UK-wide Rainwater Survey

Thirty years ago, acid rain ravaged much of the northern hemisphere's forests, including woodlands here in Britain. Acid rain is caused when large quantities of pollution are release containing high concentrations of gaseous sulphur dioxide and nitrogen oxide (e.g. the emissions of traditional power stations).

These gases mix with rainwater, dissolve and result in (sometimes highly) acidic rain which can kill plant life, insects and other animals, and even cause the corrosion of stone buildings! See diagram overleaf.

Fortunately, tackling acid rain has proven to be one of the world's conservation success stories. Governments across the globe took note of the impact of acid rain, and sulphur dioxide and nitrogen oxide pollution has been greatly reduced during the past three decades.

Let's find out if there is any detectable difference in the acidity of rain across the UK!

To take part, please follow the steps below:

Step 1: Collect a sample of fresh rainwater when you next experience rain. Place a clean container or dish outside and allow it to fill with rainwater. Make sure the dish is washed thoroughly to avoid skewing results. For best results, collect at least 200 ml of rainwater. Do not use water from a waterbutt (even if this collects rainwater from a gutter, as accumulated pollen or other organic matter can alter the pH value).

Step 2: Take one of the 11-in-1 test strips (one hundred of these are enclosed in the Great British Water Project Box, so you have plenty). Fully submerge the eleven test pads on the strip into the rainwater sample. Keep the test pads submerged for three seconds then remove from the sample.

Step 3: Wait 60 seconds for the test pads to change colour.

Step 4: Compare the colour of the test pads against the chart (on the 11-in-1 container and overleaf).

Step 5: Select the result numbers that most closely match the colour of the test pads on your 11-in-1 test strip and write these in the spaces overleaf. **Note:** while the **pH result is essential**, we ask you to complete the other test values as well even though these will likely have zero readings (that maybe important).

Step 6: When completed, **scan the reverse of this document** and **email it** to **water@hansonbox.org** **before** July 31st, 2021. We will collate all results we receive, upload the data and launch an interactive map via a livestreamed event at **10 am on August 11th (join via www.hansonbox.org/water).**

After completing this activity, you will have plenty of 11-in-1 test strips left over! As a class, you could test other water samples (e.g. from a pond, swimming pool or the sea) and discover how they compare to rainwater. Please do email us with your findings - we would love to hear how you get on: **water@hansonbox.org**

UK-Wide Rainwater Survey

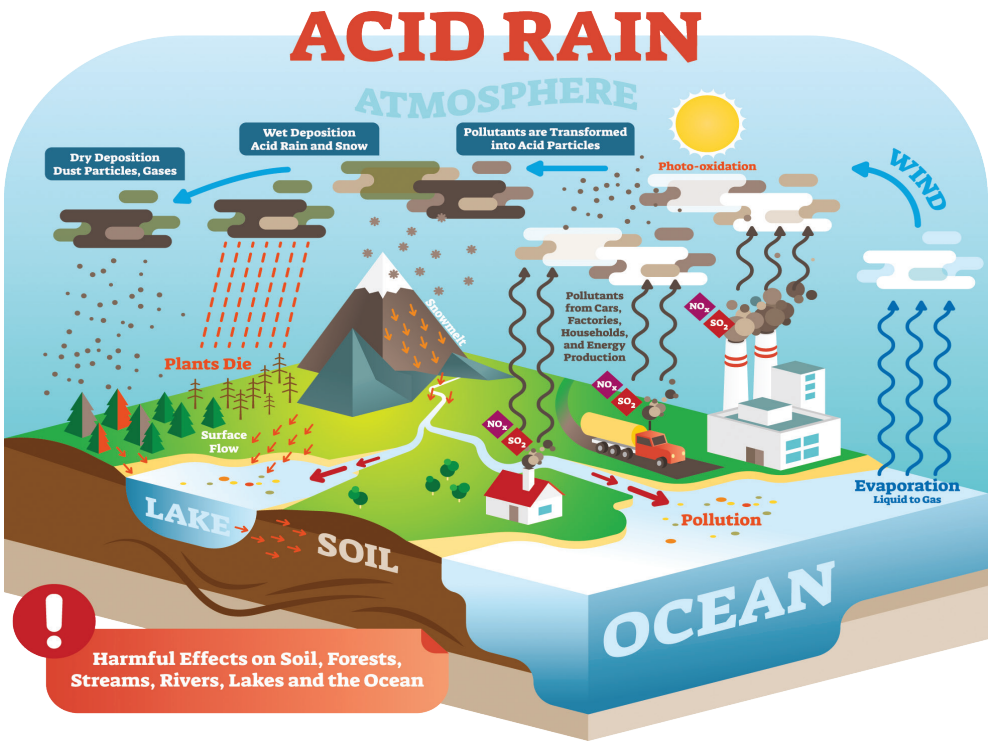
School Name: _____

School Post Code: _____ **Contact Initials:** _____

Scan this form and **email it** to **water@hansonbox.org** **before** July 31st, 2021.

ADD YOUR RESULTS BELOW:

		KEY CHART:
_____	Hardness	0 50 100 250 500 1000
_____	Total alkalinity	0 40 80 120 180 240
_____	Total chlorine	0 0.5 1 3 5 10
_____	Free chlorine	0 0.5 1 3 5 10 20
_____	Bromine	0 1 5 10 20
_____	Nitrate	0 10 25 50 100 250 500
_____	Nitrite	0 1 5 10 20 40 80
_____	Copper	0 1 10 30 100 300
_____	Lead	0 20 50 100 200 500
_____	Iron	0 5 10 25 50 100 250 500
_____	pH	6.2 6.8 7.2 7.8 8.4



Note: by participating in the Great British Water Project activities and submitting data that you collect to us, you are consenting to the use of the data, including being displayed publicly on our interactive maps in connection to your school: www.hansonbox.org/water No personal data is collected through the Great British Water Project (and none will be displayed).