

## Learning objectives

- ❑ To gain an understanding of the requirements of your chosen subject in preparation for a September 2022 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 2022 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:

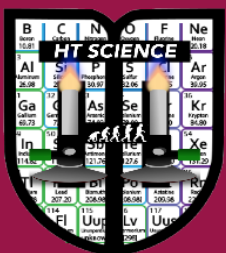
- To gain an understanding of the requirements of your chosen subject in preparation for a September 2022 start

# 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 that you will be using during your course.

Learning objectives:



# Explanation



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

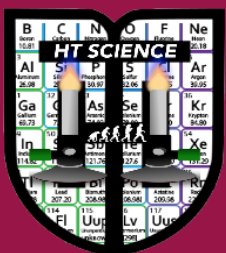
Today you are going to use a titration to find out which sweet is the most sour.



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

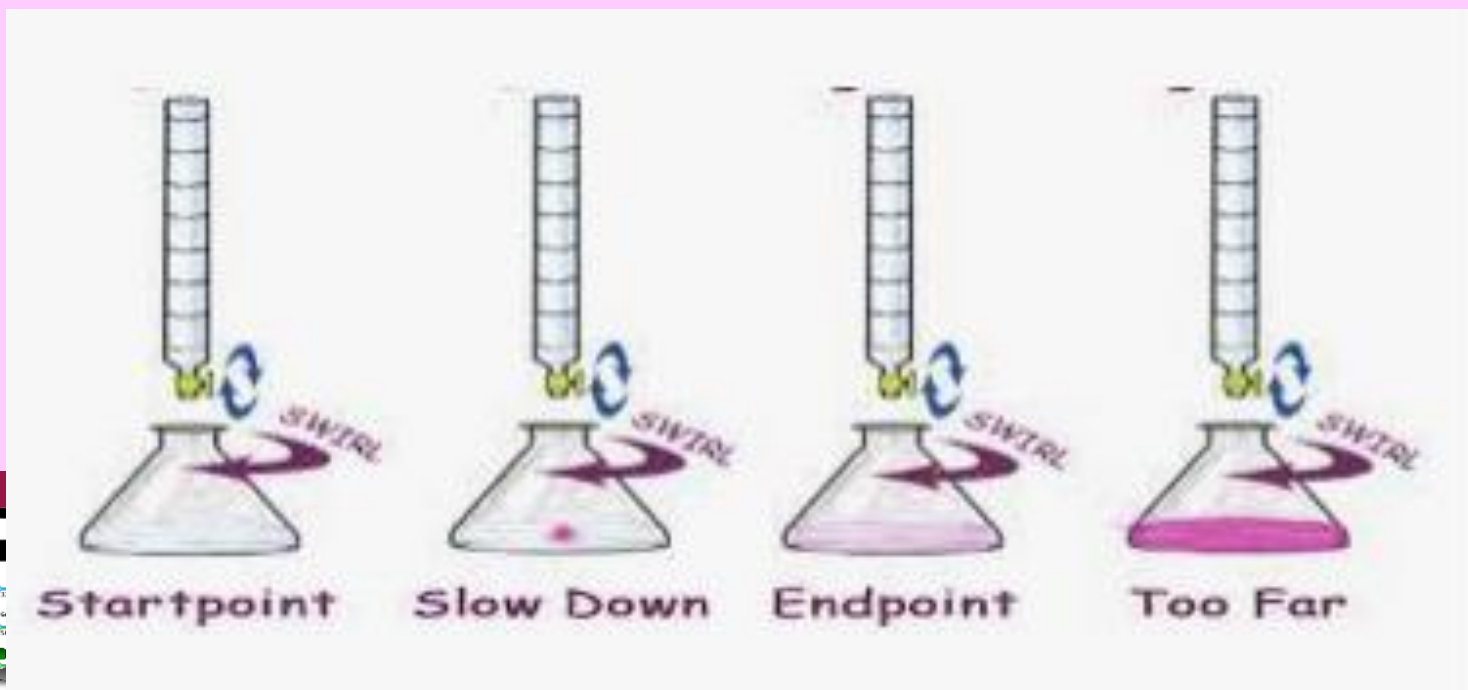


Learning objectives:



# Explanation

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



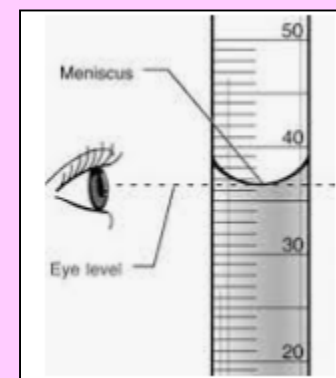
You will work in groups of 2

We will collect group results to compare with each other.

Clamp to hold burette

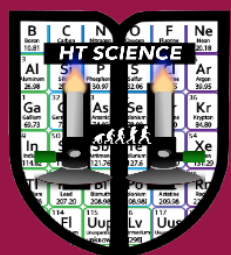
Burette with NaOH (alkali)

Flask with sweet solution



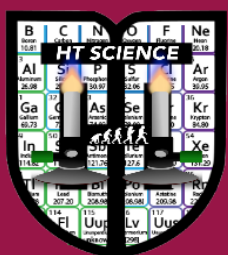
Learning objectives:

White tile to see colour change



### Method

- 1) Take 2 sweets from one brand- same colour. Cut each one in half and record the mass.
- 2) Add sweets to the conical flask
- 3) Fill flask with 50cm<sup>3</sup> of deionized water.
- 4) Place the flask in the water bath, for 2 minutes.
- 5) Stir the sweets around in the water for at least 30 seconds. Remove the sweets from the water.
- 6) Add in 3-4 drops of phenolphthalein indicator into the flask.
- 7) Record the initial volume of the NaOH in the burette in the data table below.
- 7) **Slowly** add the NaOH from the burette into the flask until the indicator changes into a **permanent faint** pink color.
- 8) Record the final volume of the NaOH used in the titration in the data table below.
- 9) Repeat the process with a different brand of sour sweet. Use the same mass.



## Learning objectives:



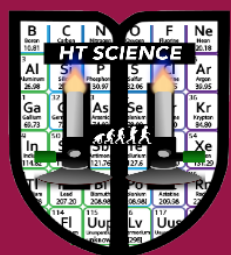
## Checking Progress

<i>Sweet (Brand of Sweet and colour)</i>	<i>Initial Volume of NaOH (burette)/cm<sup>3</sup></i>	<i>Final Volume of (NaOH) (burette)/ cm<sup>3</sup></i>	<i>Volume of (NaOH) used/cm<sup>3</sup></i>	<i>Molarity of acid in the candy</i>

**Calculations:** Use the formula below to determine the strength of the acid in the candy ( $M_A$ ).

$$M_A V_A = M_B V_B$$

**HINT:** The  $V_A$  for each will be 50 mL



## Learning objectives:



# Homework

## **BTEC National Extended Certificate in Applied Science.**

As part of your BTEC level 3 qualification you will be completing coursework and also sitting an external exam assessing you on some of the key concepts in Biology, Chemistry and Physics. Each Science subject will build on knowledge from your GCSE work and develop these concepts further relating them to use in industry and everyday life. In order to best prepare you for September we would like you to undertake a few tasks to do some ground work on a couple of topics we will cover in Unit 1 Principles and Applications of Science

. All work must be completed and brought to your first BTEC lesson. The information you use must be clearly referenced using at least 3 different sources and be your own work e.g. not plagiarised.

### **Summer Task:**

Learning objectives:

