

That's impossible! Just turn on the tap, right?

Lesson Plan

Developed by:

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Introduction:

This lesson plan aims to sensitize students to the importance of preserving water resources (especially fresh water) that are essential to the survival of human beings and to the balance of the planet. It also warns of the enormous differences that exist in various parts of the world regarding access to drinking water and to the basic sanitation network.

Objectives or Learning Outcomes

Students will be able to:

- Investigate the relationship between human health and the environment.
- Prepare presentations and infographics using digital tools.
- Relate the learnings to sustainability.
- Promote and report on human health and well-being.

Time required:

- Session 1 (45 min): Introduction to the theme + large group analysis of various news related to water scarcity.
- Session 2 (90 min): Small groups analysis of the UN Report + presentation on key findings of the document.
- Session 3 (45 min): Debate about water scarcity.
- Session 4 (90 min): Inform and involve; Making of infographics about the subject using ICT.
- Evaluation using an online educational tool and group self-assessment.

Resources required:

- Computers and smartphones.
- [UN Water 2019 report](#); news from newspaper sites.
- PPT presentation (see [Annexe 1](#)); self-assessment grid (see [Annexe 2](#)) and digital tools (Power Point, Kahoot, Canvas, Visme, etc).



Activity

Classroom session

1

- The teacher introduces the theme with a fundamental question: “How much water do you consume in all your activities in one day?” Students can simulate water consumption using an online calculator: www.watercalculator.org
- The teacher encourages a brief discussion about the large numbers of daily water consumption
- The teacher presents (PPT) that depicts: amount of water on the planet, distribution of water on the planet (salt water, fresh water, drinking water) and human activities that lead to water consumption.
- The teacher asks: “For us, all we have to do is open the tap, but will it be like this for everyone?” Students discuss in small groups and reply.
- The teacher shows a set of recent news and data from around the world depicting water scarcity and inequalities in access to water and the basic sanitation.
- The groups hold a discussion and then groups report back to class.

Classroom session

2

- The teacher encourages students to organize in groups of four. The teacher distributes a part of the [UN Report \(UNWater 2019 - Facts and Figures\)](#) to each group. Topics include: water availability and demand, floods and droughts, water supply and sanitation services, population growth and human settlements, poverty, health and nutrition, etc.
- The teacher encourages each group to organize a presentation of their topic using a digital tool, such as Sway, Emaze or Prezi, for example. The information to be transmitted must be succinct.
- Students are encouraged to include graphs and lists of data.
- Students do oral presentations about key findings of their section of UN Report.
- Assignment for session 3: each group should bring causes for depletion of water sources.

Classroom session

3

- Each group presents the list of possible causes for water scarcity (some topics that may be presented by students: deforestation and consequent soil erosion, low fire control practices, contamination, inadequate agricultural practices, excessive irrigation, household waste, etc).
- The teacher presents a whole class activity: discuss and present compilation of good practices to preserve water, reduce consumption and waste.

Classroom session

4

- The teacher asks students to think about key points they would like to present regarding the previous sessions.
- Possible topics to be addressed are: those previously discussed from the UN Water Report, causes of water scarcity, good practices in general or to apply to at school, news headlines about water scarcity, etc. The infographics should be printed preferably in A3 size.
- The groups should select different contents thus avoiding that the infographics portray the same information.
- By the end of the session each group will have prepared an infographic to be in display in the school grounds.

Evaluation

- The teacher uses a quiz to assess students learning.
- Students do their presentations to other groups in the school. The teacher provides a self-assessment grid which will help to understand how students evaluate their individual and group performance. Also, it will provide students' perceptions on how the activity had an impact on learning and consolidating knowledge.

Suggestions of variation or further reading

Students could make a presentation of the infographics in an open session to parents, sensitizing them to this theme on World Water Day.

Students could analyze the book “A long walk to water - based on the true story”, by Linda Sue Park. It is a book that is part of the Portuguese National Reading Plan and portrays the life of a teenager from Sudan who traveled miles to fetch water. A history of resilience and a wake-up call for water scarcity in many African countries.

