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



**Lesson 1: How Does the Rainfall Level Affect the Number of Sheep Infected?**

Mosquitos need bodies of water to lay their eggs in. Does increased rainfall lead to more mosquitos, and therefore more mosquito-borne diseases?

**Doing the Science**

1. Start the Rift Valley Fever Simulation by clicking on the “Sim” tab.

2. Click and drag the “Rainfall” slider so that it lines up with “drought.”

3. Click on the “Sample Mosquitos” button and note which mosquitos are plentiful and which are scarce. Click “Close” when you are done.

4. Note and record in Table 1 the current population of sheep in the “Initial Population” column. (It should be 6000.)

5. Click the “Run” button. Let the simulation run until it stops when it reaches December.

6. Record the new population of sheep in the table in the column labeled “New Population.”

7. Click the “Reset” button. Click and drag the “Rainfall” slider to about the halfway position so that it lines up with “Medium.”

1. Repeat steps 3 – 6.
2. Click the “Reset” button. Click and drag the “Rainfall” slider so that it lines up with “Flood.”
3. Repeat steps 3 – 6.
4. For each trial, subtract the Initial Population from the New Population, and write this number in the “Change in Population” column. Note that if there are less sheep when you finish than when you start, your answer will be negative.

**Table 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trial** | **Rainfall** | **Initial Population** | New Population | Change in Population |
| **1** | Drought |  |  |  |
| **2** | Medium |  |  |  |
| **3** | Flood |  |  |  |

**Do You Understand?**

1. How did the amount of rainfall affect the number of sheep that were infected?

1. Why do you think the relationship between the amount of water available and the number of cases of Rift Valley Fever occurs?