

## Water – teacher's notes

<b>Level:</b>	Intermediate (and above)
<b>Topic:</b>	Water
<b>Subject(s):</b>	Geography & Science
<b>Time: (approx)</b>	Activity 1: 20–30 minutes. Activity 2: 20 – 30 minutes. Activity 3: 15–30 minutes
<b>Preparation:</b>	Activity 1: Photocopy of quiz & text for each student. Activity 2: One photocopy for each student. Activity 3: Photocopy one per two students & cut into A & B worksheets.

### Procedure:

#### Activity 1

1. Tell your students they are going to take a quiz about water. Put the students in pairs or small groups and give them a copy of the T/F quiz.
2. Give them a time limit (around 6-8 minutes should be plenty) to read the sentences, discuss them and decide on the answers.
3. Hand out copies of the text and get students to check their answers.
4. Check as a class.

Note: If you want the quiz to be competitive; you might want to record students' answers before step 3 so that you can see who did the best.

#### Key

1 T 2 F (It's H<sub>2</sub>O). 3 T 4 F (You need 2½ litres) 5 T 6 F (It's 10 litres) 7 T (97%)  
8 F (It's 75% - ¾)

#### Activity 2

1. On the board write up the word 'Water cycle' and brainstorm as much as your students know on this topic.
2. Then ask the students to read the text on Water Cycles and match the paragraph headings in the box to the paragraphs.
3. Put the students in pairs and ask them to compare their answers.
4. Ask the students to read the text again and match the words in **bold** in the text to the definitions below.
5. Put the students in pairs and ask them to compare their answers.
6. Next, collate and discuss the answers.
7. Finally, ask the students to draw a diagram illustrating the 'water cycle'.

## Key

### Headings

- 1 What is the 'Water cycle'?
- 2 Where does it begin?
- 3 How does this happen?
- 4 What happens to the clouds?
- 5 Why doesn't it rain more where I live?

### Vocabulary

- (a) Vapour (b) Evaporate (c) Atmosphere (d) Condensation (e) Flow

## Activity 3

1. Start by asking the students what problems they might have if there wasn't enough water in their country. Elicit examples and write these up on the board.
2. Next elicit how people might get water – write these ideas on the board.
3. Then, divide the class into two groups A & B (in large classes you could sub-divide these groups so that students work in groups of about 4-6 students)
4. Give all the students in group A a copy of role card A and all those in group B a copy of role card B.
5. Tell the students they have 10 minutes to discuss the situation in their group and come up with possible solutions to the problem.
6. Finally, bring all the students together. Tell them they are at a UN meeting to discuss the issue. You (the teacher) should act as the chairperson.

Note: There is NO solution to this problem. It is merely designed to get students thinking & speaking.

## Useful websites

### **Water**

[http://www.bbc.co.uk/health/healthy\\_living/nutrition/drinks\\_water.shtml](http://www.bbc.co.uk/health/healthy_living/nutrition/drinks_water.shtml)

A short text about why we need water and information about bottled water.

[http://news.bbc.co.uk/2/hi/in\\_depth/world/2003/world\\_forum/water/default.stm](http://news.bbc.co.uk/2/hi/in_depth/world/2003/world_forum/water/default.stm)

### **Water Cycles**

[http://www.bbc.co.uk/schools/riversandcoasts/water\\_cycle/rivers/index.shtml](http://www.bbc.co.uk/schools/riversandcoasts/water_cycle/rivers/index.shtml)

This site includes animated diagrams that clearly show the 'Water cycle'.

<http://www.bbc.co.uk/weather/features/weatherbasics/watercycle.shtml>

A short text about the 'Water cycle'.

