



# Acid-Base Titration Indicators

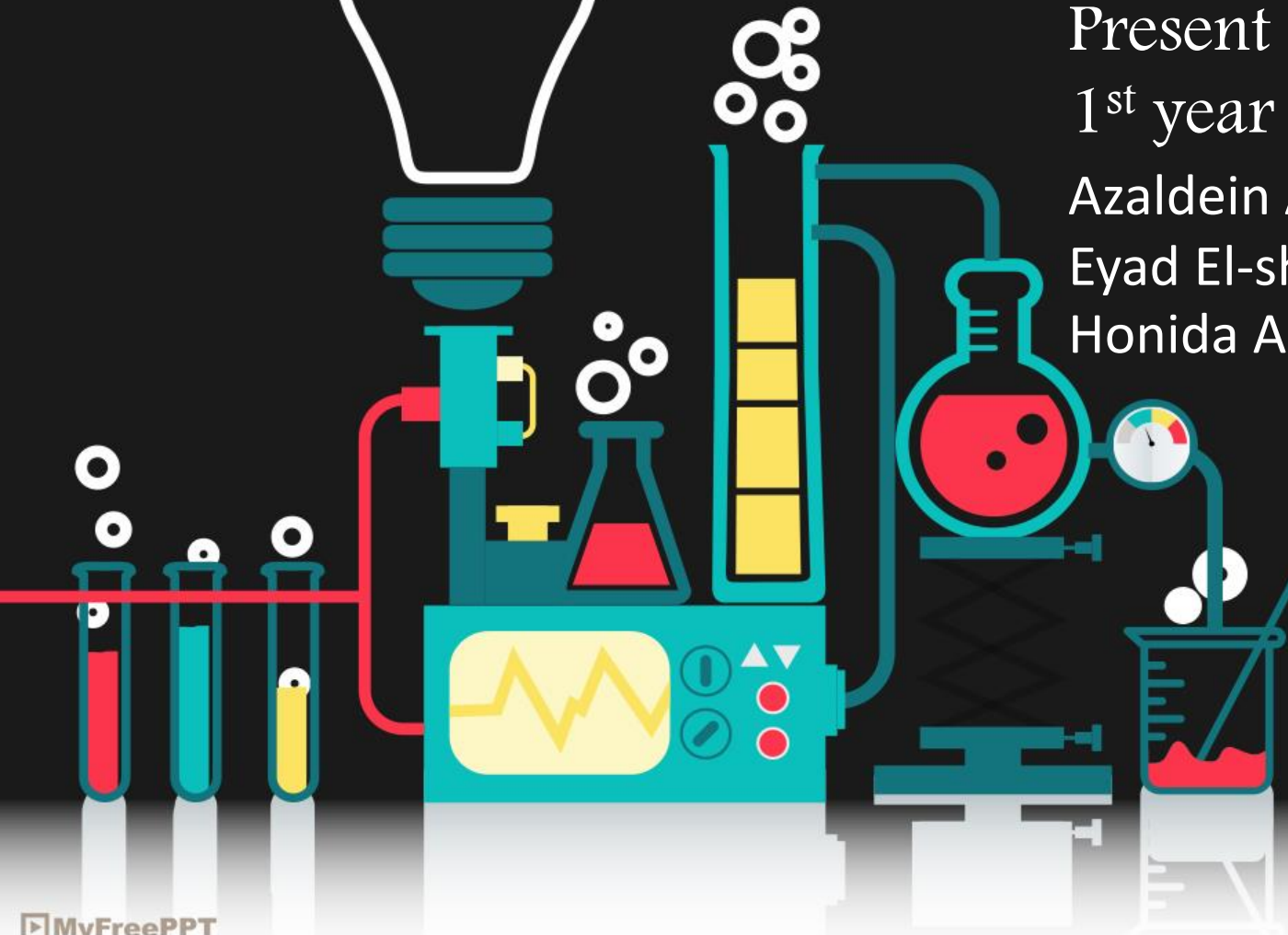
Present by

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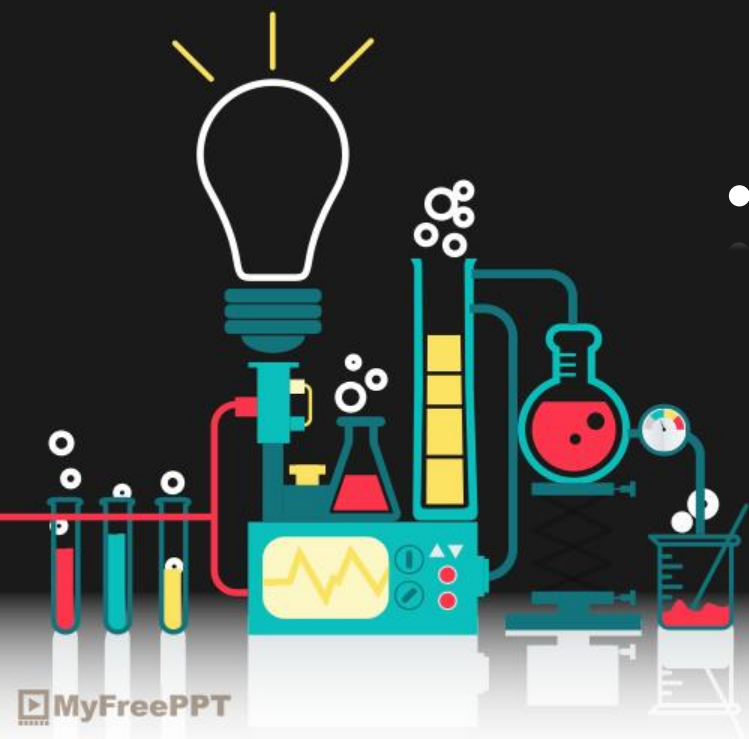
Eyad El-shikie

