

## Measuring pH using the Phwey pH Sensor

**PHYWE**  
excellence in science



Difficulty Level



Easy

Group Size



2

Preparation Time



10 minutes

Completion Time



10 minutes

Inspire young scientists and get them excited about their next discovery.

## What is Datalogging?

Datalogging is the process of collecting and storing data over time, looking at data sets, data points and logging intervals. This seamless collaboration between science, technology and data analysis is becoming a vital tool in education, for teachers and students alike.

## What are the educational benefits of datalogging?

- Develops higher-order thinking skills
- Encourages scientific reasoning skills
- Supports inquiry-based learning
- Improves and develops numeracy skills
- Works very well with EAL students
- Links the computing and science curriculum

## National Curriculum

- ✓ Key Stage 3 Chemistry, Chemical Reactions  
The pH scale for measuring acidity/alkalinity

## Experiment:

Measuring the pH of different solutions using the Phwye pH Sensor.



The pH scale is used to measure how acidic a substance is using a numeric value. The pH scale ranges from 0 which is very acidic through 7 which is neutral to 14 which is very alkaline.

In this experiment we will test the pH of different solutions to determine their pH and therefore their level of acidity or alkalinity.

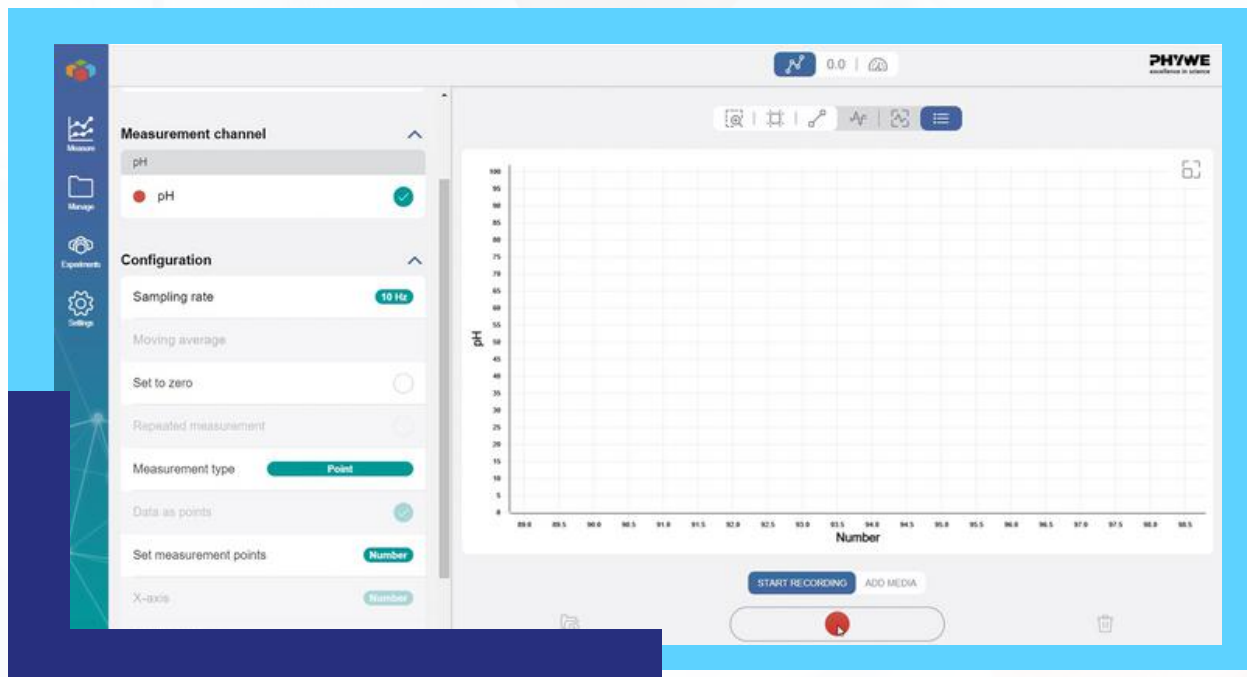
What you need to get started:

- 1 x Phywe pH sensor (DA220070)
- 3 x 100 mL beakers containing the following - vinegar, water and antacid (mixing antacid powder with water to make a dilute solution)



Set up the pH sensor with the MeasureApp:

1. Open the MeasureApp on your chosen device.
2. Connect the sensor to the MeasureApp: simply press the centre button for 3 seconds and the Bluetooth light will flash red, once connected to the MeasureApp, the light will turn green.
3. On the software the sensor will appear in "devices", click on this, and it's ready to go.
4. In the software choose "measurement type - Point." Press start and use the secondary button to take point values.



What you need to do:

1. Place the electrode into the vinegar. Wait for a few seconds for the reading to stabilise and press the red button to take a reading.
2. Rinse the electrode in water.
3. Repeat step 1 with the antacid.
4. When you have finished, wash the electrode thoroughly and place it back into the storage solution.

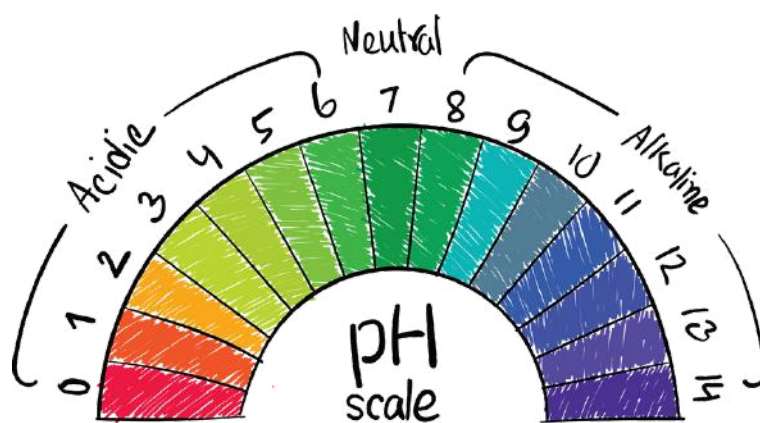


## Other information:

This experiment can be extended with the addition of different solutions which can then be charted according to their pH value.

Some examples of other solutions that can be used are:

- Lemon juice - pH 2.2
- Black coffee - pH 5.0
- Shampoo - pH 7-10
- Oven cleaner - pH 13.8



***To get more information on datalogging, our range of Phywe Bluetooth sensors, and for more useful resources, visit our website.***

***Free software is provided with our range of sensors. Compatible with the majority of devices, datalogging is simple to understand and cost-effective.***

Explore the range...

