

pH Meter

Background:

The **pH level** of something tells us how **acidic** or **basic** it is. The pH scale goes from **0 to 14**.

- A pH of **7** is **neutral** – not acidic or basic (like pure water).
- Numbers **below 7** mean the liquid is **acidic** (like lemon juice).
- Numbers **above 7** mean the liquid is **basic** or **alkaline** (like soapy water).

Measuring the pH of a liquid is important because it helps us understand everything that happens around it. It is important in water quality, growing healthy plants, making food and drinks, and chemistry.

A **pH meter** is a tool used to measure the pH of a substance. It tells you how acidic or basic a liquid is. By using a pH meter, you can learn about water, soil, and the world around you!

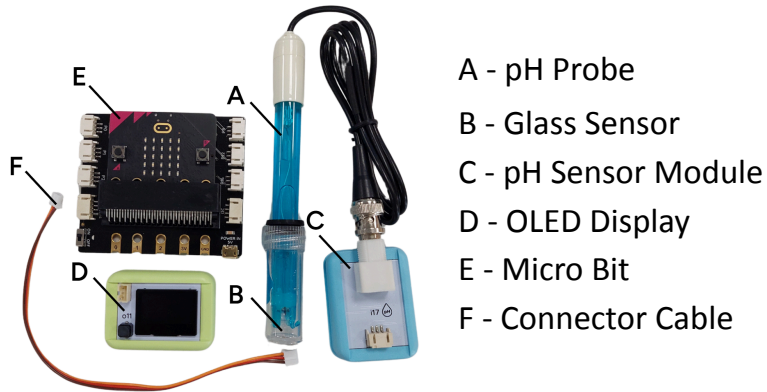


Safety considerations:

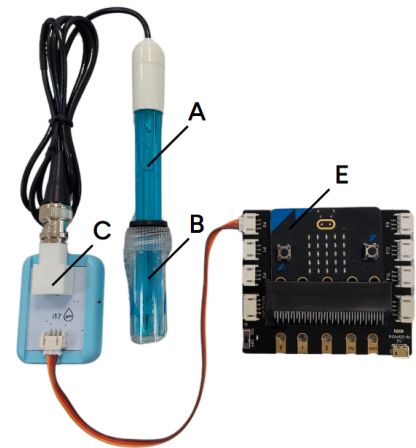
- **Handling the Probe:** It's fragile! Don't drop it or bang it on anything.
- **Cleaning the Probe:** Wash the probe with **distilled water** after each use so it stays accurate.
- **Storage:** Store the probe in a special solution. If it dries out, it can break.
- **Check accuracy:** Use special liquids called buffer solutions (pH 4, 7, or 10) to keep your meter reading correctly.

Instructions:

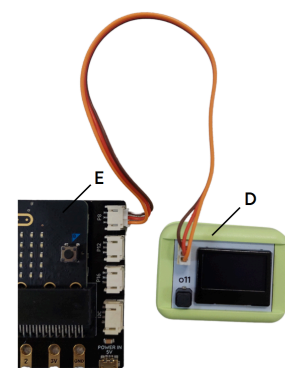
1. These are the parts of the pH meter:



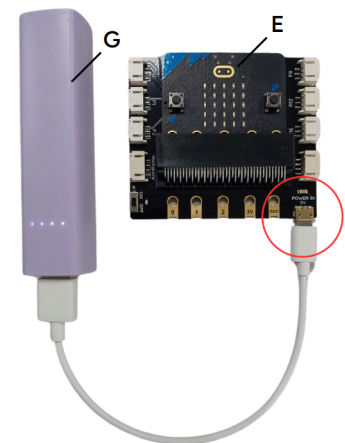
2. To set up the pH meter, connect the pH Sensor Module (C) to port P0 of the Microbit (E) using the Connector Cable (F).



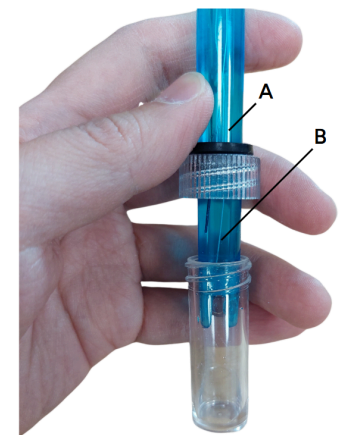
3. Connect the OLED Display (D) by connecting it to port P8 of the Microbit (E) using the Connector Cable (F).



4. Finally, connect the Microbit (E) to a power source such as a battery (G).

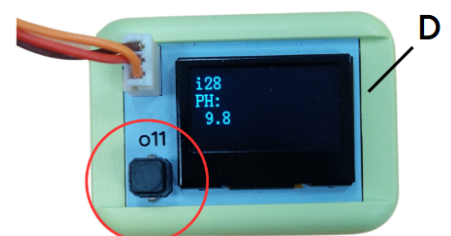


5. To use the pH meter, you need to first unscrew the cap of the Glass sensor (B).



6. Next, prepare a solution to test your pH meter. Start with something simple like water. Pour a small amount into a cup, and dip the Glass sensor (B) into it. Your OLED Display (D) should show you the pH value.

7. If your OLED Display (D) does not show you the pH value, keep pressing the black button under the o11 sign until you see "pH" on the screen.



8. You are now ready to test the pH of your local waterways.