References

UNESCO - UNWater. (2019). The United Nations World Water Development Report 2019 – Leaving no one behind – Fact and figures. WWAP. Perugia, Itália
<https://unesdoc.unesco.org/ark:/48223/pf0000367276>

UNESCO - UNWater. (2019). The United Nations World Water Development Report 2019 – Leaving no one behind – Executive Summary. WWAP. Perugia, Itália
<https://unesdoc.unesco.org/ark:/48223/pf0000367303>

Park, L. S. (2016) Um longo caminho – baseado na história verídica de um refugiado. 1ª Edição, Editora IN. Lisboa (portuguese edition)

Park, L. S. (2018) A Long Walk To Water- Based On A True Story. One World Publications. London

This lesson plan was selected from the [2019 Eco-Schools competition](#) in which teachers were invited to develop and submit lesson plans that promote action oriented pedagogy about specific Sustainable Development Goals (SDGs).

Annexe 1 - Presentation

**That's impossible!
Just turn on the tap, right?**



**Lesson Plan for Positive Actions
Sandrina Martins, Portugal**

2019

Can we really run out of water?

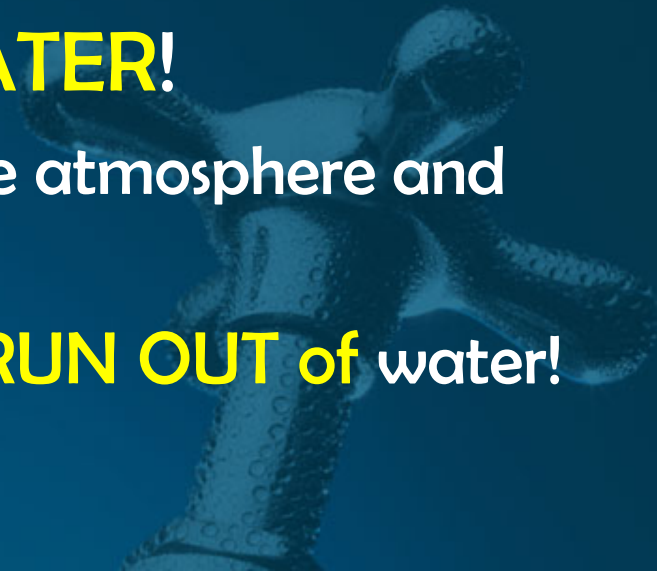
Have you ever thought about this possibility?

The planet is blue because **70%** of its surface is made up of **WATER.**

So there is **LOTS of WATER!**

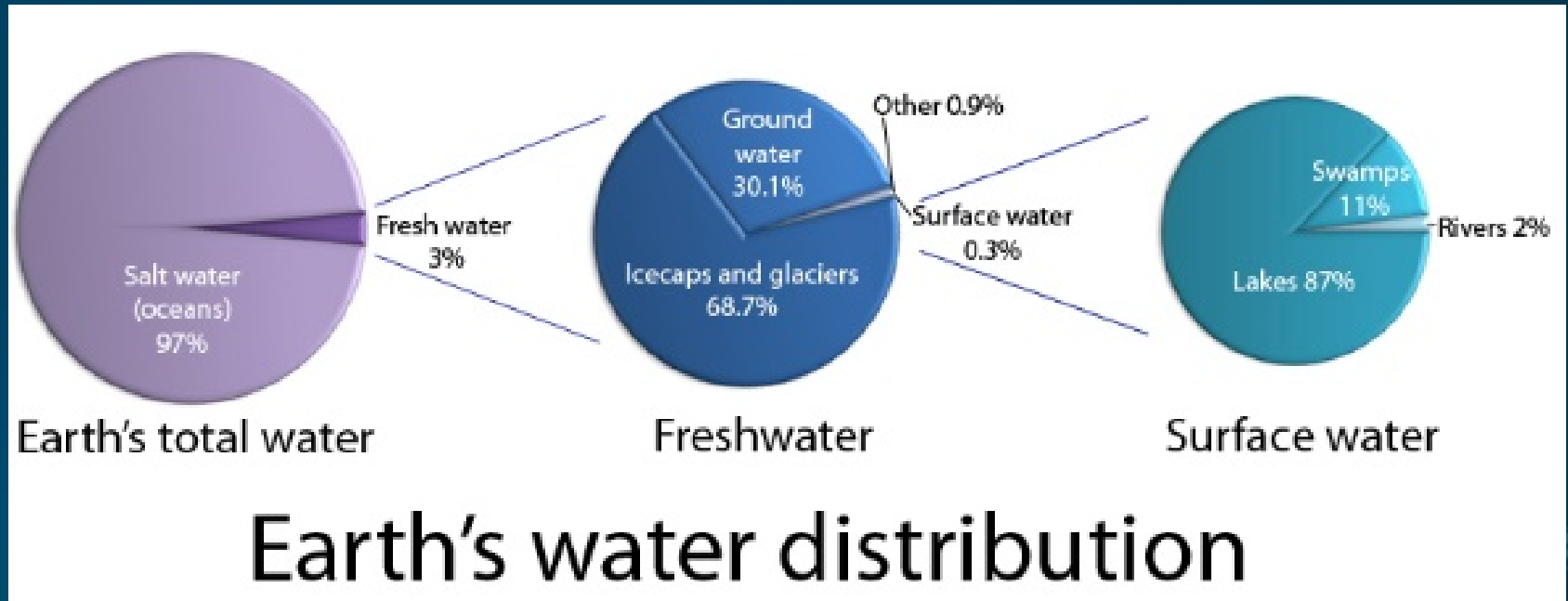
And if we still count what exists in the atmosphere and aquifers...

