FEATURES OF WATER

1. Water is a colorless, tasteless and odourless liquid found on the surface of the earth the the features of water are one are:
2. **chemical composition**

Water is a chemical compound formed when two hydrogen atoms are combined to one oxygen atom to form a compound H2O. The hydrogen atoms are covalently bonded with oxygen with a bond angle which is approximately 104.5° this remarkable structure gives water its unique properties .

1. **Polarity**

Polarity refers to an equal distribution of electrons within the molecule, resulting in the formation of partial positive and negative charges next point ⁶ of water is due to molecular structure and electronegative difference next point the water molecules are partial positive charge on hydrogen atoms and the negative charge on oxygen atoms this unequal distribution of charges is what gives water its polarity nature.

1. **High specific heat capacity.**

High specific heat capacity refers to the amount of energy required to raise the temperature of a substance by 1°C or Kelvin what has I eat capacity due to hydrogen bonding .

1. Hydrogen bond.

Hydrogen bond between high the hydrogen atoms require a large amount of energy to break that leads to high specific heat capacity.6⁶

1. Molecular structure .

* The covalent bond between oxygen atoms and hydrogen atoms require a subsequent amount of energy to break and also the hydrogen bond between the hydrogen atoms also required a large energy capacity to break.

1. **Density and thermal expansion.**

Water has a maximum density of 1000 kilogram per meter cubic or 1g per centimeter cubic if it has no impurities this implies that at 4°C water has the highest density than any other temperature. As the temperature of water decreases or increases above 4°C the density subsequently goes down.

1. **Cohesion and surface tension.**

* Cohesive forces are forces that attract water molecules holding them together.

This strong cohesive forces are due to hydrogen bonding between the water molecules there is. they're the one responsible for the high boiling point Of water.⁶⁶

* Surface tension.

This is a force that makes the surface of a liquid act as a stretched elastic skin.

The hydrogen bonding between water molecules create high surface tension about72 MN at 20°C go to 68°F.666

1. **Universal solvent.⁶**

Water is the universal solvent due to its capability to dissolve more substances. Next the qualities that make water a universal solvent are:

* Full polarity of water molecules.⁶
* Ability to dissolve iconic compounds.
* Abundance and ubiquity.6
* Ability to dissolve both polar and non polar compounds.

1. **Thermal conductivity**.

It’s the measures of a substance ability to conduct heat and is measured in watts per meter kelvin (W/m-k).

The thermal conductivity of water is approximately 0.6W/m-k at 20°C or 68°F.

It is affected by temperature, pressure and impurities.