1. Water is composed of two elements, hydrogen and oxygen, in a ratio of

**2:1** by volume, respectively

1. oxygen represents **88.8G%** of the **mass** of a water molecule and hydrogen represents **11.11%**
2. Two hydrogen atoms are linked to the oxygen atom by two **covalent bonds**, between which an angle measuring about **104.50°.**
3. ****boiling point of **pure water** which is **100°C** at **normal atmospheric pressure**
4. **hydrogen sulphide**, which boils at**- 61°C**.
5. **pH value** of the solution It is a scale that ranges **from 0 to 14**
6. less than 7 is acidic, greater than 7 is basic, equal to 7 is neutral.
7. Seawater: The pH value of seawater generally ranges from **7.5 to 8.4.**
8. **Fresh water** (rivers and lakes): the pH value varies and normally ranges

# from 6.5 to 8.5.

1. **Distilled water**: It has a pH value of **about 7**, because it is free of most of the impurities and ions.
2. **Groundwater:** is either **neutral or basic**.
3. **Clouds**: are generally slightly acidic, with values ranging from **4.5 to 5, due to carbon dioxide**
4. In case of **pure water**, the mass of **1 cm3** of it at a temperature of **4°C**

equals **1 g.**

1. The **density** of water at **4°C** equals **1 g/cm3,** which is equivalent to

# 1000 kg / m3 in the international unit (SI).

1. Normal **salinity** of ocean water is **35 grams per liter of water.**
2. The **concentration** of **oxygen gas** in the **air** is **about 500 times higher than** that of **carbon dioxide**.
3. **oxygen** gas is about **50 times** less soluble in water **than** that of

# carbon dioxide.

1. The **solubility** of the two gases ” O2 , CO2” in **salty ocean** water is about **20-30% lower** than their solubility in fresh water.
2. At a depth of **10 meters**, more than **50%** of **visible light** energy is

# absorbed.

1. In clear **tropical waters**, only about 1% of visible light mostly in the blue spectrum reaches a depth of 100 meters.
2. **Nitrogen (N2)**: represents about **78%** of the volume of the atmosphere.
3. **Oxygen (O2):** represents about **21%** of the volume of the atmosphere.
4. **Argon (Ar)**: an inert gas that makes up about **0.G3%** of the volume of the atmosphere.
5. **Carbon dioxide (CO2)**: Makes up about **0.04%** of the volume of the atmosphere and is essential for plant photosynthesis.
6. **Ozone gas (O3):** The ozone layer is found at an altitude of approximately **10 km - 55 km** from The Earth's surface.
7. **Troposphere**: The layer **closest to The Earth's** surface, with a

**thickness** of about **18 km at the equator** and **8 km at the two poles**.

1. **The air temperature** decreases **by one degree** Celsius for every **176 m.**
2. **Stratosphere:** its height up to 50 km above sea level,
3. **The temperature** does not change through the stratosphere layer until an **altitude of 20 km**.
4. **Mesosphere**: A layer about **30 km** thick, with the lowest temperature (**-G0 °C**).
5. **Ionosphere:** Extending approximately to **640 km** above sea level.
6. The escape velocity from Earth's gravity is about **11.2 km/s.**