Name_____ Period _____ Date _____

Egg Sampling

STEM Sims

Lesson 1: Egg Contamination
We get our food from a lot of different places. Food can come locally from a farm close to you or it can come all the way across the country. If there is an outbreak of food poisoning, it is very hard to pinpoint the source because of the large number of crop distributors. Crop distributors ship food to various places in a vast network of distributors and consumers. In this simulation, you will test eggs for contamination and find the source of the problem. It's egg-citing!

Doing the Science
1.   Start the Egg Sampling Simulation by clicking on the "Sim" tab.
2.   Record in Table 1 the code provided as the simulation starts.
3.   Click on the "Start Sim" button.
4.   Click on the letters A-E of the chicken coops to get an egg from that coop. You can collect as many eggs from each coop as you want.
5.   Click on the "Lot Code" button and record the lot code provided into Table 1 below.
6.   Click on the "Egg Prep Center" button.
7.   Click on the "DeSheller" box to deshell the eggs, then click on the "Mixer" box to mix them.
8.   Add "KI/I" by clicking on the bottle.
9.   Drag and drop the eggs into the "Incubator 9000".
10.   Click on the "Start" button to begin the timer.
11.   Drag the pH meter to the eggs to test the pH level.
12.   Click on "HCl" or "NaOH" to change the pH of the eggs to a pH of between 6.6 and 7.0.
13.   Drag the pH meter back onto the shelf.
14.   Drag and drop the eggs back into the "Incubator 9000".
15.   Click on the "Start" button to begin the timer.
16.   Click on "Egg Test Center".
17.   Click on each reagent container (1-6) to add the test reagent to the egg sample.
18.   Click on "Results" to see if the tests had positive or negative results for the presence of contamination.
19.   Analyze the results by clicking on "Egg Test Database" and comparing the colors of the test tubes to the database. Record if the test tube stayed the same, has +Bacteria, or has –Bacteria.

Table 1.   **Starting Code =**

Lot Code:	Urease Test	Lysine Decarboxylase	Malonate Broth Test	Phenol Red Sucrose Broth Test	Voges-Proskauer Test	Methyl Red Test
Eggs from: A, B, C, D, E						

Do You Understand?
1. Why is it important to test more than one egg?

2. How could you tell that the eggs were contaminated? How can you find the source of the contamination?