

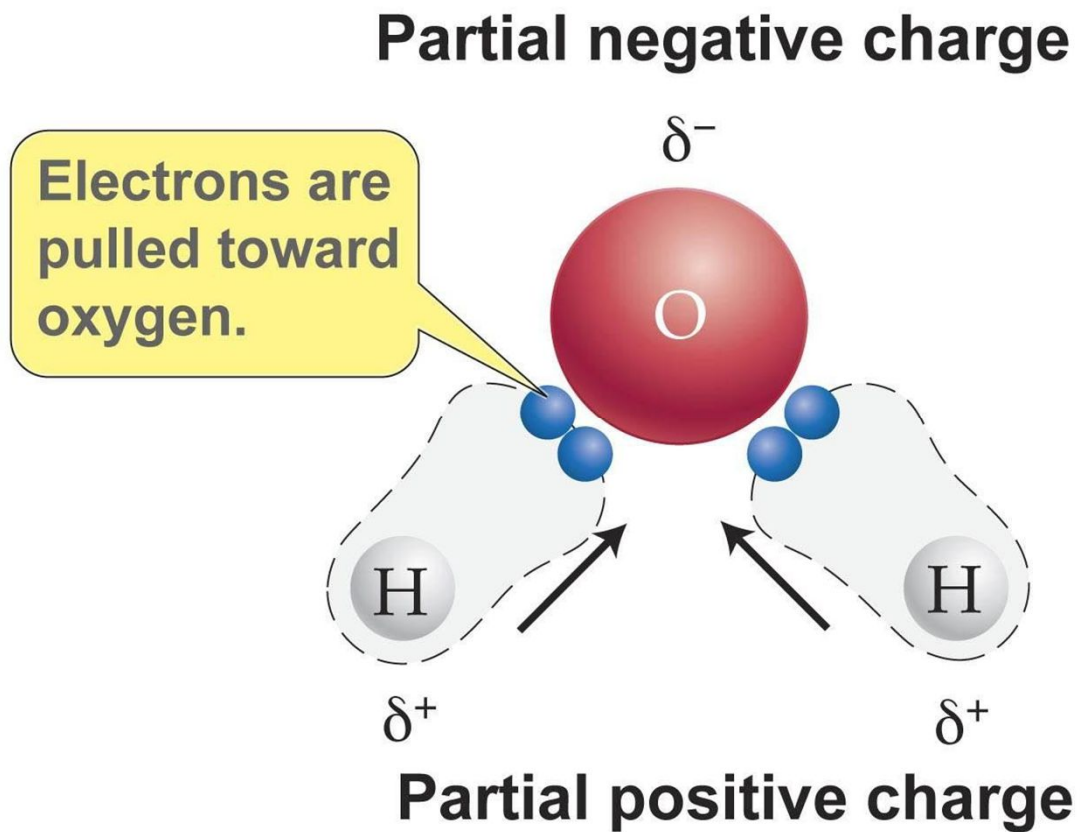
# Water and Solutions

## Section 6.3

# Water's Polarity

- Have you ever heard that water and oil don't mix?
  - That's because oil and water have different structures that are not compatible
- Water is made by a covalent bond
  - Two H atoms share e-'s with one O atom
  - Electrons are pulled closer to the O atom
  - Gives O end a *slightly* negative charge
  - This creates POLES

# Water's Polarity



# Water's Polarity

- When a polar water molecule gets close to another polar molecule they are *loosely* attracted
- The most common elements it attracts to are:
  - Fluorine (F)
  - Oxygen (O)
  - Nitrogen (N)
  - Hydrogen (H)
- The attraction makes a WEAK bond called a hydrogen bond

# Mixtures with Water

- Think about Kool-Aid.....
  - You mix a powder with water
  - A new product is NOT formed
  - It's just powder and water together
- When water mixes with another chemical with no new product = **MIXTURE**
- Mixtures can be made up of many things or just one thing

# Mixtures with Water

## Homogeneous Mixture

- Uniform composition throughout
- “looks the same”
- Also called a solution
- Made of a solvent and a solute
  - Solvent – water
  - Solute – gets dissolved
- Examples:
  - Salt water
  - Coffee
  - Kool-aid (well mixed)

## Heterogeneous Mixture

- Parts remain separate and visible
- “looks different”
- Most mixtures are this type
- If you have to shake or stir it – it’s this type
- Examples:
  - Salad
  - Cookies
  - Fog
  - Milk
  - Yogurt