Honida Algilale



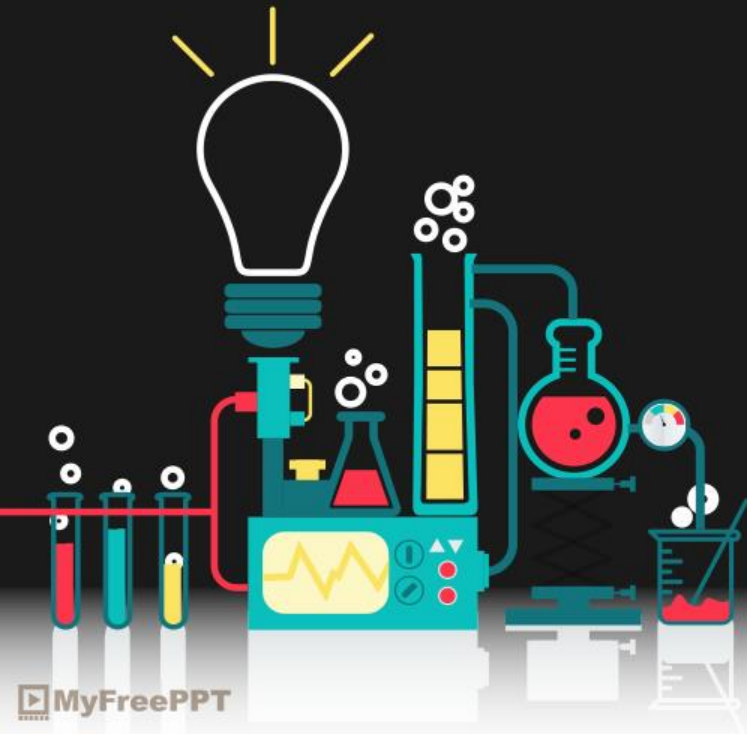
# *Objectives*

- *Definition of titration*
- *Discuss types of acid-base titration*
- *Define indicators and indicator range*



