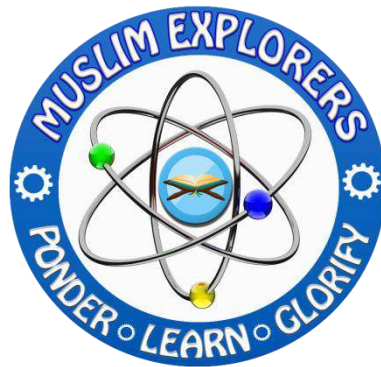




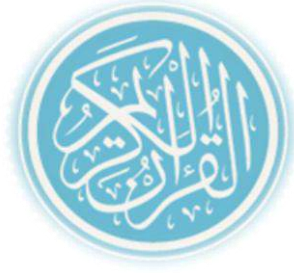
# WATER



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- ***INSPIRATION:....القرآن الكريم***
- ***WHAT IS WATER***
- ***WATER IN QURAN***
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- ***WATER CYCLE***
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# INSPIRATION



أَفَرَأَيْتُمُ الْمَاءَ الَّذِي تَشْرَبُونَ ﴿٦٨﴾

And have you seen the *water* that you drink?

لَوْ نَشَاءُ جَعَلْنَاهُ أَجَاجًا فَلَوْلَا تَشْكُرُونَ ﴿٧٠﴾

Is it you who brought it down from the clouds, or is it  
We who bring it down?

ءَأَنْتُمْ أَنْزَلْتُمُوهُ مِنَ الْمُزْنِ أَمْ نَحْنُ الْمُنزِلُونَ ﴿٦٩﴾

If We willed, We could make it bitter, so why are you  
not grateful?

**AL-WAQIYA (68-70)**

قُلْ أَرَأَيْتُمْ إِنْ أَصْبَحَ مَاؤُكُمْ غَوْرًا فَمَنْ يَأْتِيكُمْ بِمَاءٍ مَعِينٍ ﴿٣٠﴾

Say, "Have you considered: if your water was to  
become sunken [into the earth], then who could  
bring you flowing water?"

**AL-MULK (30)**

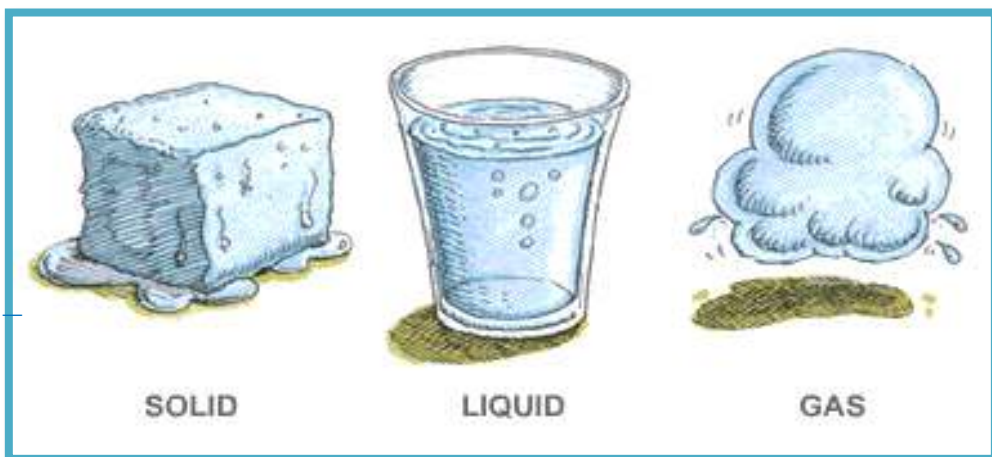
# WHAT IS WATER?

Hydrogen monoxide ( $H_2O$ ) is the chemical name for water. This compound is generally known as the liquid we drink to quench our thirst. Water is essential for all forms of life on earth. It is;

- ✓ Tasteless.
- ✓ Odorless.
- ✓ Colourless.
- ✓ Universal solvent
- ✓ Exists in all three physical states.



## THREE STATES OF WATER



### – SOLID WATER:

- ICE; the crystalline frozen water.

### – LIQUID WATER:

- It's one of the reasons for existence of life on earth.
- We use it for washing, cooking and drinking.

### – WATER AS GAS:

- Water boils to form water vapors. As these vapors cool, they form a cloud of steam.

# WATER IN QURAN

The noun (ماء مَاء) water , with root word mīm wāw hā (م و ه) occurs 63 times in the Quran.

