climatic zones on Earth: Polar, temperate, desert and intertropical.
9. **Sewer.** Pipe or channel that collects all the water from a drainage, or the leftover water from the irrigation process. Underground pipe through which sewers discharge their waters.
10. **Condensation.** Turn a vapor into the liquid or solid state.
11. **Treatment.** Cleaning, removing impurities such as contaminants or microorganisms.
12. **Desert.** Sandy or rocky land, which for its almost total lack of rain has no vegetation or very scarce vegetation.
13. **Boiling.** Physical process by which a liquid turns into gas.
14. **Evaporation.** Converting a liquid into vapor.
15. **Fusion.** The change from solid state to liquid state.



16. **Glacier.** A mass of ice accumulated in the areas of the mountain ranges. It is above the limit of perpetual snow and its lower part flows very slowly, like a river of ice.
17. **Hail.** Frozen water violently descending from the clouds, in more or less hard and thick grains (not in snow flakes).
18. **Hydrogeology.** The part of the geology that deals with the study of freshwater (especially groundwater) and its use.
19. **Hydrology.** Part of the natural science dealing with water.
20. **Ice.** Water converted into a solid and crystalline body, due to a drop in temperature.
21. **Lake.** Great and permanent mass of water, deposited in depressions in the ground.
22. **Sea.** A body of salt water that covers most of the Earth's surface.
23. **Meteorology.** The science of weather, atmospheric environment, the phenomenons produced there and the laws that govern them.
24. **Microbe.** Generic name that designates the organized beings which are only visible under a microscope (e.g.: bacteria, infusoria, yeasts, etc.).
25. **Molecule.** Smallest unit of a substance that retains its chemical properties. It can be formed by equal or different atoms.
26. **Cloud.** Mass of water vapor suspended in the atmosphere. It is full of water, prepared to become rain, hail or snow.
27. **Ocean.** Large and extensive sea that covers most of the land's surface.
28. **Blue Gold.** It is commonly known as water.
29. **Percolation.** A fluid moving through a porous medium.
30. **Blue Planet.** It is commonly known as the Earth.
31. **Purification.** The process by which common water turns into drinking water, that is, the water humans can drink.
32. **Precipitation.** The rain, hail or snow.
33. **Brook.** Small stream.
34. **Creek.** Small river with a small flow.
35. **River.** Continuous and more or less large current of water that flows into a river, a lake or the sea.



36. **Solidification.** Physical process that consists of the change of state of matter from liquid to solid matter. This change is produced by a decrease in temperature. It is the reverse process of fusion or melting.

37. **Sublimation or volatilization.** The process of changing the solid state of matter to the gaseous state, without going through the liquid state.

38. **Transpiration.** Removing in the form of water vapor the water that is not used by plants during the photosynthesis.

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Author: FlyingSinger

**2. Person in the river**

<http://www.flickr.com/photos/13825417@N00/2840892602/sizes/l/in/photostream/>

Author: nborun

**3. Ice**

[http://commons.wikimedia.org/wiki/File:Iceberg\\_at\\_Baffin\\_Bay.jpg](http://commons.wikimedia.org/wiki/File:Iceberg_at_Baffin_Bay.jpg)

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**4. Sailing ship**

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**5. Waterfalls**

<http://www.flickr.com/photos/cabrito/1366121241/>

Author: Alberto Perdomo

**6. Tropical rainforest**

<http://www.flickr.com/photos/checoo/2863298625/sizes/l/>

Author: checoo

**7. Hindu**

[http://commons.wikimedia.org/wiki/File:Hindu\\_practices.JPG?uselang=es](http://commons.wikimedia.org/wiki/File:Hindu_practices.JPG?uselang=es)

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**8. Amazon**

<http://www.flickr.com/photos/jorgebrazil/4079523118/>

Author: JorgeBRAZIL

**9. Sunset**

[http://commons.wikimedia.org/wiki/File:Puesta\\_de\\_Sol.JPG?uselang=es](http://commons.wikimedia.org/wiki/File:Puesta_de_Sol.JPG?uselang=es)

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textos de contraportada. Se incluye una copia de la dicha licencia en la sección titulada Licencia de Documentación Libre GNU.

Author: Sedessapientiae

## 10. Motorboat

[http://commons.wikimedia.org/wiki/File:Speedboat\\_5885.jpg?uselang=es](http://commons.wikimedia.org/wiki/File:Speedboat_5885.jpg?uselang=es)

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Author: Dori

### Card 1

#### 1. Ice

<http://www.flickr.com/photos/daquellamanera/150887285/sizes/l/in/photostream/>

Author: Daquella manera

#### 2. Gaseous water

<http://www.flickr.com/photos/eugeniocanevari/2532349750/>

Author: Trapete

#### 3. Liquid water

Rickard Berggren

### Card 2

#### 1. Collecting (Picking up)

Author: Cruccione

#### 2. Purification

<http://www.flickr.com/photos/seattlemunicipalarchives/3739366791/sizes/l/in/photostream/>

Author: Seattle Municipal Archives

#### 3. Distribution

[http://commons.wikimedia.org/wiki/File:Concrete\\_water\\_pipe.jpg?uselang=es](http://commons.wikimedia.org/wiki/File:Concrete_water_pipe.jpg?uselang=es)

Author: Bidgee

#### 4. Tap

Author: Manu iglesias

#### 5. Collection

<http://www.flickr.com/photos/botheredbybees/1465115889/sizes/l/in/photostream/>

Author: BotheredByBees

#### 6. Sewage treatment plant



<http://www.flickr.com/photos/48722974@N07/4515205247/>

Author: eutrophication&hypoxia

## 7. Return

<http://www.flickr.com/photos/atoach/2919125967/sizes/l/in/photostream/>

Author: Tim Green aka atoach

## Card 4

### 1. Desert

<http://www.flickr.com/photos/79721788@N00/5282881117/sizes/l/in/photostream/>

Author: David Stanley

### 2. Dead Sea

<http://www.flickr.com/photos/26085795@N02/4834145786/sizes/l/in/photostream/>

Author: jemasmith

## EXPLORE

### A2

- Drawings

### A3

- Drawings

### A4

- Drawings

## WHAT HAVE WE LEARNED?

### A5

#### 1. Collecting (Picking up)

Author: Cruccione

#### 2. Purification (The same as in Card 2 from KEEP INFORMED 1)

<http://www.flickr.com/photos/seattlemunicipalarchives/3739366791/sizes/l/in/photostream/>

Author: Seattle Municipal Archives

#### 3. Distribution (The same as Card 2 from KEEP INFORMED 1)

[http://commons.wikimedia.org/wiki/File:Concrete\\_water\\_pipe.jpg?uselang=es](http://commons.wikimedia.org/wiki/File:Concrete_water_pipe.jpg?uselang=es)

Author: Bidgee

#### 4. Tap

Author: Manu iglesias

#### 5. Collection (The same as Card 2 from KEEP INFORMED 1)



<http://www.flickr.com/photos/botheredbybees/1465115889/sizes/l/in/photostream/>

Author: BotheredByBees

6. Sewage treatment plant (The same as Card 2 from KEEP INFORMED 1)

<http://www.flickr.com/photos/48722974@N07/4515205247/>

Author: por eutrophication&hypoxia

7. Return (The same as Card 2 from KEEP INFORMED 1)

<http://www.flickr.com/photos/atoach/2919125967/sizes/l/in/photostream/>

Author: Tim Green aka atoach