



Pool Bacteria

STEM Sims

Lesson 1: Testing pH

pH is the measure of the hydrogen ion concentration. Water is neutral and has a pH of 7. A solution with a pH lower than 7 is acidic, like a lemon, and a solution with a pH higher than 7 is basic, like soapy water. If pool water is at an incorrect pH, it can cause eye stinging and itchy skin. Can you help the swimmers and test the pH to make sure the pH levels are ideal?

Doing the Science

1. Start the Pool Bacteria Simulation by clicking on the “Sim” tab.
2. Click on the “Run” button
3. Click on the “pH” checkbox on the section labeled “Tests”
4. Click on 0, 6, and 12 under “Time (hours)” to find the pH at each time period. Record the pH in Table 1 below.
5. Hover over the children in the pool and record their comments in the table.
6. Click on the “Reset” button
7. Repeat steps 2-6 with the number of swimmers designated in Table 1.

Table 1.

Number of Swimmers	0 Hours		6 Hours		12 Hours	
	pH	Comments	pH	Comments	pH	Comments
5						
6						
7						
8						
9						
10						
15						
20						

Do You Understand?

1. Is there a relationship between the increase of the number of swimmers and the pH level?
2. Is there a relationship in the increase of the pH and time? Explain.
3. Can you find an ideal range of pH levels that the swimmers can safely swim in?