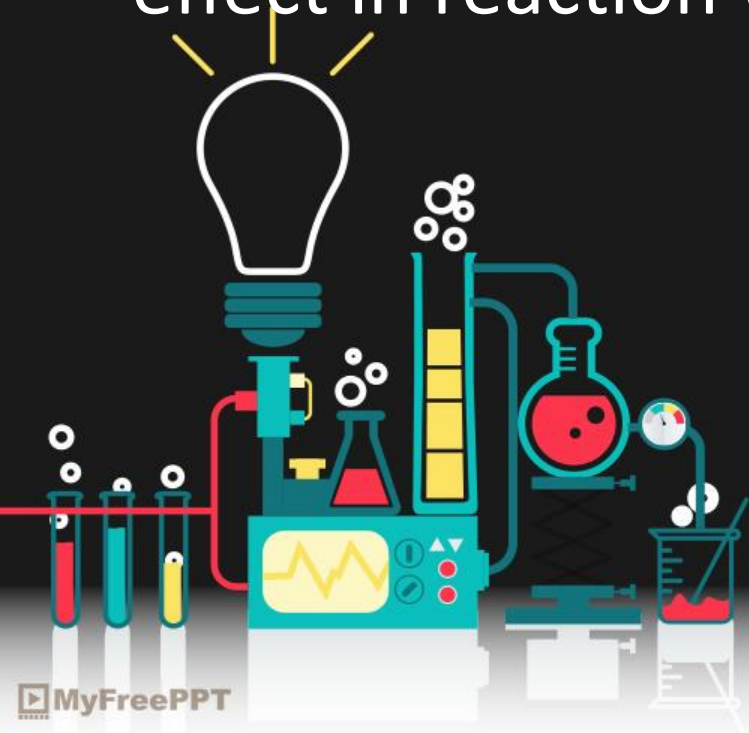
# *Introduction*

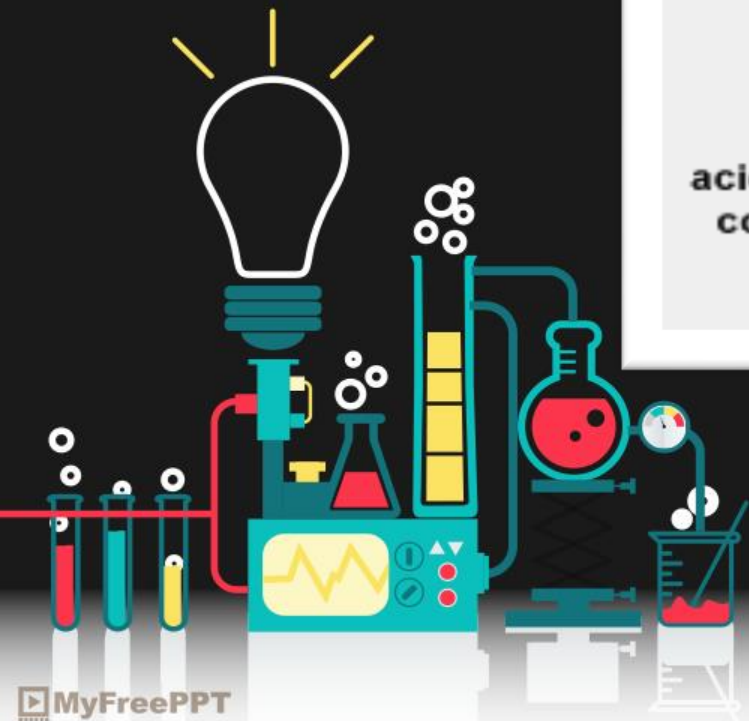
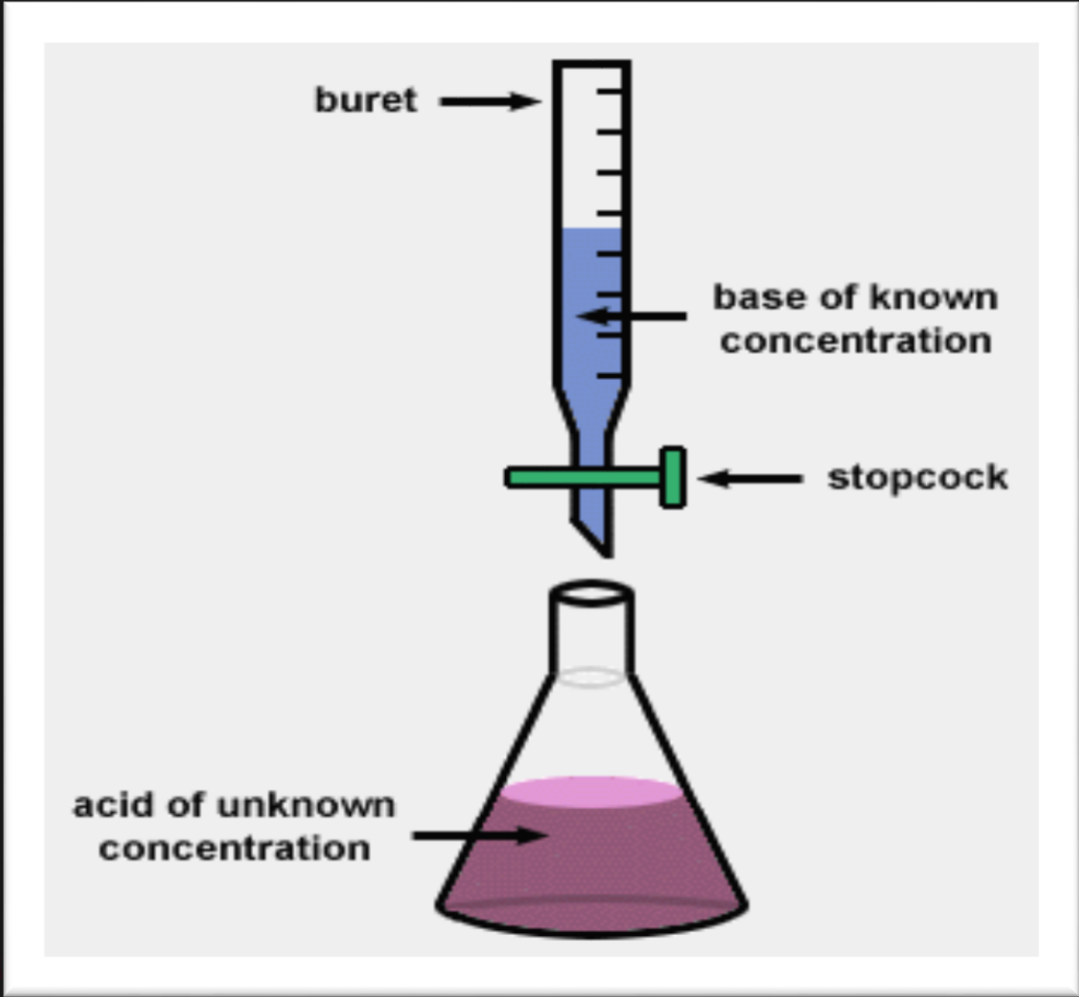
Our presentation today is about *definition of titration, types of titration, and acid–base titration indicators.*



# *Define titration*

A method or process of determining the concentration of a dissolved substance in terms of the smallest amount of reagent of known concentration required to bring about a given effect in reaction with a known volume of the test solution.





