

Learning objectives

- ❑ To gain an understanding of the requirements of your chosen subject in preparation for a September 2023 start

Key words:

Preparation
Organisation
Punctuality
Commitment
Success



Learning objectives:

- To gain an understanding of the requirements of your chosen subject in preparation for a September 2023 start

Explanation

Core Expectations for **Every Lesson**

1. Attend lessons on time and in professional attire
2. Be prepared for each lesson by ensuring you bring the appropriate equipment
3. Ensure all work is organised in the appropriate section of your subject folder
4. All deadlines must be met to avoid a 6 week “Risk of Failure” program
5. Respect the classroom, Replace chairs, Rubbish in bins
6. Speak to **ALL** members of the HT community with respect
7. No mobile phones/ear pods to be used in lessons or around the school
8. Starters are to be completed in silence
9. Be proactive and not reactive
10. Expect to work harder than you ever have before



Learning objectives:

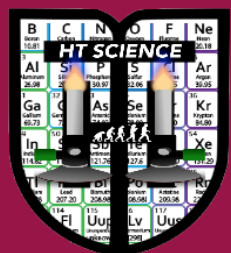
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Explanation

Welcome to Applied Science

In this session you will be working in pairs, carrying out a precise method of measuring that is used in chemistry and you will also be using during your course.

Learning objectives:



Explanation



You may have looked at titrations to deduce the concentration of acids or bases.

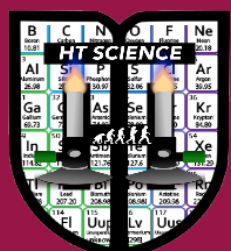
Today you are going to use a titration to find out which sweet is the most sour.



The sweets that have the sourest taste have higher levels of acids to trigger the sour areas of the taste buds

