Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Lesson 6: Testing Fecal Coliform**

Fecal coliform is a type of bacteria that is found in the intestinal tracts of humans and other animals. Swimming in waters with fecal coliform levels of 10 coliform fecal units (cfu) per 100 milliliters (mL) are safe. Pool water with fecal coliform levels of above 200 cfu/100 mL can cause infections and illnesses to swimmers. Can you help save swimmers from sickness by testing the water for fecal coliform?

**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 “Chlorine” and “Fecal Coliform” checkbox on the section labeled “Tests.”

1. Click on 0, 6, and 12 under “Time (hours)” to find the chlorine level and fecal coliform level at that time period. Record them in Table 1 below.
2. Hover over the children in the pool to see their comments.
3. Click on the “Reset” button.
4. Click on the “Add Cyanuric Acid” checkbox and the click the “Run” button.
5. Click on the “Chlorine”, “Fecal Coliform” checkboxes on the section labeled “Tests.”
6. Repeat steps 2-6 with the number of swimmers designated in Table 1.

**Table 1.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Number of Swimmers** | **0 Hours** | | **6 Hours** | | **12 Hours** | |
| **Chlorine** | **F.C.** | **Chlorine** | **F.C.** | **Chlorine** | **F.C.** |
| **5** |  |  |  |  |  |  |
| **5**  **with Cyanuric acid** |  |  |  |  |  |  |
| **10** |  |  |  |  |  |  |
| **10**  **with Cyanuric acid** |  |  |  |  |  |  |
| **15** |  |  |  |  |  |  |
| **15**  **with Cyanuric acid** |  |  |  |  |  |  |
| **20** |  |  |  |  |  |  |
| **20**  **with Cyanuric acid** |  |  |  |  |  |  |

**Do You Understand?**

1. Is there a relationship between the fecal coliform level and the number of swimmers? Explain.
2. Is there a relationship between the fecal coliform level and the chlorine level? Explain.

3. In high fecal coliform levels, what do the children say that could be an effect of the fecal coliform bacteria?