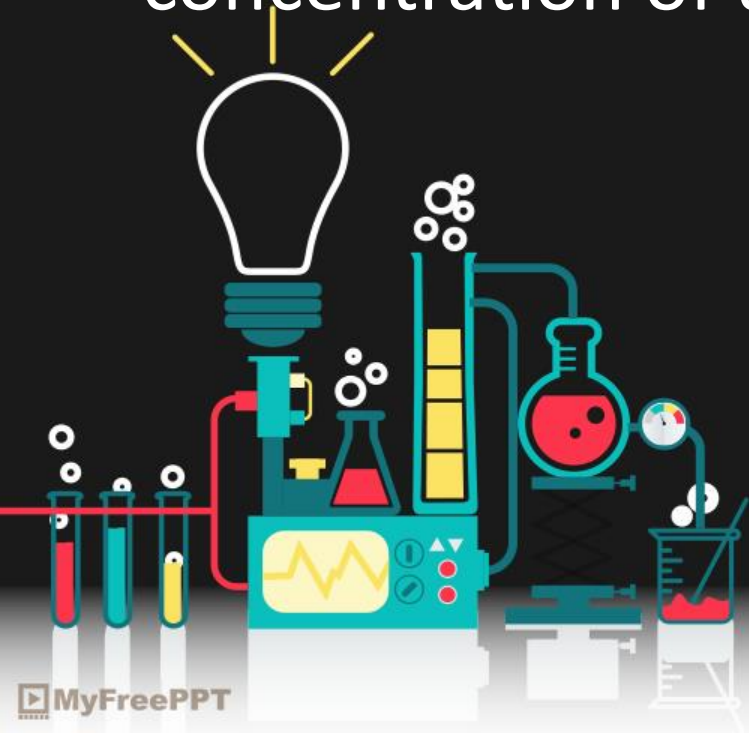
# Types of titration:

- Acid-base Titrations
- Redox Titrations
- Precipitation Titrations
- Complexometric Titrations



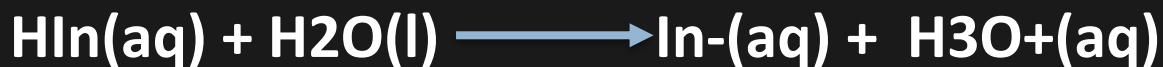
# *Acid–base titration:*

is the determination of the concentration of acid or base exactly by neutralizing the acid or base with an acid or base of known concentration. This allows for quantitative analysis of the concentration of unknown acid or base solution



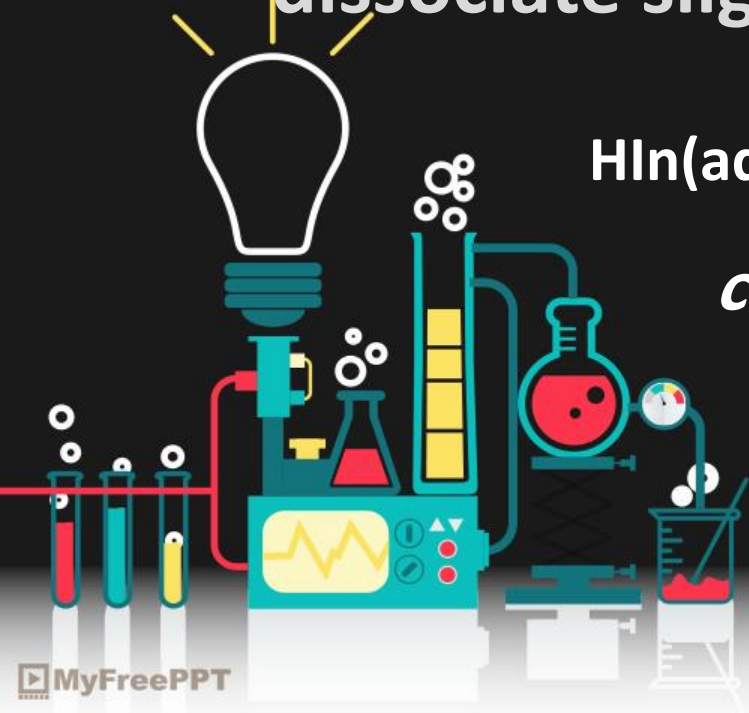
# Acid - base indicators

Acid - base indicators (also known as pH indicators) are substances which change colour with pH, They are usually weak acids or bases, which when dissolved in water dissociate slightly and form ions.