It seems impossible, but we can really **RUN OUT** of water!



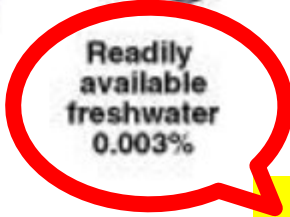
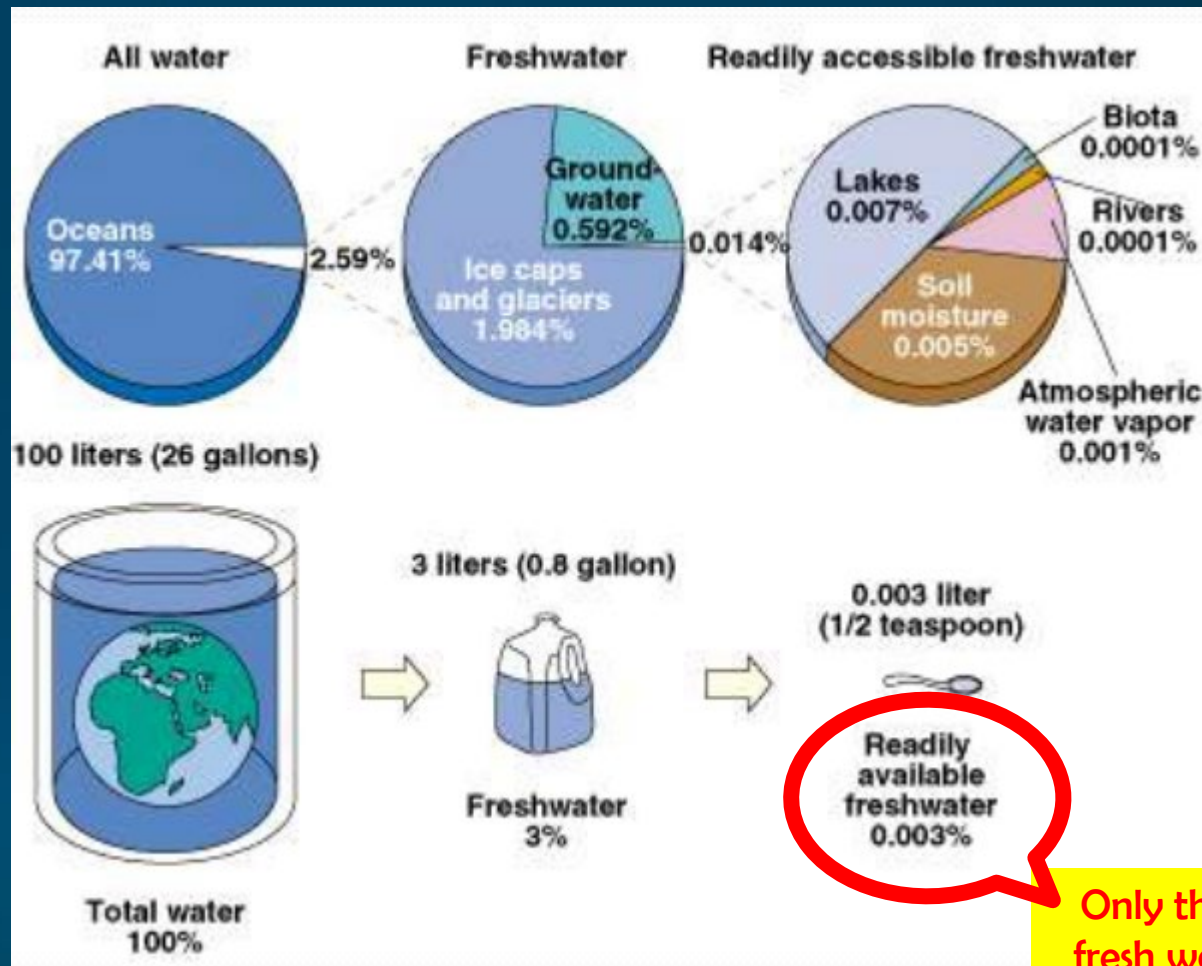
Where's the water we talking about?