## **WATER; A SOURCE OF FOOD AND VEGETATION**

(2:22, 6:99, 7:50, 14:32, 15:22, 16:10, 20:53, 31:10, 35:27, 22:63, 32:27, 13:4, 35:27, 50:9, 72:16)

## **WATER; A SOURCE OF LIFE**

(21:30, 24:45, 25:54, 32:8, 41:39, 77:20, 86:6)

## **WATER; REVIVES DEAD LANDS**

(2:164, 16:65, 29:63, 30:24, 22:5, 43:11)

## **WATER SPRINGS FROM ROCKS (2:74)**

## **WATER CYCLE/RAIN (الغَيْثُ, الْوَدْقُ, وَابِلٌ, مَطَرٌ, مَاءٌ)**

(7:57, 8:11, 13:17, 15:22, 23:18, 24:43, 25:48-49, 27:60, 30:24 AND 48, 9:19, 45:5, 50:9, 54:11, 67:30, 78:14, 86:11, )

## **BAD DEEDS AND WATER (24:39, 13:14)**

## **ABOLUTION WITHOUT WATER; TAYAMMUM (4:43, 5:6)**

## **ALLAH'S THRONE (ARSH) UPON WATER (11:7)**

## **NOAH (A.S) FLOOD (11:43, 11:44, 69:11 )**

## **MUSA(A.S) ON WATER WELL IN MADIYAN (28:23)**

## **WATER IN JANNAH AND JAHANAM (14:16, 47:15, 56:31)**

## **FLOWING AND DRINKING WATER**

(18:41, 39:21, 54:12, 56:68, 67:30, 77:27, 79:31, 80:25)

## **LIFE OF THIS WORLD IS LIKE RAIN WATER (10:24, 18:45)**

## **WATER FOR PROPHET SALEH (A.S)'S SHE CAMEL (54:28)**



# WATER IN EARTH

Our beautiful Earth is known as "**THE BLUE PLANET**". The water in oceans covering about 71% of earth's surface gives it the blue colour. Without water the earth would look like the moon.

The origin of water on Earth is not completely understood.

Water is the most abundant compound on Earth's surface. Earth is the only planet with flowing waters.

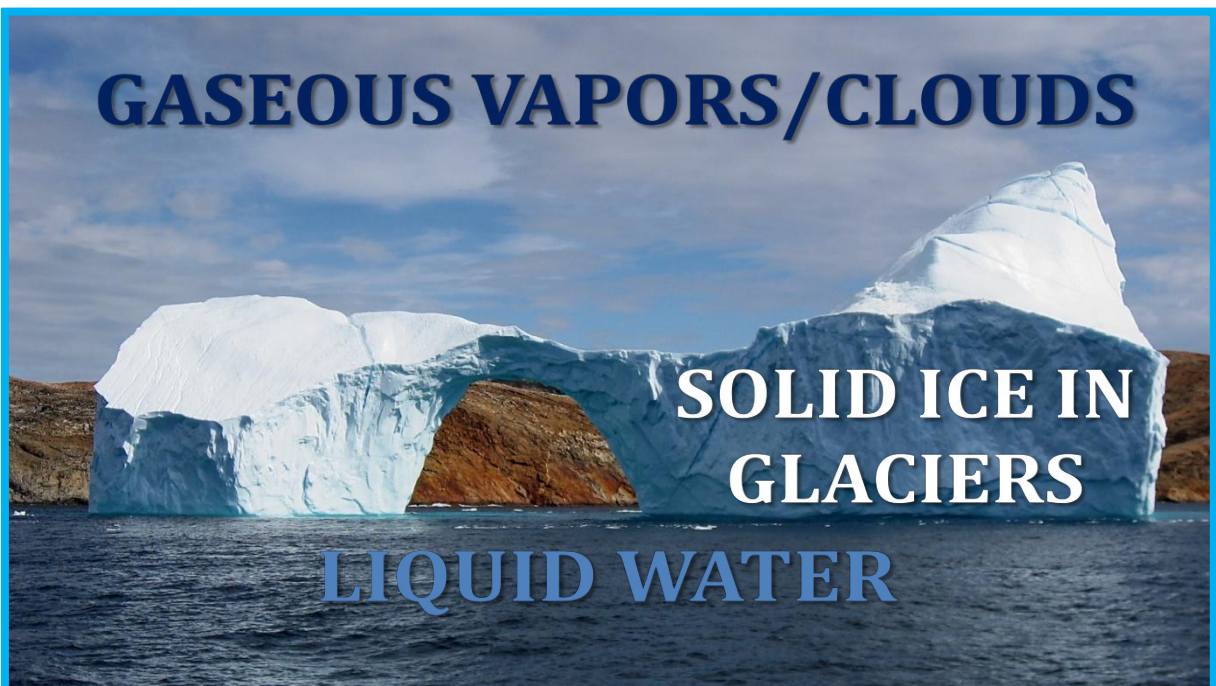
Earth is also the only planet where water exists in all three physical states.