*color A*

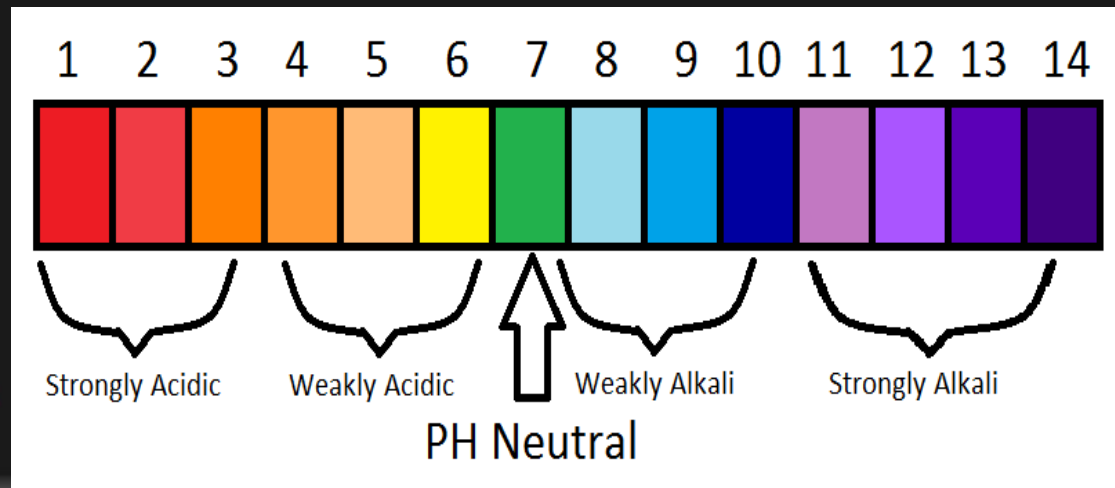
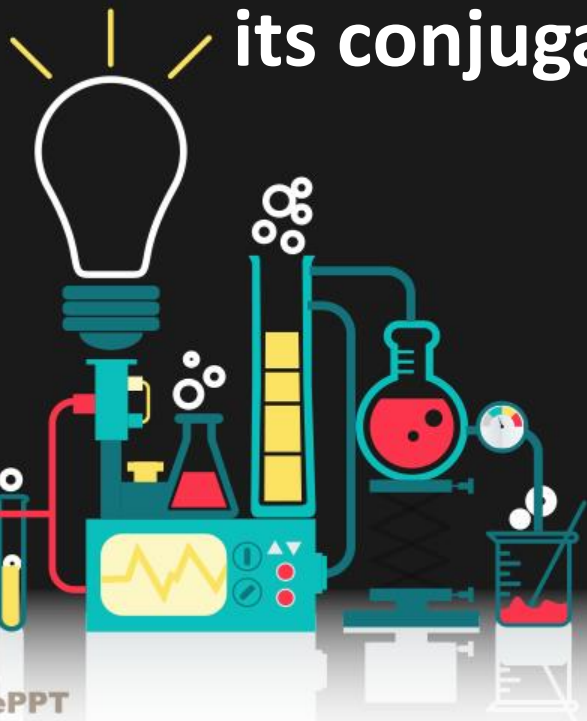
*color B*





