pH Testing

Materials

- pH testing strips
- 1 cup per solution
- Water
- Lemon juice
- Pool water
- Lake/river water
- Attached data collection sheet

Procedure

1. Before class, prepare the solutions before students arrive.
2. 1 cup of each solution per group
    a. Cup 1: 1 cup water
    b. Cup 2: 1 cup water, 3 Tbsp lemon juice
    c. Cup 3: 1 cup pool water
    d. Cup 4: 1 cup lake water
3. Once students have been put into groups, they will acquire one set of materials - cups of solutions, pH strips, and data collection sheet.
4. Walk students through the procedure for using a pH strip.
    a. Which numbers represent an acidic solution? Which represent a basic solution?
    b. What is the difference between an acidic and a basic solution?
5. Students will test each of their solutions and mark the pH levels on their data worksheet.

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Discussion

- How did the pH levels differ between each solution?
- Why do you think the pH levels were different? What parts of the solution determine the pH level?
- Can we predict the pH levels of a solution based on the properties of the liquid?
- Are any of the solution's pH levels similar to the pH levels in the ocean?
- Why is it important to know the pH level of the ocean?

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Next Generation Science Standards:
MS-ESS3-2 Earth and Human Activity
Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

Ocean Literacy Principles:
#3 - The ocean is a major influence on weather and climate.

Climate Literacy Principles:
#4 - Climate varies over space and time through both natural and man-made processes.
#5 - Our understanding of the climate system is improved through observations, theoretical studies, and modeling.

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