**GASEOUS VAPORS/CLOUDS**

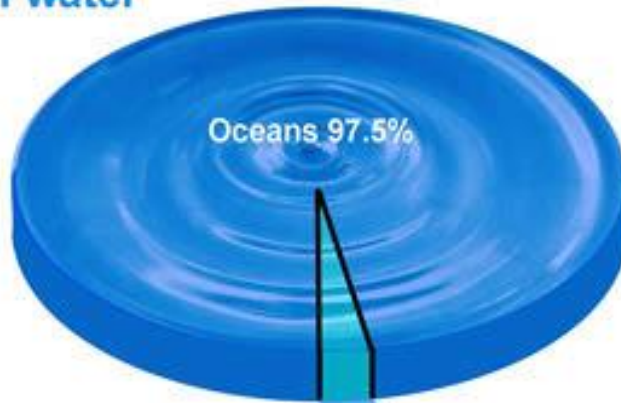
**SOLID ICE IN  
GLACIERS**

**LIQUID WATER**

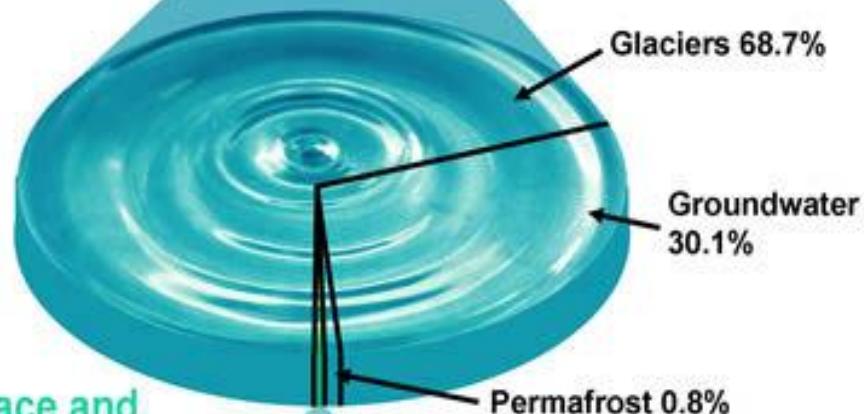


# FRESH WATER

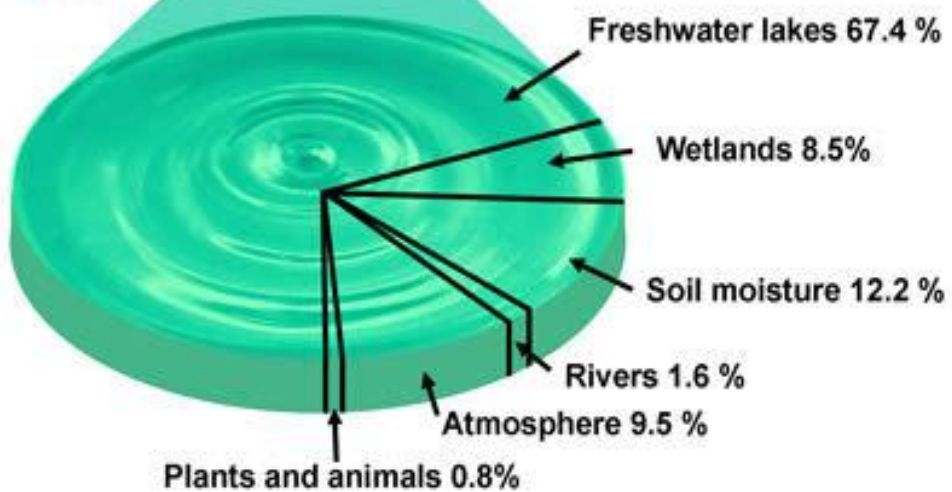
## Total water



## Freshwater 2.5%



## Surface and atmospheric water 0.4%



# FRESH WATER

**FRESH WATER IS THE NATURAL SWEET WATER.**

---

**FRESH WATER IS A RENEWABLE SOURCE THAT CAN ONLY BE REFILLED BY NATURALLY OCCURRING PROCESS OF WATER CYCLE.**

---

**ONLY 2.5 % OF THE TOTAL EARTH'S WATER IS FRESH WATER.  
60% OF WHICH IS FROZEN IN ANTARCTICA AND OTHER GLACIERS.  
30% OF LIQUID FRESH WATER IS UNDERGROUND.  
10% IS FOUND ON THE SURFACE IN THE LAKES AND RIVERS.  
LESS THAN 1% IS AVAILABLE FOR HUMANS.**