FRESH WATER!



Source: <https://www.sciencelearn.org.nz/images/802-earth-s-water-distribution>

Let's look at this from another perspective...



Only this percentage of fresh water is available?

And another perspective...

How Much Water Do We Use?



Source: <https://www.epa.gov/watersense/how-we-use-water>

We are already more than **7 billion** humans on this planet.

We all need water to **SURVIVE**, for personal hygiene and for various activities such as agriculture, industry and livestock.

Over 7,700,000,000 inhabitants to just **0.003%** of **FRESHWATER AVAILABLE** is a big **DISPROPORTION!**

Is this water accessible to all human beings equitably?

[*https://www.worldometers.info/world-population/](https://www.worldometers.info/world-population/)

What has been going on in the world in recent years?

CITYLAB DESIGN / TRANSPORTATION / ENVIRONMENT / EQUITY / LIFE 🔍



Residents queue to fill containers with spring water in Cape Town on February 2, 2018, one of the measures taken to avert 'Day Zero.' // Bram Janssen/AP

Cape Town's 'Day Zero' Water Crisis, One Year Later

CHRISTIAN ALEXANDER APR 12, 2019


Source: <https://www.citylab.com/environment/2019/04/cape-town-water-conservation-south-africa-drought/587011/>

What has been going on in the world in recent years?

WORLD ECONOMIC FORUM | Agenda | Platforms | Reports | Events | About | English | TopLink | Search

Regional Agenda | Water | Environment and Natural Resource Security | Sustainable Development