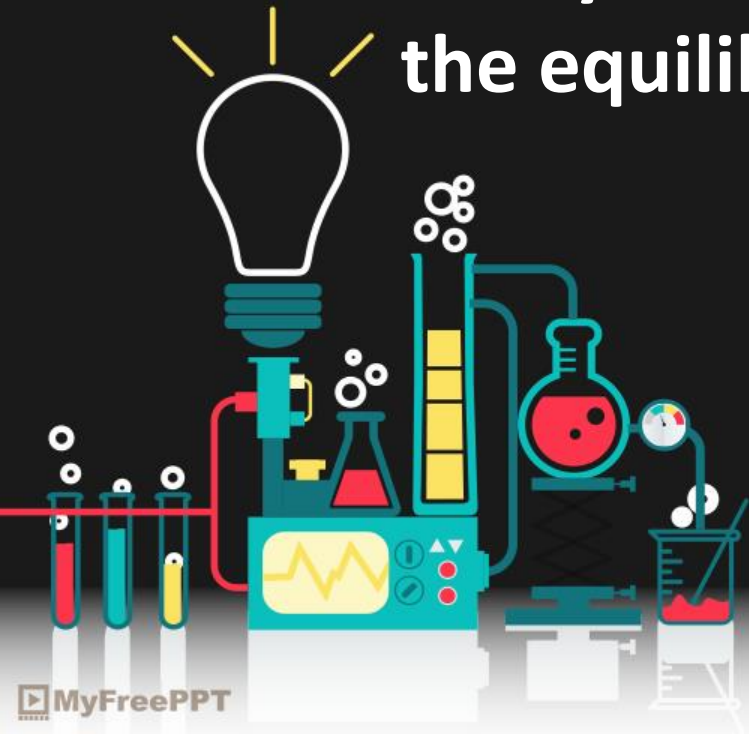
# How an Acid-base indicator works

- If the indicator is a **weak acid**, the acid and its conjugate base are different colors ,If the indicator is a **weak base**, the base and its conjugate acid display different colors.



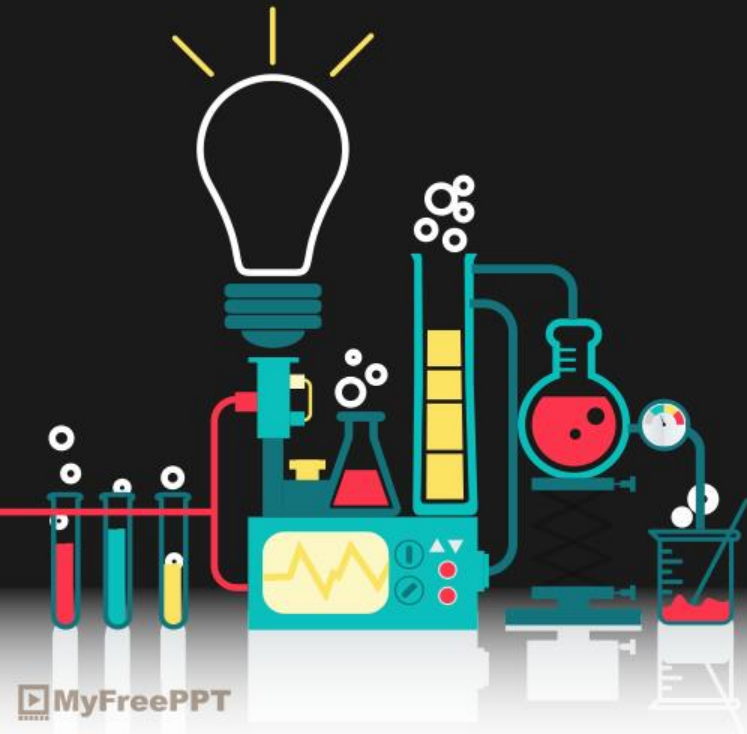
# *Indicator Range*

- At a low pH, a weak acid indicator is almost entirely in the HIn form, the colour of which predominates. As the pH increases - the intensity of the colour of HIn decreases and the equilibrium is pushed to the right.



# Conclusion

- Titration is a method or process of determining the concentration of a dissolved substance
- There are four Types of titration.
- Acid-Base Indicator Works If the indicator is a weak acid, or weak base.



# *References*

- [www.byjus.com](http://www.byjus.com)
- [en.wikipedia.org](http://en.wikipedia.org)
- [www.sciencing.com](http://www.sciencing.com)