---

**ONE IN EVERY EIGHT DOESN'T HAVE ACCESS TO SAFE WATER.**

---

**ALL FRESH WATER IS NOT DRINKABLE.  
DRINKING WATER CAN BE DRAWN FROM GROUND OR SURFACE WATER. 783 MILLION PEOPLE LACK ACCESS TO CLEAN WATER.**

---

**THE INCREASE IN POPULATION INCREASES WATER USE.**

---

**CLIMATE CHANGE AFFECTS THE AVAILABILITY OF FRESH WATER.**

---

**IN AFRICA, THE LACK OF RAIN HAS LED TO INSUFFICIENT WATER SUPPLY FOR IRRIGATION. THIS HAS AFFECTED AGRICULTURE AND HAS LED TO A SHORTAGE OF FOOD FOR THE PEOPLE.**

---

**85% OF THE WORLD POPULATION LIVES IN THE DRIEST HALF OF THE PLANET.**

---

**ALSO THERE IS AN UNEVEN DISTRIBUTION OF FRESH WATER. E.G. INDIA'S POPULATION IS MORE THAN 30 TIMES LARGER THAN THAT OF CANADA. BUT; CANADA HAS 20% OF THE WORLD'S FRESH WATER SUPPLY. WHILE INDIA HAS ONLY 10% OF THE WORLD'S FRESH WATER SUPPLY.**

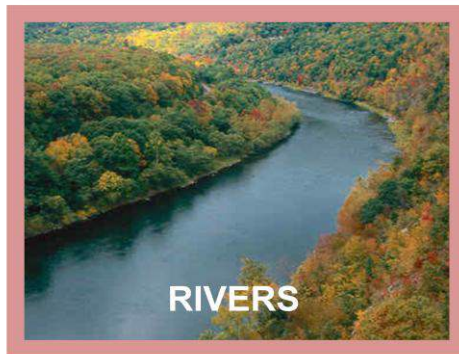
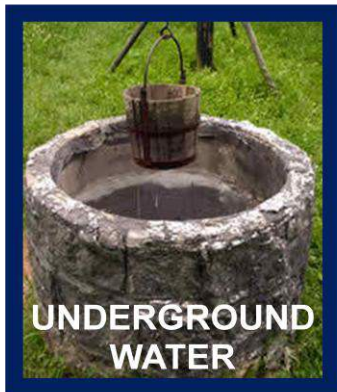
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**GLOBAL WARMING WILL ALSO CAUSE A DECREASE IN THE SUPPLY OF FRESH WATER. FIRSTLY, WATER FROM THE MELTING GLACIERS WILL MINGLE WITH SALTY WATER IN THE OCEANS. SECONDLY, THE INCREASED OCEAN VOLUME WILL CAUSE SEA LEVELS TO RISE, CONTAMINATING FRESHWATER SOURCES ALONG COASTAL REGIONS WITH SEAWATER.**

---



# FRESH WATER SOURCES



**MOST OF AVAILABLE FRESH WATER COMES FROM THE LAKES. RUSSIA'S LAKE BAIKAL HOLDS 20% OF THE WORLD'S UNFROZEN FRESH WATER.**

---

**46% OF PEOPLE AROUND THE GLOBE DON'T HAVE WATER PIPED TO THEIR HOMES. IN MOST OF AFRICA AND ASIA YOU HAVE TO WALK MORE OR LESS 6 KM TO COLLECT WATER.**

---

**GROUNDWATER FEEDS SPRINGS AND STREAMS, HELPS KEEP LAND SURFACES STABLE BUT MOST OF IT IS REALLY DEEP AND INACCESSIBLE. HUNDREDS OF CITIES AROUND THE WORLD, INCLUDING HALF OF THE VERY LARGEST, MAKE SIGNIFICANT USE OF GROUNDWATER.**

