

# **WATER - THE SOURCE OF LIFE**





# WATER

There are three states of matter:



- constant



- liquid



- gas

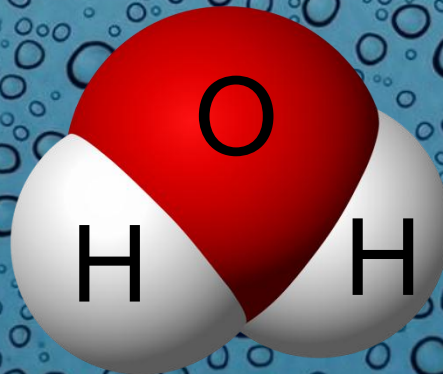
It's:

- Colorless,

- Odorless,

- Without any taste or calories

- Essential to life







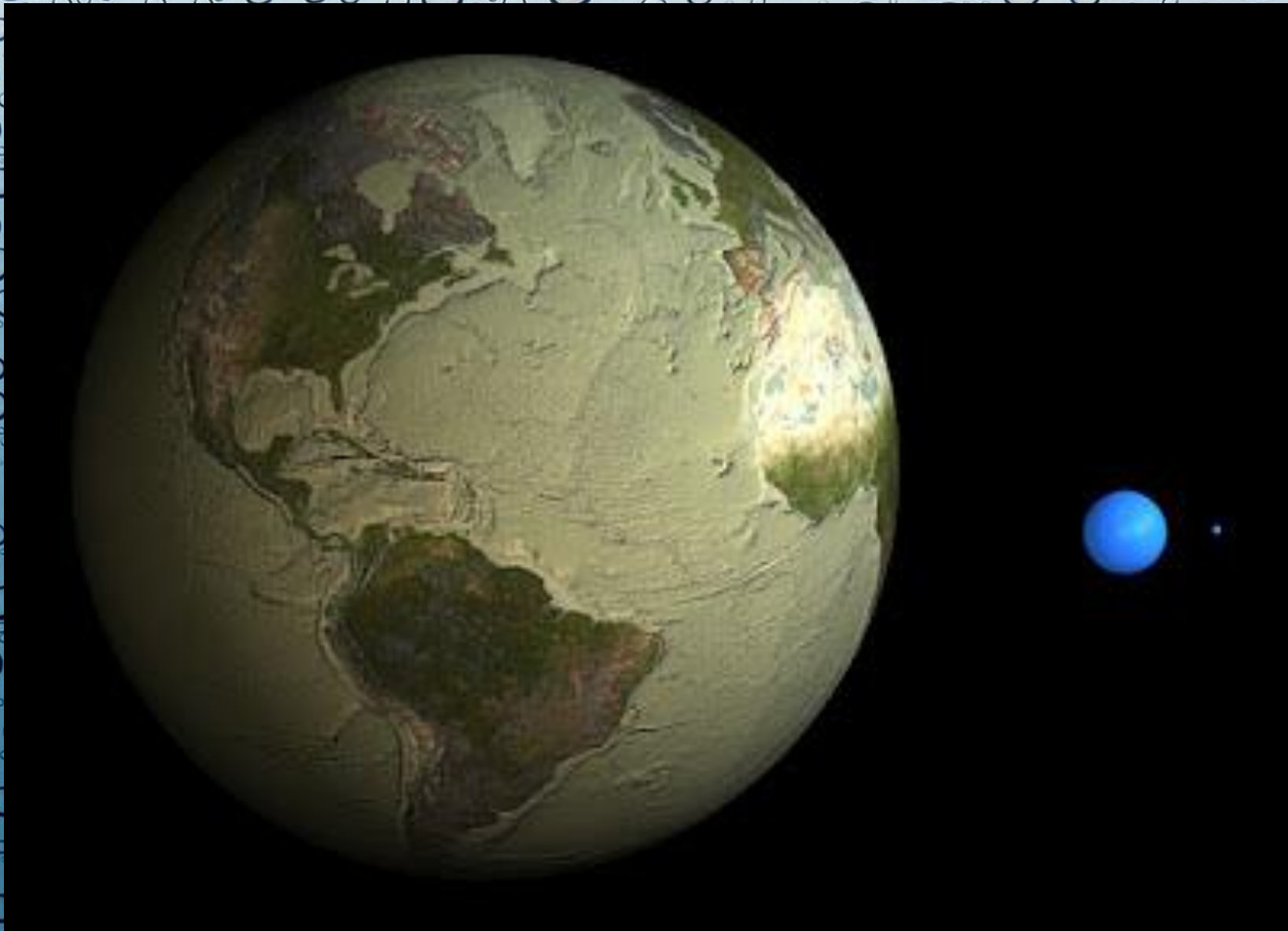


# HOW MUCH WATER IS THERE ON EARTH?

On the Earth most of the surface is water, so the Earth is called the "Blue Planet", however only a small part of the water is able to drink.







## Ile wody jest na Ziemi - udział procentowy

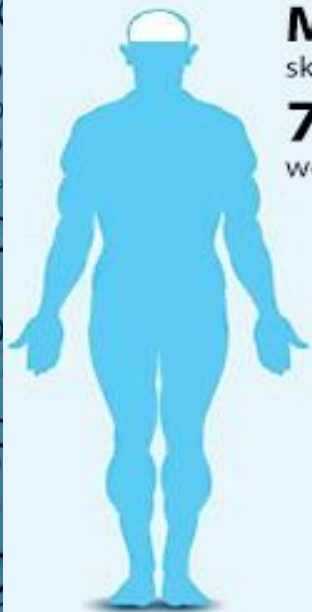
<b>Źródło wody</b>	<b>Objętość w km<sup>3</sup></b>	<b>Udział %</b>
Oceany i morza	1,338,000,000	96.54
Lodowce	24,064,000	1.74
Wody podziemne	23,400,000	1.69
- słodkie	10,530,000	0.76
- słone	12,870,000	0.93
Para wodna w glebie	16,500	0.001
Wieczna zmarzlina	300,000	0.022
Jeziora	176,400	0.013
- słodkie	91,000	0.007
- słone	85,400	0.007
Atmosfera	12,900	0.001
Bagna	11,470	0.0008
Rzeki	2,120	0.0002
Woda w organizmach	1,120	0.0001



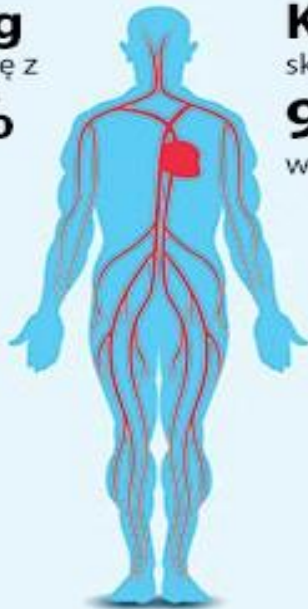
# WITHOUT WATER, THERE WOULD BE NO LIFE

## Why?

Humans need water to all reactions occurring in their body. In addition, most of our body is water.



**Mózg**  
składa się z  
**75%**  
wody



**Krew**  
składa się z  
**98%**  
wody



**Kości**  
składają się z  
**22%**  
wody



**Mięśnie**  
składają się z  
**75%**  
wody



# HOW DID WATER CAME TO EARTH?

Most likely asteroids brought water to Earth approx. 4 billion years ago. During the formation of the solar system, they bombarded Earth with high frequency. It was the beginning of the seas and oceans as we know them today.





# THE WATER CYCLE

Water is in constant circulation, which is shown in the figure below. (Almost 100% returns do circulation)





# EXPIRIENCE – HEATING WATER





# TYPES OF WATER

There are the following types:

**UNTREATED WATER e.g.:**

- rainwater
- spring water

**USABLE WATER e.g.:**

- drinking water
- industrial water
- distilled water





# WATER TANKS IMPACT ON THE CLIMATE

With water reservoirs reduces the amplitude of the temperature.

## Why?

- Water tanks absorb thermal energy during the day, and at night they give it back slowly.