The latest challenge for India's businesses? Water scarcity

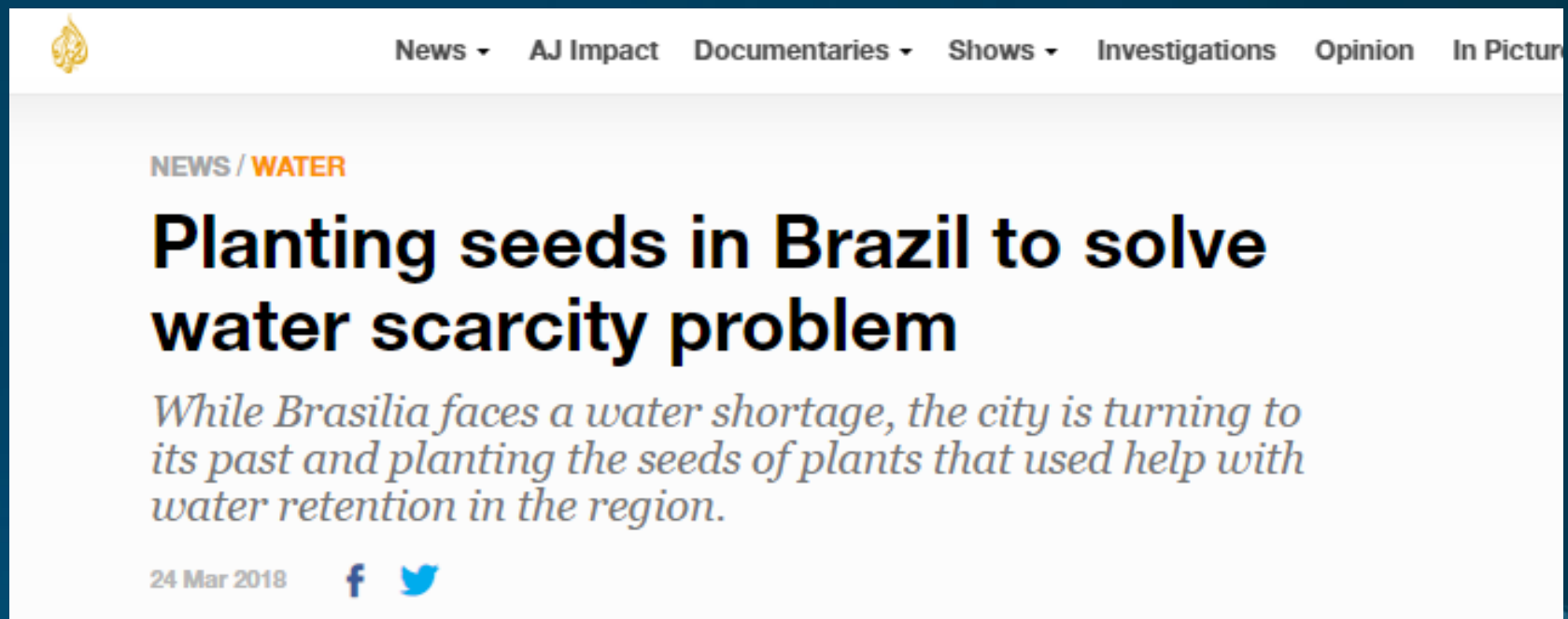


Severe water scarcity in Chennai this year has created serious issues for residents and business leaders

Image: McKay Savage/Flickr

Source: <https://www.weforum.org/agenda/2019/10/india-water-crisis-business-challenge/>

What has been going on in the world in recent years?





The image shows a screenshot of a news article from Al Jazeera. At the top left is the Al Jazeera logo. To its right is a navigation menu with the following items: "News", "AJ Impact", "Documentaries", "Shows", "Investigations", "Opinion", and "In Pictures". Below the navigation menu, the article is categorized under "NEWS / WATER". The main headline reads "Planting seeds in Brazil to solve water scarcity problem". Below the headline is a sub-headline in italics: "While Brasilia faces a water shortage, the city is turning to its past and planting the seeds of plants that used help with water retention in the region." At the bottom left of the article, the date "24 Mar 2018" is displayed, followed by social media icons for Facebook and Twitter.

News ▾ AJ Impact Documentaries ▾ Shows ▾ Investigations Opinion In Pictures

NEWS / WATER

Planting seeds in Brazil to solve water scarcity problem

While Brasilia faces a water shortage, the city is turning to its past and planting the seeds of plants that used help with water retention in the region.

24 Mar 2018  

Source: <https://www.aljazeera.com/news/2018/03/planting-seeds-brazil-solve-water-scarcity-problem-180324140413260.html>

What has been going on in the world in recent years?

sciencealert[®] Trending



(Johnny McClung/Unsplash)

ENVIRONMENT

Nearly 25% of The World's Population Faces a Water Crisis, And We Can't Ignore It

CARLY CASSELLA 7 AUG 2019

Within the past hundred years, water use has been growing at more than twice the rate of the human population. As water supplies continue to shrink, some parts of the world are facing a looming crisis.

Source: <https://www.sciencealert.com/17-countries-are-facing-extreme-water-stress-and-they-hold-a-quarter-of-the-world-s-population>

What has been going on in the world in recent years?

USNews CIVIC » Best Countries Best States Healthiest Communities Cities The Civic Report Photos News America 2020

HOME / CIVIC / CITIES

10 Cities Most At Risk of Running Out of Water

Chennai, India, is just the latest city to face a severe water shortage.