---

**OF ALL THE FRESH WATER WE TAKE FROM THE LAKES, RIVERS AND THE GROUND: 70% IS USED IN AGRICULTURE.**

**22% IS USED IN INDUSTRIAL PROCESSES.**

**8% IS PIPED TO HOMES FOR HOUSEHOLD PURPOSES.**

---

**MANY POLLUTANTS THREATEN FRESH WATER SUPPLIES, ESPECIALLY IN UNDERDEVELOPED COUNTRIES. E.g. SEWERAGE LEAKS INTO NATURAL WATERS.**

---

**HALF OF THE POPULATION OF THE DEVELOPING WORLD SUFFERS FROM AT LEAST ONE DISEASE CAUSED BY INSUFFICIENT WATER SUPPLY AND SANITATION.**

---

# SAVE WATER

**IF WORLD'S WATER = 100 LITERS  
AVAILABLE FRESH WATER = 1/2 Table Spoon**

Abdullah ibn Amr reported: The Messenger of Allah ﷺ, passed by Sa'd while he was performing ablution. The Prophet said, "What is this extravagance (israf)?" Sa'd said, "Is there extravagance with water in ablution?" The Prophet said, "Yes, even if you were on the banks of a flowing river." (Sunan ibn Majah:425)

## WATER CONSERVATION (WAYS TO SAVE WATER)

### USE WATER WISELY:

Avoid unnecessary use of water e.g. use a broom to clean instead of water.

### FIX ALL THE LEAKAGES:

Install a water meter to measure all the hidden water leakages.  
At one drip per second, A TAP CAN LEAK 3,000 GALLONS IN A YEAR.

### USE A BUCKET INSTEAD OF SHOWER:

A five-minute shower uses 10 TO 25 GALLONS.

### USE WATER EFFICIENT FLUSHES

A running toilet can waste up to 200 GALLONS of water each day.

### USE WATER EFFICIENT TECHNOLOGY

New ENERGY STAR RATED washing machines use 35-50% less water.  
Using the front load washers you can save 15 GALLONS of water per wash load.  
Washing dishes by hand uses 7 TIMES more water than the modern dishwasher.

### TURN TAP OFF WHILE BRUSHING TEETH/ SOAPING HANDS:

An average tap releases 2 GALLONS of water per minute; You can save up to 4 GALLONS of water every morning by turning off the tap while brushing teeth.

### AVOID WATER POLLUTION:

3.4 million People die each year from water related causes.

### RAIN WATER HERVESTING:

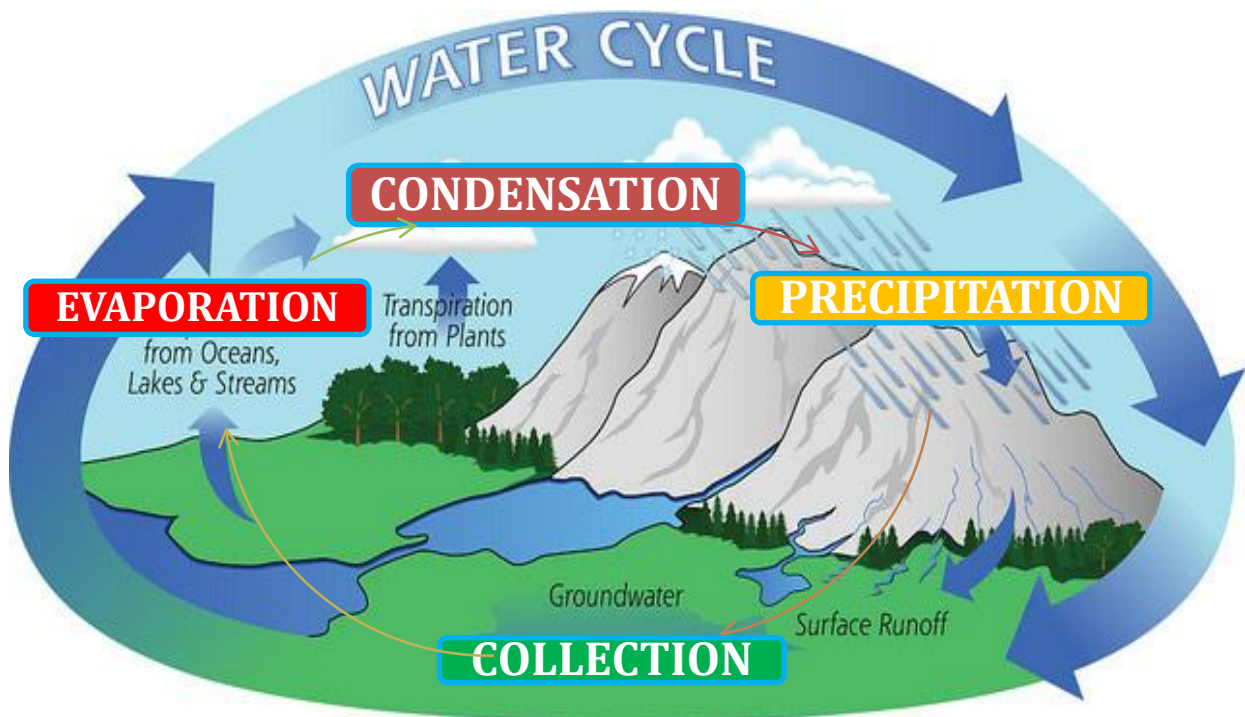
Collecting rainwater for use as it is the purest water.  
A man in India revived 5 rivers and brought water back to 1000 villages just by constructing johars for collecting rain water and check dams.