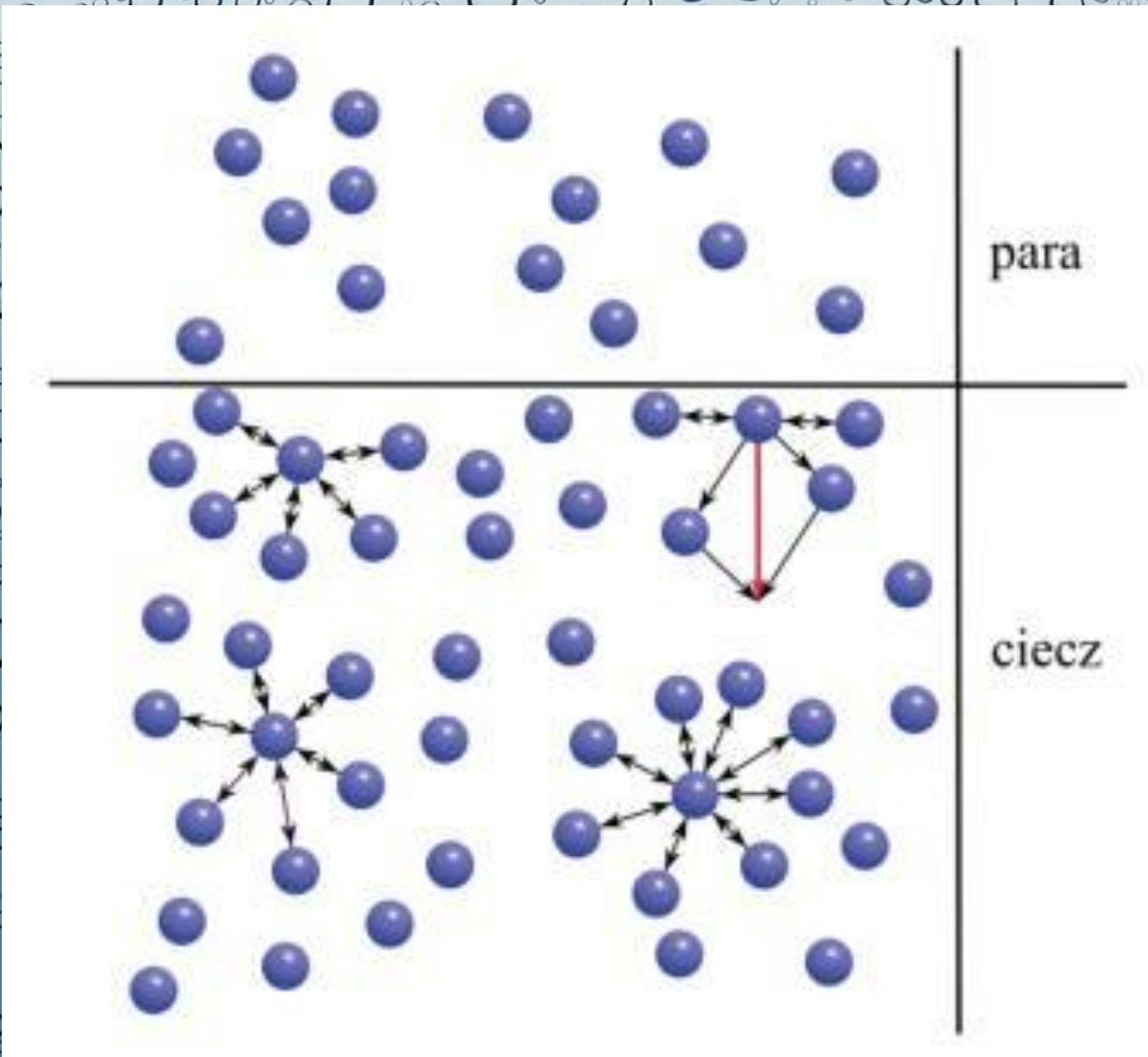


# THE PHENOMENON OF SURFACE TENSION



Surface tension is a phenomenon caused by the attractive forces between the molecules of the liquid, moreover, thanks to the forces can be observed phenomenon called meniscus.







