## pH OF ACID RAIN

Normal rainwater is slightly acidic, with a pH of around 5.6, due to the dissolution of carbon dioxide  $(CO_2)$ in water, forming weak carbonic acid (H<sub>2</sub>CO<sub>3</sub>):

 $CO_{2(g)} + H_2O_{(l)} \rightarrow H_2CO_{3(aq)}$ 

Acid rain has a pH below 5.6, typically ranging from 4.2 to 4.4, but it can be even lower in heavily polluted areas.

## SOURCES OF ACID RAIN

## **Natural Sources**

- Volcanic eruptions release sulfur dioxide and other gases.
  Discomposition Reace 3
- **DEC** mposition of organic matter produces nitrogen oxides.
- Lightning generates nitrogen oxides.

## **Anthropogenic (Human-Made) Sources**

- Burning of fossil fuels (coal, oil, and natural gas) in power plants, industries, and vehicles.
- Industrial processes, such as smelting of metal ores.
- Agricultural activities, including the use of fertilizers.