# WATER CYCLE

اللَّهُ الَّذِي يُرْسِلُ الرِّيحَ فَثِيرُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا  
فَتَرَى الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ ۖ فَإِذَا أَصَابَ بِهِ ۖ مَنْ يَشَاءُ مِنْ عِبَادِهِ إِذَا هُمْ يَسْتَبْشِرُونَ



It is Allah, who **SENDS THE WINDS**, and **THEY STIR THE CLOUDS** and **SPREAD THEM IN THE SKY** however He wills, and **HE MAKES THEM FRAGMENTS** so you see the **RAIN EMERGE FROM WITHIN THEM**. And when He causes it to fall upon whom He wills of His servants, immediately they rejoice. (Ar-Rum: 48)



Earth is a closed system, it rarely loses or gains extra matter. The same water that existed on the earth millions of years ago is still present today. All the water has passed through the water cycle countless times. It's the nature's way of conserving water.

Every drop is preserved since its birth! SubhanAllah!

# WATER CYCLE

## STEP 1: EVAPORATION

The sun drives the water cycle. It heats the water on the surface of the Earth and **evaporates** it as water vapors into the air. 86% of the global Evaporation occurs over the oceans. Evaporation purifies the water. Water also evaporates from the plants and soil, it is called **Transpiration**.

## STEP 2: CONDENSATION

**Condensation** is the transformation of water vapors to liquid water droplets.

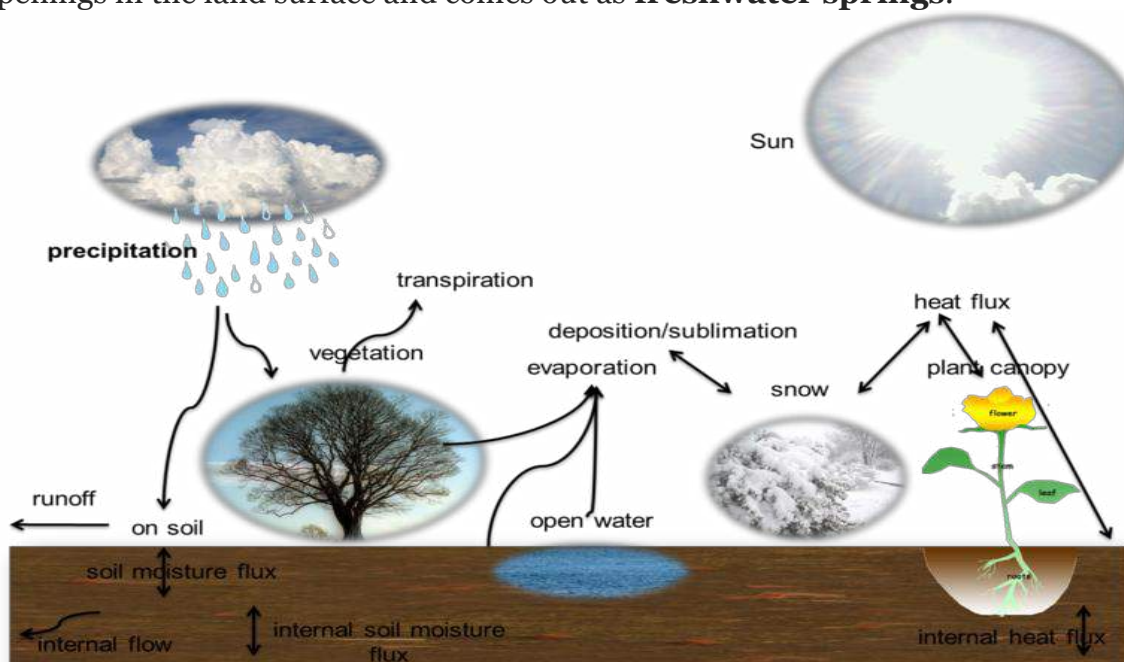
Winds are the second driver of water cycle. The light weight hot vapors gain height in open air. As the altitude increases, air pressure decreases and the temperature drops. The lowered temperature causes water vapors to condense into tiny liquid water droplets. A huge concentration of these droplets in the atmosphere becomes visible as a **cloud**. Air currents move them around the globe.