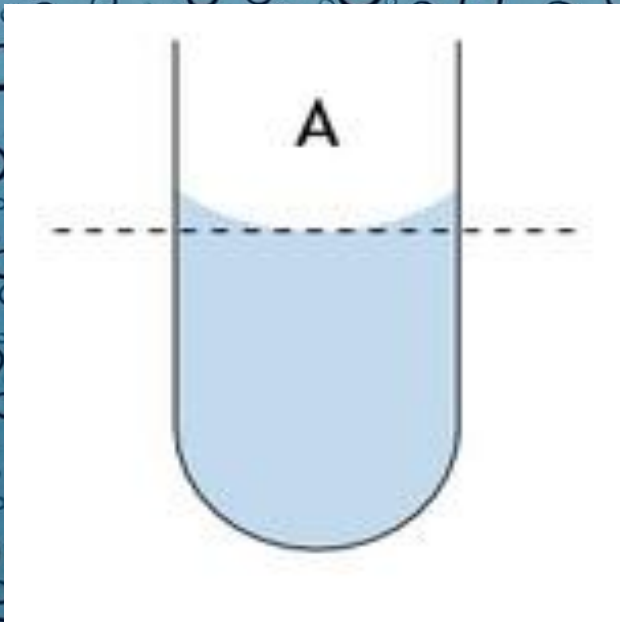
# EXPIRIENCE – SURFACE TENSION



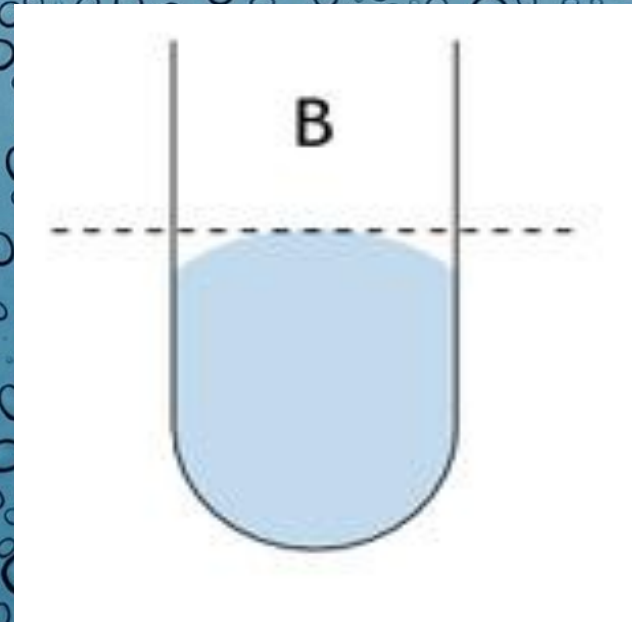


# MENISCUS, CONCAVE AND CONVEX

Concave meniscus occurs when the adhesive strength is greater than the forces of cohesion, for example: glass-water, glass-milk.



Convex meniscus occurs when the cohesive forces are greater than the forces of adhesion, for example: glass-mercury.





# WATER USE IN ENERGRTICS

Water is used in power engineering. The largest hydroelectric plant in the world is the Three Gorges Dam, which was built in China. The power of this plant is as high as 22.5 GW.





# ACQUISITION OF DRINKING WATER

There are various methods for water treatment, it can be obtained i.a. from :

- Wells, deep water
- Rivers and standing waters
- distilling
- rainwater
- Evaporation from plants





# **WATER CRISIS IN THE WORLD**

**In many places on earth wear rate of water is greater than the speed of renewal.**



**In contrast, methods for sea water treatment is expensive and inefficient. Therefore, we should rationally manage this resource.**



# Obrońca wody

Audycja zawiera lokowanie produktu



# WATER, ONE OF THE ELEMENTS

Water is for us a source of life, but in some cases it may be different. Floods, storms, tsunamis and other disasters are very dangerous for us, in many cases, even they can be deadly.





# 22th of March - WORLD WATER DAY

Celem Światowego Dnia Wody w roku 2016, obchodzonym pod hasłem – Woda i Praca – jest pokazanie, jaka wystarczająca ilość poprawa jakości wody, może zmienić życie i źródła utrzymania pracowników, a w efekcie przekształcić społeczeństwa i gospodarki świata.





# EXPERIENCE - LASER MICROSCOPE





# CURIOSITIES

## Do you know that:

- Human feels thirstiness, when he loses even 1% of the total amount of water we have in the body,
- Average water consumption in Poland is 145 liters per day per person,
- If you buy water instead of sodas you'll save yearly approx. 1300 PLN,
- Most of fresh water, which is missing in very places, is frozen in glaciers, and it's approx. 24.000.000.000.000.000.000 l



# **THANK YOU FOR YOUR ATTENTION!**

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