

Year 6 Transition Day

Science



Acids, alkalis and
indicators – Yr6 Transition
lesson

Objective

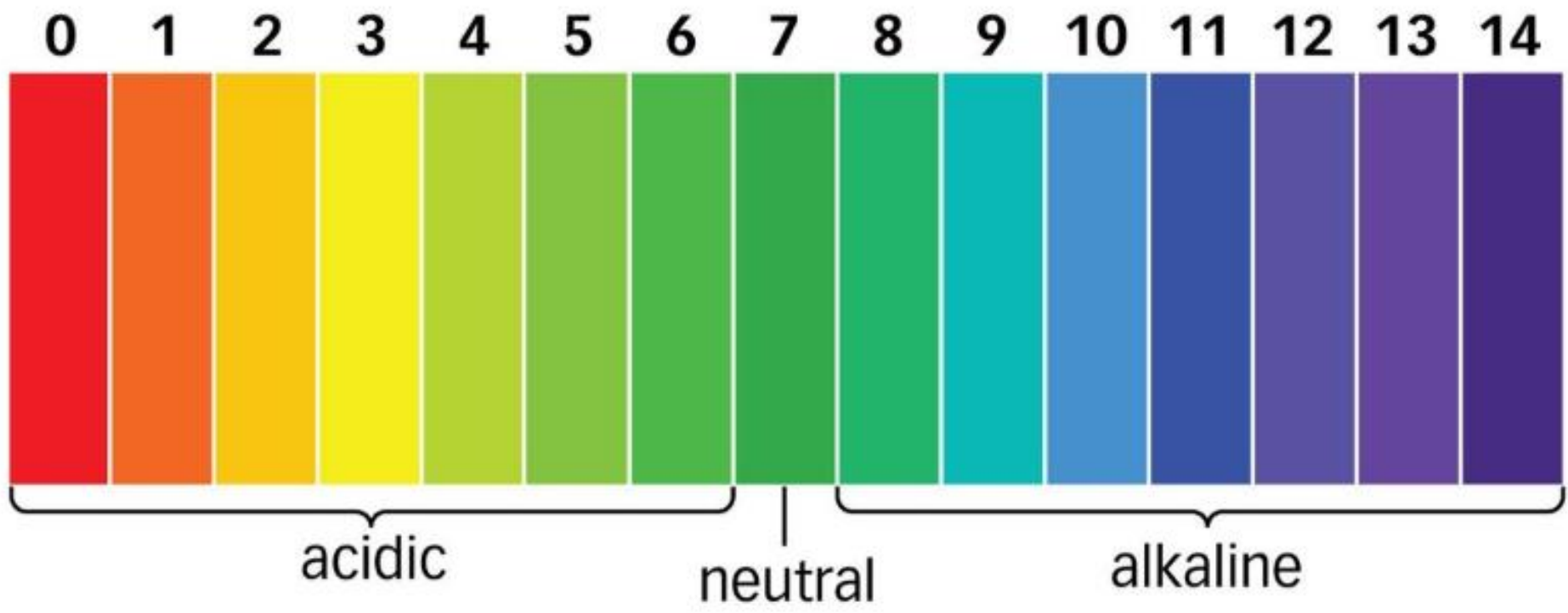
- To know how we can measure the different pH's of household items
- To be able to devise an experiment to measure the pH of household items

Key Skills covered

Recall **Application** Data interpretation Manipulation of scientific
content Experimental methods Extended Answering

Keywords

* Acidity * Alkalinity * Indicators * Concentration * Polyatomic ions



Task – Complete your own practical experiment to measure the pH of common household items

Safety – Please **ONLY** complete the below practical experiment with a **responsible adult supervising**

- **Using a knife** – the adult should complete this aspect of the practical
- **Hot water** – allow to cool slightly before use, beware of the dangers of hot water
- **Eye protection** – if you have protective eyewear please wear, if not stand a safe distance when mixing the solutions with the cabbage indicator
- **Cabbage water** – will stain clothes (and you) so be careful and consider an apron to cover you



Task – Complete your own practical experiment to measure the pH of common household items

What you will need;

- Red cabbage
 - Kettle (**beware of hot water**)
 - A number of tall, clear glasses
 - A knife (**beware of sharp objects**) / blender and a chopping board
 - A coffee filter / piece of cloth / sieve / strainer
 - A number of safe solutions to test, see below for suggested liquids;
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- Milk
 - Lemon / lime juice
 - Water from the tap
 - Sparkling water
 - Bicarbonate of soda (mixed into a small amount of water)
 - Hand sanitizer
 - Sugar (mixed into a small amount of water)
 - White wine vinegar (use normal if you have not got it)
 - Antacid (Rennie) dissolved in a little water
 - **ONLY with adult supervision** – a **dilute** solution of bleach, **mixed into water** (1 part bleach : 10 parts water or 1 or 2 drops into a cup of water)

Task – Complete your own practical experiment to measure the pH of common household items

Which solution is the most basic

Which solution is the most acidic



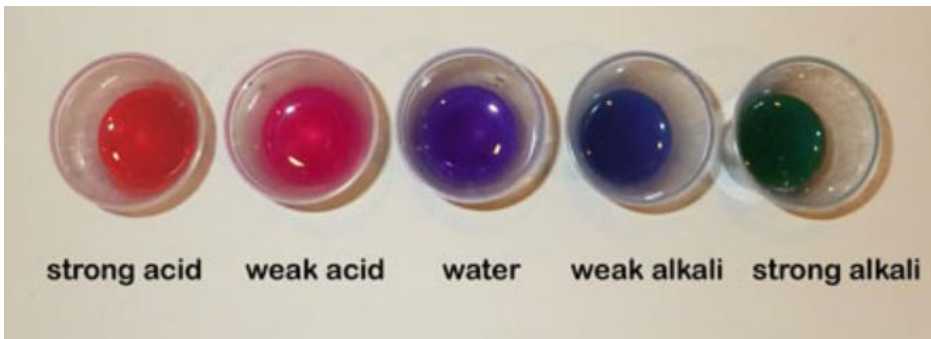
Task – Complete your own practical experiment to measure the pH of common household items

Recording your results

Record each solution and the colour it turns

Analysing your results

Use the pH chart below to place them into either acids or alkalis (bases)



Red Cabbage pH Indicator Colors

pH	2	4	6	8	10	12
Color	Red	Purple	Violet	Blue	Blue-Green	Greenish Yellow

How it works..... Check out the link below for the science behind the fun

<https://www.sciencekiddo.com/red-cabbage-ph-indicator/>

Post your pictures to #Lighthallschool



Summer Project

Task – Complete your own practical experiment to measure the pH of common household items

Record each solution and the colour it turns

Use the pH chart below to place them into either acids or alkalis (bases)

Bring it to your first science lesson in September!