By Wilson Chapman, Contributor June 21, 2019, at 3:50 p.m.

VIEW ALL IN ONE PAGE 1 of 13 < >

Chennai, the sixth-largest city in India, is facing a severe water shortage. With the four reservoirs the city's population uses for water drying up, residents are forced to line up every day to collect water from trucks that carry water into the city. Chennai is just the most severe example of an ongoing drought that is leaving 600 million people in India suffering from water shortages.



The conditions in Chennai are an extreme example of water shortages affecting many cities across the globe. According to the United Nations, 4 out of every 10 people are affected by water scarcity. Here are 10 other cities at risk of running out of water:

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Improve Journal Submission Chances With
Free Assessment Report of Your Research
Pub-Sure

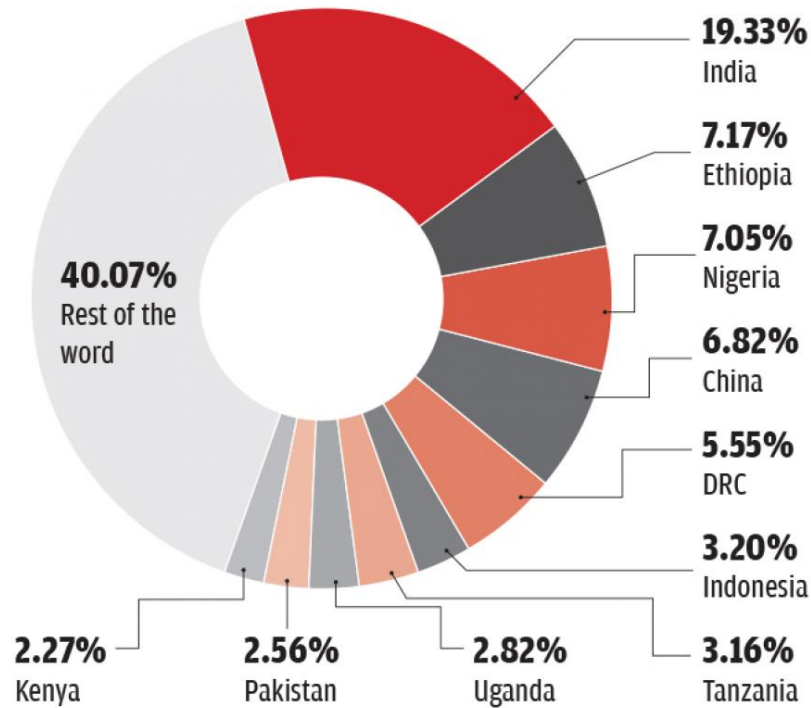
Cape Town, South Africa
Mexico City
Cairo, Egypt
Tokyo, Japan
Jakarta, Indonesia
São Paulo, Brazil
Beijing, China
Bangalore, India
Melbourne, Australia
London, United Kingdom

Source: <https://www.usnews.com/news/cities/slideshows/10-cities-most-at-risk-of-running-out-of-water>

What has been going on in the world in recent years?

Waterless countries

Just 10 countries account for 60% of the world population without access to clean water



Source: The water gap—The State of the World's Water 2018 report by WaterAid

What has been going on in the world in recent years?



Source: <http://web.mit.edu/mission/www/m2017/>

For us, having access to water just means turning on the tap!

But unfortunately, it is not so for everyone.

Let's look at some data recently released by the **UNWater Report 2019 – “Leaving no one behind”**.

How are we in the world in terms of access to water and sanitation?

What does the future hold for us if we do nothing?