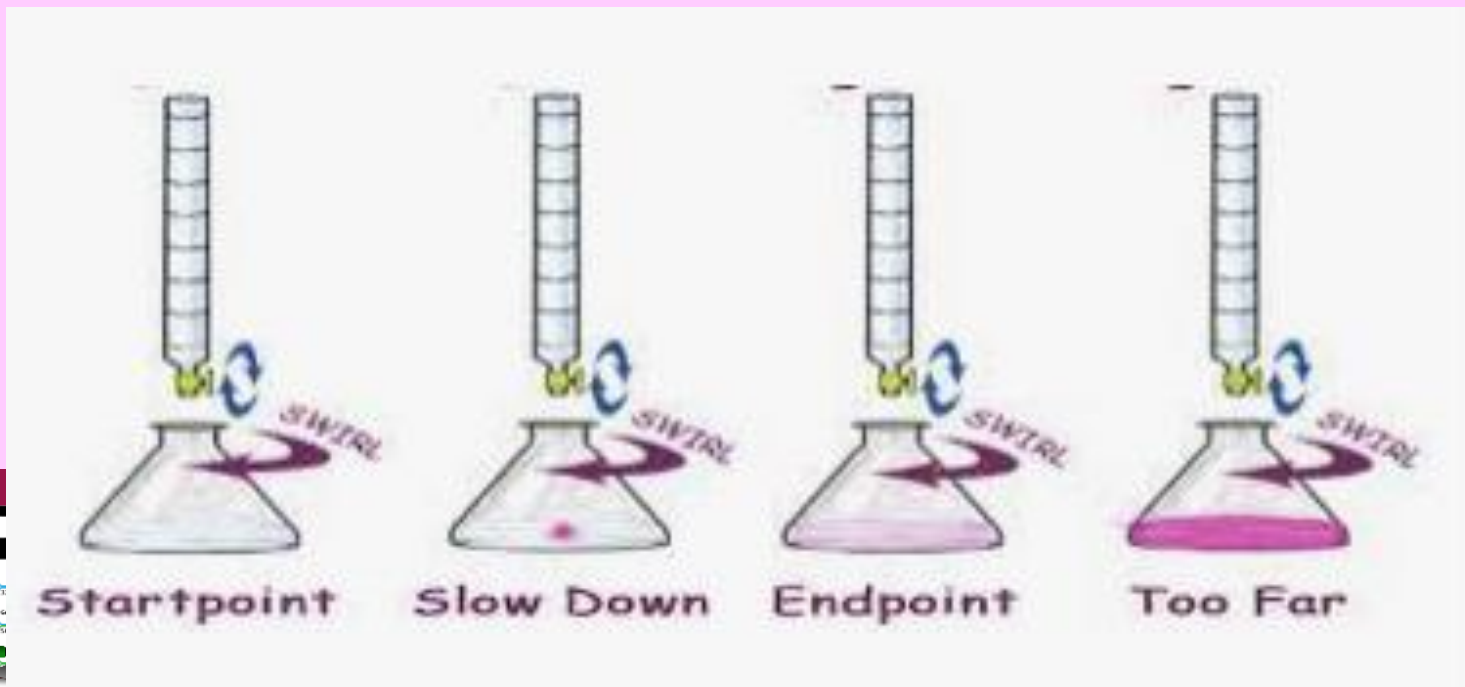


Learning objectives:



Explanation

Titration is carried out to get precise results.
How can you be precise with your equipment and technique.



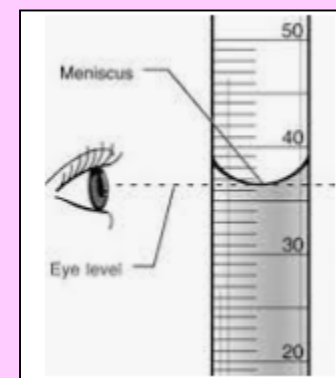
You will work in groups of 2

We will collect group results to compare with each other.

Clamp to hold burette

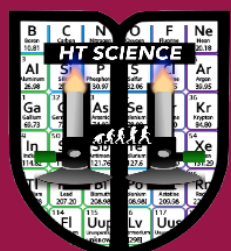
Burette with NaOH (alkali)

Flask with sweet solution



Learning objectives:

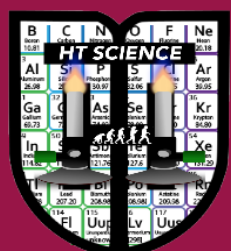
White tile to see colour change



Method

- 1) Choose one brand of sweet- same colour. Cut each one into approx. 1cm cubes and weigh out approximately 10g. Record the mass.
- 2) Add sweets to the Glass beaker
- 3) Measure 50cm³ of distilled water and add to the glass beaker.
- 4) Stir and place the beaker in the water bath, for 5 minutes.
WHILST YOU WAIT
- 5) Fill the burette to 0.00 with NaOH and record this as initial volume of NaOH
- 6) Remove the beaker from the water bath and use the needles to remove the sweets from the solution.
- 7) Transfer the solution to a conical flask.
- 8) Add 3-4 drops of phenolphthalein indicator into the flask.
- 9) **Slowly** add the NaOH from the burette into the flask until the indicator changes into a **permanent faint** pink color.
- 10) Record the final volume of the NaOH used in the titration in the data table below.
- 11) Repeat the process with a different brand of sour sweet. Use the same mass.

Learning objectives:



Data Table.

Brand and colour of sweet	Mass of sweet/g	Initial Volume of NaOH (burette)/cm ³	Final Volume of NaOH/cm ³	Volume of (NaOH) used/cm ³	Concentration of acid in the sweet

Calculations: Use the formula below to determine the concentration of the acid in the sweet (C_A).

$$C_A V_A = C_B V_B$$

V_A is the volume of the acid(sweet) solution = 50cm³ which needs to be converted to dm³ so divide by 1000.

C_A is the concentration of the sweet solution that you are trying to find.

C_B is the concentration of the NaOH which is 0.05mol/dm³

V_B is the volume of the NaOH that you used. This must also be converted to dm³ so divide your volume by 1000.