## Water – worksheets

### Activity 1

▪ **Are these sentences about water true (T) or false (F)?**

- |   |       |
|---|-------|
| 1. Up to 70% of our body is made of water.  | T / F |
| 2. The chemical formula for water is H <sup>3</sup> O.                                  | T / F |
| 3. If we don't drink enough water, we become dehydrated.                                | T / F |
| 4. We need to drink at least 5 litres of water every day.                               | T / F |
| 5. You can get water by eating fruit and vegetables.                                    | T / F |
| 6. When you brush your teeth and leave the tap running you use about 5 litres of water. | T / F |
| 7. Most of the water on Earth is in the seas & oceans.                                  | T / F |
| 8. One quarter of all freshwater is ice.  | T / F |

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▪ **Now read the text about water and check your answers.**

#### Water

Water is essential for life. One reason that our planet – Earth – has life on it is because of the water. In fact, around 70% of our planet is made of water, about the same amount that our bodies contain!

Water is such a simple thing. Each water molecule is a combination of two parts Hydrogen and one part Oxygen (H<sup>2</sup>O). Without water we would become dehydrated and die. To stop this from happening you should drink around two and a half litres of water per day. You can also get water from eating healthy food such as fruit and vegetables.

Because there is so much water around we often waste it thinking that there won't be a problem. For example, when you brush your teeth do you turn the tap off? If not, you are using about the same amount of water that one person in a country like Ethiopia or Mali uses in a whole day – about ten litres!

One of the problems is that although 70% of the Earth is water only 4% of this is freshwater (97% is sea water, which is salty). And to make matters worse around 75% of all freshwater is ice! This is another reason why water is such a precious resource.

## Activity 2

- Read the text about the 'Water cycle' and match the headings in the box to the paragraphs.

Why doesn't it rain more where I live? Where does it begin?  
What is the 'Water cycle'? What happens to the clouds? How does this happen?

(1) \_\_\_\_\_

The amount of water on the earth and in the **atmosphere** is always the same, but we all know that it doesn't stay in the same place. Rivers **flow**, rain falls and the level of the sea and lakes rise and fall. Water is moving in a constant cycle – this is called the 'water cycle'.

(2) \_\_\_\_\_

Around 97% of the water is found in the sea and the rest in the air or on land. To start the cycle the water must get from the sea into the atmosphere. For this to happen the water must **evaporate** and become 'water vapour'.

(3) \_\_\_\_\_

As water is heated it becomes a **vapour**, this then moves upwards in the atmosphere (heat always rises). As it rises it starts to cool and as it cools it becomes water again. This process is called **condensation** and is how clouds are formed.

(4) \_\_\_\_\_

Once this happens the water vapour turns into clouds. When there is enough water in the cloud it rains (or snows) and the water returns to earth. Eventually the rain water flows back into the sea, often in rivers and streams, and the process starts again.

(5) \_\_\_\_\_

Of course it rains more in some places than others. There are lots of reasons for this. For example, where there are hills or mountains the air rises and gets colder, as it gets colder the water vapour condenses and then falls as rain – often on the other side of the mountains.

- Read the text again. Look at the words in bold and then match them to the definitions below.

(a) \_\_\_\_\_ Very small drops of water or other liquids in the air that make the air feel wet.

(b) \_\_\_\_\_ A liquid changing into a gas or steam.

(c) \_\_\_\_\_ The air around the Earth or another planet.

(d) \_\_\_\_\_ When gas changes into a liquid.

(e) \_\_\_\_\_ Always moving, usually in one direction.

- Read the text again and draw a diagram to show the 'water cycle'.

### Activity 3

A

You are the president of Drylands. Your country has a water shortage even though there is a big river (The Swift) running through your country. One suggestion is to build a dam and create a man-made lake. However, if you do this your neighbouring country – Wetlands – will suffer from water shortages.

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B

You are the president of Wetlands. Your country has plenty of water as there is a big river (The Swift) which runs into a big lake and means that your country has no problems with water. However, your neighbour – Drylands – is thinking of building a dam on the river (upstream from your country). If they do this then your country will have a problem as the River Swift will become much smaller. You don't want your neighbour to build the dam.