Aim

The aim of this experiment is to make an indicator from red cabbage.

Hypothesis

It is hypothesized that different substances have different PH levels indicating whether they are an acid or a base.

Materials

* Red cabbage leaves
* 250mL beaker
* Hotplate
* Tripod
* Gauze mat
* Bench mat
* 8 test-tubes
* Test-tube rack
* Dilute hydrochloric acid
* Dilute sodium hydroxide solution
* Vinegar
* Salt solution
* Distilled water
* Soft drink
* Lemon juice

antacid tablets.

Method

1. Tear up one or two red cabbage leaves and place them in the beaker with enough water so that the cabbage is just covered.
2. Heat the beaker until the water is gently boiling. Continue to boil until the water has been strongly colored red by the cabbage leaves.
3. Allow to cool and then filter, strain, or pick out the cabbage leaves.
4. Place 7 test-tubes in the test-tube rack and split your cabbage water equally between them. Top them up with water so that the test-tubes are about half full
5. Use the eyedropper to put about 1cm of the dilute hydrochloric acid solution in the first of the cabbage water-test tubes. Record what color it turns, in a table like the one opposite.
6. In second cabbage water tube put 1cm of vinegar. In the third tube put distilled water, in the fourth tube put sodium hydroxide solution. Record the results of these tests in your table.

Results

|  |  |  |
| --- | --- | --- |
| **Test-tube/type of solution** | **Name of solution** | **Color with red cabbage** |
| Strong acid | Hydrochloric acid | Red/Pink |
| Weak acid | Vinegar | Red/Pink |
| Neutral | Distilled water | No chan |
| Weak base | Salt solution |  |
| Strong base | Sodium hydroxide |  |
| (Unknown1) | Lemon juice |  |
| (Unknown2) | Soft drink |  |
| (Unknown3) | Antacid |  |