## STEP 3: PRECIPITATION

Condensed water vapors collide, grow, and fall out of the upper atmospheric layers as **precipitation**. Most precipitation occurs as rain, but also includes snow, hail etc.

## STEP 4: COLLECTION

Most water falls back into the **oceans**. Some accumulates as **ice caps and glaciers**, which can store frozen water for thousands of years. Some water flows over the ground as **surface runoff**. Runoff may be stored as freshwater in lakes, a portion enters rivers and over the time most water returns to the oceans. Also much of rain water soaks into the ground as **infiltration**. Some groundwater finds openings in the land surface and comes out as **freshwater springs**.



(Chen et. al., 1996, 1997; Chen and Dudhia, 2001; Ek et. al., 2003; Koren et. al., 1999)



# WATER IS LIFE

وَمِنْ آيَاتِهِ أَنْ خَلَقَ لَكُمْ مِنْ أَنْفُسِكُمْ أَزْوَاجًا لِتَسْكُنُوا إِلَيْهَا وَجَعَلَ بَيْنَكُمْ

مُودَّةً وَرَحْمَةً إِنَّ فِي ذَلِكَ لَآيَاتٍ لِقَوْمٍ يَتَفَكَّرُونَ ﴿٢١﴾

**ALLAH HAS CREATED EVERY [LIVING] CREATURE FROM WATER.**

And of them are those that move on their bellies and of them are those that walk on two legs, and of them are those that walk on four. Allah creates what He wills. Indeed, Allah is over all things competent.

An-Nur (45)

## **HUMAN BODY = 65% Water**

Brain=75% water	Blood=90% water	Lungs= 83% water	Skin=64% Water
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- ✓ Water quenches our thirst.
- ✓ It helps in formation of blood.
- ✓ Water also helps in food digestion.
- ✓ It flushes away all the wastes from our body.
- ✓ It regulates body temperature by sweating and respiration.

## **PLANTS:**

- ✓ Water helps plants in photosynthesis.
- ✓ Plants need water for growth.
- ✓ It keeps the leaves cool by evaporation.
- ✓ It transports dissolved minerals around the plant.
- ✓ It supports leaves and shoots by keeping the cells rigid.

## **FRUITS:**

Tomato=94% Water	Watermelon= 92% water	Orange=82% water	Apricot=86% water
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## **VEGETABLES:**

Cucumber= 96% water	Radish=95% water	Carrot=87% water	Spinach=92% water
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## **ANIMALS:**

- ✓ Like humans and plants animals also need water for survival.
- ✓ Water is also the home of many "aquatic" animals and plants.

# ZAM-ZAM WATER

## ZAM-ZAM THE PUREST WATER ON EARTH

### THE MIRACULOUS ORIGIN:

Mecca is dry barren land formed by *nonporous igneous rocks*. The Zam-zam has been flowing here for more than *4,000 year*. It all started when ALLAH relieved the pain of a lonely mother Hajara (A.S) through his angle Jibra'eel (A.S) who struck the earth to quench the thirst of her baby Isma'eel (A.S).

### THE MIRACULOUS FLOW:

The Zam-zam well is only about 30 meters deep. A pumping test at 8,000 liters per second for more than a 24 hour period showed that it recovered the reduced water level in only about 11 minutes.

### PUREST WATER ON EARTH:

It is the purest water on earth since it has the perfect amount of bicarbonates. It has been scientifically proved that Zam-zam is free from all kinds of impurities and contaminations. It doesn't even allow the algae growth. It remain fresh even it is kept bottled for a long period of time.

