

Subject-Chemistry

Activity2- Natural Indicators

Chapter2: Acids, Bases and Salts

Class-X

Duration-40mins

Nature of the Activity- Group

Learning Outcome-

Students will be able to explore and identify the colours produced by acidic and basic solutions using a Natural Indicator.

What we have to do?

To identify the acidic and basic nature of the given substances using Beetroot extract.

What do we require?

Beetroot, Mortar, Water, Beaker (25ml) Tripod stand, Burner, Filter Paper, Funnel, micro test tubes, dropper, Lemon Juice, Soda-Water, Vinegar , Coffee Solution and Baking Soda

What do we need to know?

Indicators are chemical substances which give different colour in acidic and basic mediums

How will you proceed?

➤ Teacher's Activity

Teacher will brief the experiment, form 8 groups and make arrangements for the required apparatus and chemicals

➤ Student's Activity

1. Crush Beetroot in a mortar.
2. Add sufficient water to obtain the extract.
3. Heat the extract in a Beaker for about 7-10mins.
4. Collect the filtrate in a separate beaker using a filter paper and funnel.
5. Take four Micro Test Tubes and arrange them in a test tube stand. Label them A, B, C and D

6. Pour 1ml of Lemon Juice, Soda-Water, Vinegar and Baking Soda solution in them respectively.

7. Put 2-3 drops of Beetroot extract in each test tube and record your observations.

What do we observe?

Test-Tube	Colour developed after adding Beetroot Solution
A	
B	
C	
D	
E	

What have you learnt?

Vinegar is _____ in nature

Soda Water is _____ in nature

Lemon Juice is _____ in nature

Baking Soda is _____ in nature

What would you be interested to know?

1. What are the various types of Indicators?

2. What is an Olfactory Indicator?

3. Is Litmus a Natural or Synthetic Indicator?

4. Is there any plant which is naturally acidic or basic in nature?