(Start working in groups)



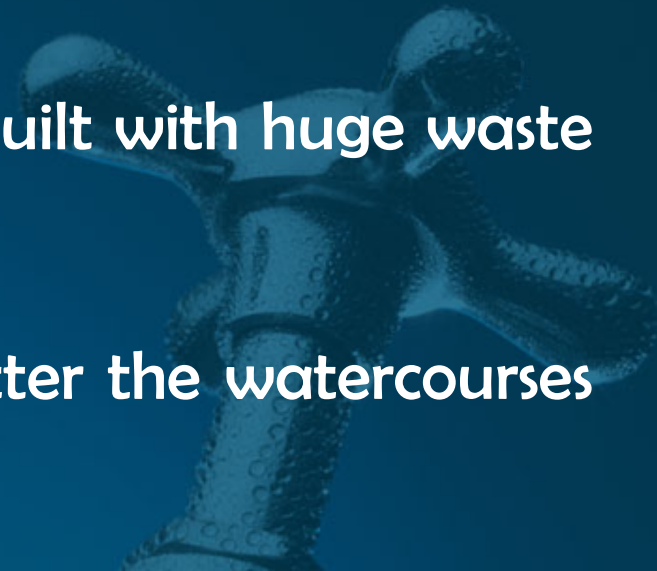
The reasons for water scarcity...

Is the climate changing? - Yes! Heat waves are more frequent and precipitation is a less frequent and abrupt phenomenon.

Do we use and waste too much water? – Of course! Some of us have already reached the world consumption record: **the average US citizen uses 575 liters a day!**

And longer water pipelines are being built with huge waste of water along the way!

Is there a lot of pollution? - Yes! We litter the watercourses and often without any treatment.



In fact, all these also occur:

- ✓ Deforestation and consequent soil erosion
- ✓ Burning practice with low supervision
- ✓ Groundwater contamination
- ✓ Inadequate agricultural practices
- ✓ Excessive irrigation
- ✓ Household waste



So what can we do?

It is important that we all be aware that **water is a public, common and universal good!**

Each of us must contribute to this fight against time and just

think of two words: **REDUCE AND REUSE!**

How to do this at home, at school, in business, in our city?

Let's think of various ways to do that...



So what can we do?

There are many ways to **SAVE WATER**, just be creative and have strong will!

We must want to belong to a **SUSTAINABLE PLANET**,
want to leave a good heritage for **FUTURE
GENERATIONS!**

It is urgent to **THINK GREEN**, or in this case, **BLUE!**



The truth is...

*“We only realize the value of water
after the source dries up.”*

Old popular adage

Come on! Let us not let this adage be a

REALITY!

Let's make this **MISSION POSSIBLE...**

<https://vimeo.com/17486656>

Annexe 2 - Evaluation Grid

EVALUATION GRID FOR ORAL PRESENTATION

Name of the student: _____ Class: _____

Theme: _____

Other members of the group: _____ / _____ / _____

	INSUFFICIENT	ENOUGH	GOOD	VERY GOOD
PREPARATION	The student does not seem prepared at all to present. <input type="checkbox"/>	The student is more or less prepared but not rehearsed. <input type="checkbox"/>	The student seems well prepared but needed to rehearse more. <input type="checkbox"/>	The student is well prepared and rehearsed. <input type="checkbox"/>
SPEECH	The student is often misunderstood or often mispronounced words. <input type="checkbox"/>	Speaks clearly most of the time and mispronounces a few words. <input type="checkbox"/>	Speaks clearly all the time and mispronounces one or two words. <input type="checkbox"/>	Speaks clearly all the time. <input type="checkbox"/>
VOCABULARY	Uses several words or phrases that are not understood by the audience. <input type="checkbox"/>	Uses appropriate vocabulary. Does not include words that may be new to the audience. <input type="checkbox"/>	Uses proper vocabulary. Includes one or two words that may be new to the audience and defines them. <input type="checkbox"/>	Uses proper vocabulary. Increases audience vocabulary by defining words. <input type="checkbox"/>
POSTURE AND EYE CONTACT	Has a sloppy posture and / or does not maintain eye contact during the presentation. <input type="checkbox"/>	Sometimes has a correct posture and establishes eye contact. <input type="checkbox"/>	Has mostly a correct posture and establishes eye contact with the audience. <input type="checkbox"/>	Has a correct posture, looks relaxed and confident. Establish eye contact with the audience. <input type="checkbox"/>
CONTENT	Does not reveal understanding the theme. <input type="checkbox"/>	Reveals a good understanding of one part of the theme. <input type="checkbox"/>	Reveals a good understanding of the topic. <input type="checkbox"/>	Reveals an excellent understanding of the topic. <input type="checkbox"/>

Note: To evaluate each parameter, check the square.