

Prophetic Telegraph

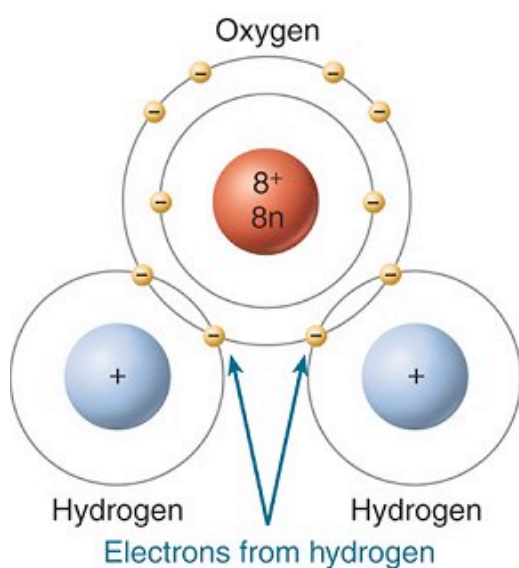
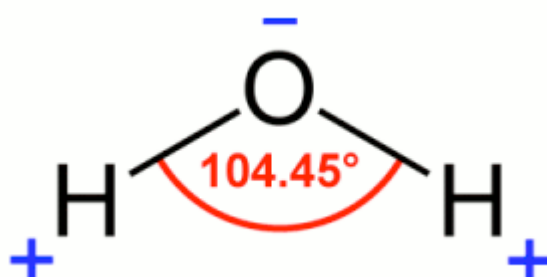
Brief papers on interesting topics by Arthur Eedle

(All back numbers may be seen on my website at www.prophetictelegraph.co.uk)

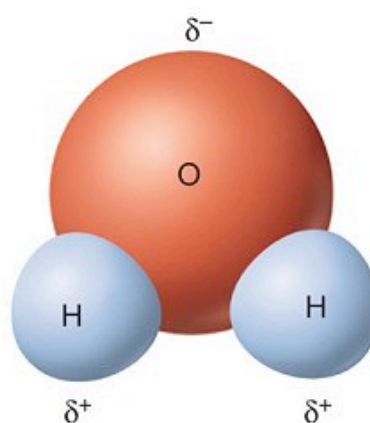
29th November 2014

Diagrams for PT90

I'm sorry to learn that my simple diagram of the water molecule got displaced from what I'd put in the text. It happens this way sometimes when sending emails. However, here is a group of diagrams which will help in following the progress of my science lesson!



(a) Electron shells in a water molecule

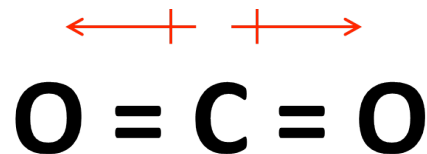
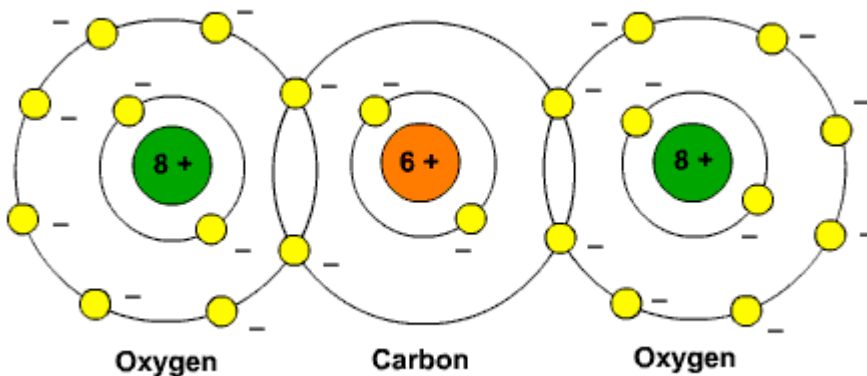


(b) Distribution of partial charges in a water molecule

Unlike other molecules, the water molecule lacks symmetry, as shown above, and this is the reason for all the amazing properties of water. If it were like Carbon Dioxide, we should

never know H₂O other than a gas like Nitrogen or Oxygen, both of which are “straight” molecular pairs.

And for the Carbon Dioxide Molecule, which is “straight” -



Remember: Since oxygen is more electronegative than carbon, it pulls the shared pairs of electrons closer to itself, hence it has a “partial negative charge” and carbon has a “partial positive charge.”

The dipole moment always points from partial positive to partial negative, giving rise to the 2 arrows shown above.

Since the arrows are in opposite directions, they will cancel out each other, thus CO₂ is non-polar despite the existence of polar bonds.

Therefore the Carbon Dioxide Molecule is a “straight” molecule, with no electric polar properties. This means that it cannot attract other molecules to itself in the way Water molecules attract.

The attractive property of water molecules causes many other molecules to join with them, and this is why water is known as “the universal solvent”.