### A HIGHLY NUTRITIONAL FOOD AND MEDICINE:

The Prophet ﷺ said: "The best water on the face of the earth is the water of Zam-Zam; it is a kind of food and a healing from sickness."(Saheeh al-Jaami', 3302)

It is a healing and curative effect.

It is rich in fluorides that prevent bacteria growth.

It contains required amount of calcium and magnesium.

It has always maintained the same salt composition and taste.

It reduces the impacts of hunger by increasing the energy level in the body cells.

Zam-zam is alkaline in nature; it neutralizes the excess acid formation in the stomach thus beneficial for the hyperacidity and heartburn.

### IT SERVES THE SINCERE INTENTIONS:

The Messenger of Allah (s.a.w) said: "The water of Zam-Zam is for whatever it is drunk for." (Ibn Maajah: 3062)

"Zamzam water is what one intends to drink it for. When one drinks it to be healed, Allah heals him; when one drinks it to be full, Allah makes him full; and when one drinks it to quench his thirst, Allah quenches it. "

( Ahmad, and Ibn Majah)

# TEST YOURSELF!

1. Water exists in how many physical states on Earth? Can you tell why?

---

2. How much water is on our Earth's surface?

---

3. What percent of Earth's water is salt water?

---

4. How much of the water on Earth is fresh water?

---

5. Where is most of the Earth's fresh water?

---

6. Which group contains more of fresh water clouds and atmosphere or all the rivers on Earth?

---

7. How much fresh water is available for us?

---

8. What accounts for the large amount of water use?

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9. From where do we get drinking water? Is all fresh water drinkable?

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10. What are the potential threats to fresh water safety?

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11. How many people don't have access to safe drinking water?

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12. What do you think? How can you help saving water?

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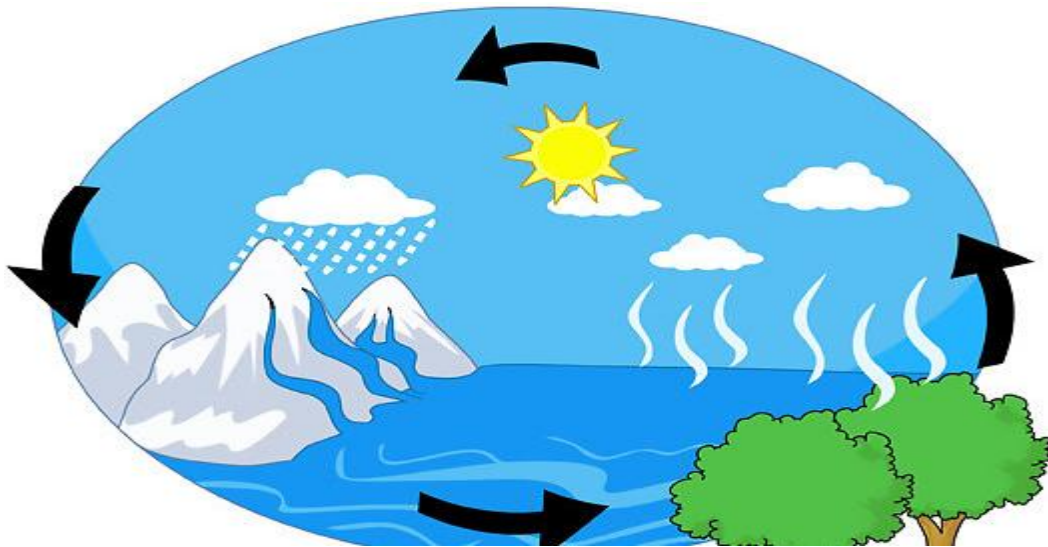
13. Can you guess much water was there on Earth a million years ago?

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14. How does nature conserve it?

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15. What is water cycle? Label the steps of the cycle?



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16. How water is collected back on the Earth?

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17. Which "Ayat" from this world are mentioned in this verse?

**IT IS ALLAH, WHO SENDS THE WINDS, AND THEY STIR THE CLOUDS AND SPREAD THEM IN THE SKY HOWEVER HE WILLS, AND HE MAKES THEM FRAGMENTS SO YOU SEE THE RAIN EMERGE FROM WITHIN THEM. AND WHEN HE CAUSES IT TO FALL UPON WHOM HE WILLS OF HIS SERVANTS, IMMEDIATELY THEY REJOICE. (AR-RUM: 48)**

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18. How much water is in your body?

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19. What do water do for us? And why plants need water?

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20. What amaze you about the Zam-zam water?

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