

## 18.5 Introduction to pH (Video)

This project was preformed to supply **Libretext authors** with videos on General Chemistry topics which can be used to enhance their projects. Also, these videos are meant to act as a learning resource for **all General Chemistry students**.

### Video Topics

This video defines pH and contains examples of how to calculate pH.

Because of the small concentration of  $\text{H}_3\text{O}^+$  we use pH to measure acidity.

$$\text{pH} = -\log\{\text{H}_3\text{O}^+\}$$

Likewise we can say

$$\text{pOH} = -\log\{\text{OH}^-\}$$

$$\text{Because: } K_w = \{\text{H}_3\text{O}^+\}\{\text{OH}^-\} = 1.0 \times 10^{-14}$$

$$\text{We can say: } \text{p}K_w = \text{pH} + \text{pOH} = 14.0$$

$$\text{Because at neutrality: } \{\text{H}_3\text{O}^+\} = \{\text{OH}^-\} = 1.0 \times 10^{-7} \text{ M}$$

$$\text{Neutral pH} = 7$$

$$\text{pH} > 7 \text{ Basic or alkaline}$$

$$\text{pH} < 7 \text{ Acidic}$$

### Link to Video

Introduction to pH: <https://youtu.be/pQOa3bb5YEE>



### Attribution

- Prof. Steven Farmer ([Sonoma State University](#))

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