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

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**Lesson 1: How Does the Number of Manatees Affect the Number of Strikes?**

Manatees are social creatures and tend to congregate in areas together. However, does this behavior increase the likelihood that a boat will strike a manatee?

**Doing the Science**

1. Start the Manatee Strike Zone Simulation by clicking on the “Sim” tab.

2. Click the mouse in a location in Zone 1 and drag the mouse to Zone 2 before it’s released. Note a red path and boat appears.

3. Click the mouse in a location in Zone 2 and drag the mouse to Zone 3 before it’s released. Note another red path and boat appears.

4. Note and record in Table 1 the number of manatees on the screen (it should be 5).

5. Click the “Run” button. Let the time run for 1:00 minute.

6. At the 1:00 minute mark, click the “Pause” button.

7. Note and record in Table 1 the number of manatee strikes shown in the display in the upper right-hand corner of the screen.

8. Click and drag the “Number of Manatees” slider to about the halfway position.

1. Count and record in Table 1 the total number of manatees now on the screen.
2. Click the “Run” button. Let the time run for 1:00 minute until it hits the 2:00 minute mark.
3. At the 2:00 minute mark, click the “Pause” button.
4. Note the number of manatee strikes shown in the display in the upper right-hand corner of the screen. Subtract the number of strikes at the end of 1:00 minute from this number. Record this new number of strikes (between 1:00 and 2:00 minutes) in Table 1.
5. Click and drag the “Number of Manatees” slider to the far right position.
6. Repeat steps 9 through 12 for this new number of manatees (all times are now between 2:00 and 3:00 minutes).

**Table 1.**

|  |  |  |
| --- | --- | --- |
| **Trial** | **Number of Manatees** | Number of Strikes (in one minute) |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |

**Do You Understand?**

1. How did the number of manatees in the area affect the likelihood that a manatee strike would occur?

1. In today’s world of motor boats, how does the herding nature of manatees impact the survival of the species?